# OHANGWENA REGIONAL COUNCIL

Scoping (including Impact Assessment) Report for the Proposed Construction of a Waste Disposal site

Omungwelume Settlement, Ohangwena Region, Namibia.

February 2023

I.N.K
Enviro Consultants

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| **REPORT TITLE** | SCOPING (INCLUDING IMPACT ASSESSMENT) REPORT FOR THE PROPOSED CONSTRUCTION OF A WASTE DISPOSAL SITE |
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## CONSULTANT'S EXPERTISE

I.N.K Enviro Consultants cc is the independent firm of consultants that has been appointed by the Ohangwena Regional Council to undertake the Environmental Impact Assessment process.

Immanuel N. Katali, the EIA Lead Practitioner holds a B.Arts (Honors) in Geography, Environmental Studies and Sociology and has over seven years of relevant experience in conducting/managing Environmental Impact Assessments (EIAs), Socio-Economic Impact Assessments (SIAs) and compiling Environmental Management Plans (EMPs) in Namibia. Immanuel is certified as an environmental practitioner under the Environmental Assessment Professionals Association of Namibia (EAPAN).

## DECLARATION OF INDEPENDENCE AND DISCLAIMER

The consultant herewith declare that this report represents an independent, objective assessment of the proposed project, on the request of the Ohangwena Regional Council.

I.N.K has prepared this report based on an agreed scope of work and acts in all professional manner as an independent environmental consultant to the Ohangwena Regional Council and exercises all reasonable skill and care in the provision of its professional services in a manner consistent with the level of care and expertise exercised by members of the environmental profession.

The information, statements and commentary contained in this Report have been prepared by I.N.K from information provided by the Ohangwena Regional Council, Denchi Consulting Engineers and from discussions held with stakeholders. I.N.K does not express an opinion as to the accuracy or completeness of the information provided, the assumptions made by the party that provided the information or any conclusions reached. I.N.K has based this Report on information received or obtained, on the basis that such information is accurate and, where it is represented to I.N.K as such, complete.

I.N.K is not responsible and will not be liable to any other person or organisation for or in relation to any matter dealt within this report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in this report (including without limitation matters arising from any negligent act or omission of I.N.K or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in this report). This report must not be altered or added to without the prior written consent of I.N.K or the Ohangwena Regional Council.

# EXECUTIVE SUMMARY

**Purpose of the Report**

This Scoping Report has been compiled to identify and evaluate environmental (and social) risks and potential impacts of the proposed construction of the Waste Disposal Site, as part of an Environmental Impact Assessment (EIA) study undertaken by the Ohangwena Regional Council (hereafter referred to as "ORC").

The environmental impact assessment aims to:

- Identify potential significant environmental and social impacts associated with the proposed construction of the Waste Disposal Site (positive and negative) and highlight any possible fatal flaws;
- make key recommendations regarding the proposed project.

The study therefore forms the foundation for the project's sustainability framework and provides the ORC with an understanding of the potential environmental issues associated with the proposed project.

**Introduction to the Proposed Project**

The Ohangwena Regional Council intends on obtaining an Environmental Clearance Certificate (ECC) for the construction of a Waste Disposal Site. The aims and objectives of the project is to find an alternative/solution to the current practice of unregulated and informal disposal of waste in the Omungwelume settlement and comply with The National Solid Waste Management Strategy, 2017.

Omungwelume is situated approximately 36.3 km north east of the town of Oshakati alongside the route leading to Ongenga – Okalongo Road. The proposed dumpsite is located on the northeastern direction of the settlement and next to existing sewerage ponds.

**Project Motivation (Need and Desirability)**

The Ministry of Environment and Tourism (MET) has recognised the urgent need to improve solid waste management in Namibia. This National Solid Waste Management Strategy is important to ensure that the future directions, regulations, funding and action plans to improve solid waste management are properly co-ordinated and consistent with national policy, and to facilitate co-operation between stakeholders (The National Solid Waste Management Strategy, 2017).

**Public Participation Process**

The public participation process for the proposed project is conducted to ensure that all persons and/or organisations that may be affected by, or interested in the proposed project, were informed of the

project and could register their views and concerns. By consulting with relevant authorities and I&APs, the range of environmental issues to be considered in this Scoping Report has been given specific context and focus.

**Summary of issues raised**

All issues that have been raised to date by I&APs are as follows:

- Health and Safety
- Odour impacts; and
- Employment Opportunities.

**Alternative Site Locations for Waste Disposal**

It was identified that the proposed site is the most suitable for the Waste Disposal Site. This is due to the fact that it is in the direct vicinity of sewerage ponds, that treat waste water, therefore, localizing the potential environmental impacts in one area.

**The No-Project Option**

The aims and objectives of the project is to find an alternative/solution to the current practice of unregulated and informal disposal of general waste in the Omungwelume settlement. The proposed project will therefore allow the Omungwelume Community to practice the recommended environmental practice of waste disposal and contributing and playing its role to environmental sustainability.

Therefore, the challenge facing the project proponent is its contribution towards achieving these goals while at the same time preventing and/or mitigating potential negative social and environmental impacts.

Without the implementation and adherence of the commitments in the EMP, the project will be a “fatal flaw”.

**CONCLUSIONS**

The environmental aspects associated with the Waste Disposal Sites has been successfully identified and assessed as part of this EIA Scoping process.

Mitigation measures have been identified and recommended by I.N.K Enviro Consultants cc to promote the positive impacts of the project, as well as to avoid / minimise the negative impacts to acceptable levels. An EMP was further developed which identifies potential impacts of the project during the operation phase. The EMP is a legally binding document, which the proponent must adhere to.

I.N.K concludes that should the management actions and mitigation measures provided in the EIA and EMP report be implemented, the project would have an acceptably low significant impact on the surrounding biophysical and social environment.

**WAY FORWARD**

The way forward for the EIA scoping phase is as follows:

- MEFT review the final Scoping (including impact assessment) Report and MEFT provide record of decision.

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# 1 INTRODUCTION

## 1.1 Purpose of the Report

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The environmental impact assessment aims to:

- Identify potential significant environmental and social impacts associated with the proposed construction of the Waste Disposal Site (positive and negative) and highlight any possible fatal flaws;
- make key recommendations regarding the proposed project.

The study therefore forms the foundation for the project's sustainability framework and provides the ORC with an understanding of the potential environmental issues associated with the proposed project.

## 1.2 Introduction to the Proposed Project

The Ohangwena Regional Council intends on obtaining an Environmental Clearance Certificate (ECC) for the construction of a Waste Disposal Site. The aims and objectives of the project is to find an alternative/solution to the current practice of unregulated and informal disposal of waste in the Omungwelume settlement and comply with The National Solid Waste Management Strategy, 2017.

Omungwelume is situated approximately 36.3 km north east of the town of Oshakati alongside the route leading to Ongenga – Okalongo Road. The proposed dumpsite is located on the northeastern direction of the settlement and next to existing sewerage ponds (Figure 1).

Prior to commencement of the construction activities, an Environmental Clearance Certificate (ECC) is required on the basis of an approved Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP). It is with this background that, I.N.K Enviro Consultants cc (I.N.K) an independent firm of consultants, was appointed to undertake the Environmental Impact Assessment process for this project.

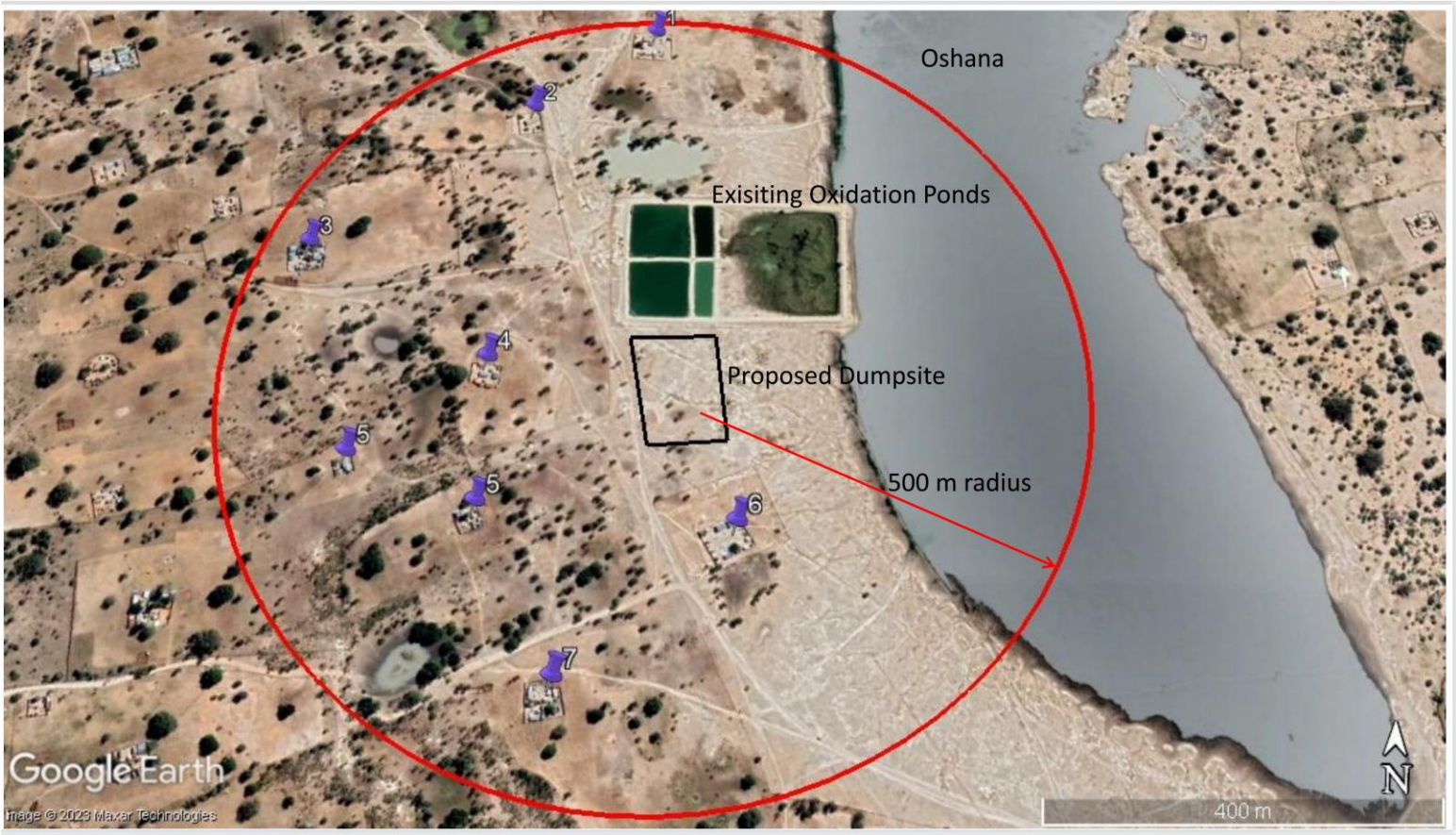


Figure 1: Proposed Location of the Waste Disposal Site

## 1.3 EIA Process

The EIA process for the proposed project is presented below.

**Table 1: EIA Process**

| Objectives | Corresponding activities |
|---|---|
| **Project initiation and Screening phase** | |
| • Initiate the screening process<br>• Initiate the environmental impact assessment process. | • Site Visit<br>• Identify Key Stakeholders<br>• Early identification of environmental aspects and potential impacts associated with the proposed project. |
| **EIA Phase with combined Scoping and Assessment** | |
| • Notify the decision-making authority of the proposed project<br>• Identify interested and/or affected parties (I&APs) and involve them in the scoping process through information sharing.<br>• Identify potential environmental issues associated with the proposed project.<br>• Consider alternatives.<br>• Identify any fatal flaws.<br>• Determine the terms of reference for additional assessment work.<br>• Provide a detailed description of the potentially affected environment.<br>• Assessment of potential environmental impacts.<br>• Design requirements and management and mitigation measures.<br>• Receive feedback on application. | • Notify government authorities and I&APs of the project and EIA process (telephone calls, e-mails, faxes, newspaper advertisements and site notices).<br>• Investigations by technical project team.<br>• Compilation of draft scoping report.<br>• Distribute scoping (including assessment) and EMP reports to authorities and I&APs for review.<br>• Forward the final scoping (combined assessment) and EMP reports and I&APs comments to MEFT for review.<br>• MEFT review and Record of Decision. |

Within this framework, the required components of the scoping report are discussed in more detail as part of the scoping methodology in Section 2 below.

EIAs are influenced by national legislation and a range of guidelines. The legislation applicable to this project and the EIA process is discussed further in Section 3 below.

## 1.4 Project Motivation (Need and Desirability)

The Ministry of Environment and Tourism (MET) has recognised the urgent need to improve solid waste management in Namibia. This National Solid Waste Management Strategy is important to ensure that the future directions, regulations, funding and action plans to improve solid waste management are

properly co-ordinated and consistent with national policy, and to facilitate co-operation between stakeholders (The National Solid Waste Management Strategy, 2017).

The Vision of the Strategy is for Namibia to become the leading country in Africa in terms of standards of solid waste management by 2028. There are various factors which motivate the implementation of the project:

- Waste disposal is the main problem with the current solid waste management in Namibia.
- The top priority is to reduce risks to the environment and public health from current waste disposal sites and illegal dumping in many areas of Namibia.
- There are only two hazardous waste disposal sites in Namibia, at Windhoek and Walvis Bay, and improved hazardous waste management is needed, for example in terms of more disposal facilities, regulations, guidelines, monitoring and enforcement.
- The waste collection system at most municipalities is generally operating to an adequate standard compared to waste disposal. However, there is scope for improvement in waste collection at all municipalities, in particular related to waste collection coverage in informal housing areas.
- Dumping and litter in the areas under the administration of regional councils are a major problem. In many cases there is no formal waste collection system in these areas.
- Solid waste management and particularly recycling in Namibia are constrained by the large transport distances and the high transport costs. However, there is significant scope for expansion of recycling in some large towns, building on the successful aspects of the current systems, and increasing participation of households through more awareness-raising activities.
- There is a lack of overall awareness about solid waste in Namibia. For example, the concepts of waste minimisation are generally not considered. A change in culture and attitudes is needed towards solid waste, taking into account that awareness programmes will take time to be effective.
- Only minimal data and information are available on solid waste quantities and practices. Improved data are important to facilitate better planning and to monitor that improvements are implemented.

The Specific Objectives of the Strategy are:

- To strengthen the institutional, organisational and legal framework for solid waste management, including capacity development.
- To install a widespread culture of waste minimisation and to expand recycling systems.
- To implement formalised solid waste collection and management systems in all populated areas, including
- under the administration of Regional Councils.
- To enforce improvements in municipal waste disposal standards.

- To plan and implement feasible options for hazardous waste management; (includes healthcare waste management).

As mentioned in section 1.2 above, the aims and objectives of the project is to find an alternative/solution to the current practice of unregulated and informal disposal of waste in the Omungwelume settlement. The proposed project will therefore allow the Omungwelume Community to practice the appropriate and recommended environmental practice of waste disposal and contributing and playing its role to environmental sustainability. The waste facility will be a much-needed contribution to the local community's public and environmental health improvement. This would be achieved through efficient treatment of waste in a more environmentally friendly manner and ensure the good health of the surrounding biophysical and social environment.

# 2 SCOPING MEFTHODOLOGY

## 2.1 Information collection

I.N.K used various information sources to identify and assess the issues associated with the proposed project. These include:

- Site visits by I.N.K;
- Consultation with Project Technical Team (ORC) and relevant information shared by ORC;
- Consultation with MEFT via online application system;
- Consultation with I&APs;
- Atlas of Namibia;
- Google Earth; and
- Internet sources.

## 2.2 Scoping Report

The main purpose of this Scoping Report is to indicate which environmental aspects relating to the proposed project might have an impact on the environment, to assess them and to provide management and mitigation measures to avoid or minimise these impacts.

Table 2 outlines the Scoping Report requirements as set out in Section 8 of the Environmental Impact Assessment Regulations that were promulgated in February 2012 in terms of the Environmental Management Act, 7 of 2007.

**Table 2: Scoping report Requirements stipulated in the EIA regulations**

| Requirements for a Scoping Report in terms of the February 2012 regulations | Reference in report |
|---|---|
| (a) the curriculum vitae of the EAPs who prepared the report; | Attached as appendix |
| (b) a description of the proposed activity; | Section 4 |
| (c) a description of the site on which the activity is to be undertaken and the location of the activity on the site; | Sections 4 & 6 |
| (d) a description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed listed activity; | Sections 6, and 7 |
| (e) an identification of laws and guidelines that have been considered in the preparation of the Scoping Report; | Section 3 |
| (f) details of the public consultation process conducted in terms | Sections 2.3, 2.4, 2.5 |

| | |
|---|---|
| of regulation 7(1) in connection with the application, including -<br>(i) the steps that were taken to notify potentially interested and affected parties of the proposed application;<br>(ii) proof that notice boards, advertisements and notices notifying potentially interested and affected parties of the proposed application have been displayed, placed or given;<br>(iii) a list of all persons, organisations and organs of state that were registered in terms of regulation 22 as interested and affected parties in relation to the application; and<br>(iv) a summary of the issues raised by interested and affected parties, the date of receipt of and the response of the EAP to those issues; | |
| (g) a description of the need and desirability of the proposed listed activity and any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives have on the environment and on the community that may be affected by the activity; | Sections 1.3 and 5 |
| (h) a description and assessment of the significance of any significant effects, including cumulative effects, that may occur as a result of the undertaking of the activity or identified alternatives or as a result of any construction, erection or decommissioning associated with the undertaking of the proposed listed activity; | Sections 7 |
| (i) terms of reference for the detailed assessment; and | Section 7 |
| (j) a management plan, which includes -<br>(i) information on any proposed management, mitigation, protection or remedial measures to be undertaken to address the effects on the environment that have been identified including objectives in respect of the rehabilitation of the environment and closure;<br>(ii) as far as is reasonably practicable, measures to rehabilitate the environment affected by the undertaking of the activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and<br>(iii) a description of the manner in which the applicant intends | Attached as appendix |

| | |
|---|---|
| to modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation remedy the cause of pollution or degradation and migration of pollutants. | |

## 2.3 Public participation process

The public participation process for the proposed project is conducted to ensure that all persons and/or organisations that may be affected by, or interested in the proposed project, were informed of the project and could register their views and concerns. By consulting with relevant authorities and I&APs, the range of environmental issues to be considered in this Scoping Report has been given specific context and focus.

Included below is a summary of the I&APs consulted, the process that was followed and the issues that were identified.

## 2.4 Waste Disposal Site I&APs

The following table (Table 3) provides a list of persons, group of persons or organisations that were informed about the project and were requested to register as I&APs should they be interested and/or affected.

**Table 3: Omungwelume Waste Disposal Site Stakeholders**

| IAP Grouping | Organisation |
|---|---|
| Government Ministries | ▪ Ministry of Environment, Forestry and Tourism (MEFT);<br>• Department of Environmental Affairs (DEA); |
| Local Governance | Omungwelume Constituency Office |
| Nearby Residents | Omungwelume Settlement |
| Other interested and affected parties | Any other people with an interest in the proposed project or who may be affected by the proposed project. |

## 2.5 Steps in the consultation process

Table 4 sets out the steps that were followed as part of the consultation process:

**Table 4: Consultation process with I&APs and Authorities**

| TASK | DESCRIPTION |
|---|---|

| **Notification - regulatory authorities and I&APs** | |
|---|---|
| Notification to MEFT | I.N.K submitted the Application Form (online system) to MEFT. |
| IAP identification | A stakeholder database was developed for the proposed project and EIA process. Additional I&APs will be updated during the EIA process as required. |
| Distribution of background information document (BID) | BIDs were made available to all I&APs on the project's stakeholder database and were available at the scoping meetings. Copies of the BID were available on request to I.N.K.<br><br>The purpose of the BID was to inform I&APs and authorities about the proposed project, the EIA process, possible environmental impacts and means of providing input into the EIA process. Attached to the BID was a registration and response form, which provided I&APs with an opportunity to submit their names, contact details and comments on the project. |
| Scoping Meetings | Several consultations were made with I&APs. This included meetings and telephonic conversations. |
| I&APs review of Scoping Report | The Scoping Report was submitted to all registered I&APs for comments and input which will be incorporated to update to a final EIA report for submission to the Ministry of Environment, Forestry and Tourism (MEFT) for decision-making. |
| MEFT review of Scoping Report and EMP | A copy of the final Scoping (including assessment) Report, including authority and I&AP review comments, will be submitted to MEFT on completion of the public review process via the online application system. |

**Figure 2: Public and Key Stakeholder Consultation**

## 2.6 Summary of issues raised

All issues that have been raised to date by I&APs are as follows:

- Health and Safety
- Odour impacts; and
- Employment Opportunities.

## 2.7 Environmental Team

Immanuel N. Katali, the EIA Project Manager holds a B.Arts (Honors) in Geography, Environmental Studies and Sociology and has over 7 years of experience in conducting EIAs in Namibia. Immanuel is registered as a Practitiner under the Environmental Assessment Professionals of Namibia (EAPAN)

# 3 ENVIRONMENTAL LAWS, POLICIES AND PERMITS

## 3.1 Environmental Management Act No. 7 of 2007

Environmental Management Act No. 7 of 2007 and its 2012 EIA Regulations aims to ensure that the potential impacts of the development on the environment are considered carefully and in good time; that all interested and affected parties have an opportunity to participate in the environmental assessment processes and that the findings of the environmental assessments are fully considered before any decisions are made about activities which might affect the environment. The Act aims at promoting sustainable management of the environment and use of natural resources. The Environmental Management Act (EMA) is broad; it regulates land use development through environmental clearance certification and/or Environmental Impact Assessments.

The Act provides for the clearance certification for '' 2.1 The construction of facilities for waste sites, treatment of waste and disposal of waste and 8.6 The construction of industrial and domestic wastewater treatment plants and related pipeline systems''.

## 3.2 The National Solid Waste Management Strategy

This National Solid Waste Management Strategy has been developed and will be implemented in line with the directions and provisions of the Environmental Management Act (No.7 of 2007)

The implementation of the National Solid Waste Management Strategy will be compatible with other relevant national policies, strategies, action plans and laws, including the National Development Plan No.5 and Vision 2030. The implementation of the Strategy will provide a framework for the implementation of international commitments relevant to solid waste management (e.g. under the Basel Convention). The implementation of the National Solid Waste Management Strategy will prioritise creation of local employment and supporting local enterprises, including SMEs. In addition, the Strategy will build on the work carried out by MET on solid waste management in protected areas.

## 3.3 Other Applicable Laws and Policies

The Republic of Namibia has five tiers of law and several policies relevant to environmental assessment and protection, which includes:

- The Constitution
- Statutory law
- Common law
- Customary law

- International law

Key policies currently in force include:

- The EIA Policy (1995).
- Namibia's Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1994).

As the main source of legislation, the Constitution of the Republic of Namibia (1990) makes provision for the creation and enforcement of applicable legislation. In this context and in accordance with its constitution, Namibia has passed numerous laws intended to protect the natural environment and mitigate against adverse environmental impacts.

In the context of the proposed project, there are several laws and policies currently applicable. They are reflected in Table 5 below.

**Table 1: Relevant Legislation and Policies**

| YEAR | NAME | Natural Resource Use (energy & water) | Emissions to air (fumes, dust & odours) | Emissions to land (non-hazardous & hazardous | Emissions to water (industrial & domestic) | Noise | Visual | Impact on Land use | Impact on biodiversity | Impact on Archaeology | Socio-economic | Safety & Health |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1990 | The Constitution of the Republic of Namibia of 1990 | X | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** | **X** |
| 2007 | Environmental Management, Act 7 of 2007 | X | X | X | X | X | X | X | X | X | X | X |
| 2012 | Regulations promulgated in terms of the Environmental Management, Act 7 of 2007 | X | X | X | X | X | X | X | X | X | X | X |
| 1976 | Atmospheric Pollution Prevention Ordinance 11 of 1976 | | X | X | | | | | X | | X | X |
| 1995 | Namibia's Environmental | X | X | X | X | X | X | X | X | X | | X |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Assessment Policy for Sustainable Development and Environmental Conservation | | | | | | | | | | | |
| 2004 | National Heritage Act | | | | | | | | | X | | |
| 2013 | Water Resources Management Act, 11 of 2013 | X | | | X | | | | | | X | |

# 4 PROJECT DESCRIPTION

The information contained herein is derived from the National Solid Waste Management Strategy, which provides a framework and guidance for the proposed waste disposal project.

## 4.1 Waste Disposal Site

The proposed dumpsite is located on the eastern direction of the Omungwelume settlement covering approximately 2 hectares and next to existing sewerage ponds (Figure 1). The site in a commual area, on a land primarily used for cattle grazing and open for human movement.

## 4.2 Solid Waste Disposal

Solid-waste management is the collecting, treating, and disposing of solid material that is discarded because it has served its purpose or is no longer useful. Improper disposal of municipal solid waste can create unsanitary conditions, and these conditions in turn can lead to pollution of the environment and to outbreaks of vector-borne disease—that is, diseases spread by rodents and insects. The tasks of solid-waste management present complex technical challenges. They also pose a wide variety of administrative, economic, and social problems that must be managed and solved.

## 4.3 Elements/Methods of Waste Management

The mechanism of Waste Disposal can be made simple by understanding the following:

- **Waste generation**- The materials that are identified and collected are thrown away or gathered for disposal.
- **On-site handling, storage, and processing-** The activities associated with the handling, storage, and processing of solid wastes at or near the point of generation.
- **Collection-** The collection and disposal of solid waste from various locations.
- **Transfer and transport-** The transfer of wastes from the smaller collection vehicle to the larger transport equipment, to the disposal site.
- **Processing and recovery-** Those techniques equipment and facilities are used both to improve the efficiency of the other functional elements and to recover usable materials, conversion products, or energy from solid wastes.
- **Disposal-** The dumping of waste in a specific place for segregation

## 4.4 Construction Phase

### 4.4.1 Power supply

During construction, power will be supplied using mobile generators at all sites.

### 4.4.2 Refuelling and maintenance of generators

The only identified equipment that will require refuelling of diesel and/ or petrol is generators used as power source. This will be done within the perimeters of the site. Drip trays will be installed during the refuelling process and spill kits available during the process. Other vehicles and machinery used during the construction activities will be refuelled off site.

### 4.4.3 Water Supply

Water supply for construction purposes and human consumption will be stored in mobile water storage tanks. Water will be obtained from the Omungwelume Settlement.

### 4.4.4 Waste management during construction activities

Relatively small quantities of waste will be generated during the construction phase. All general waste should be transported to the nearest waste disposal site.

Potential hydrocarbon spills from vehicles and trucks might lead to soil and water contamination and needs to be treated as a hazardous waste if not bio-remediated. Hazardous waste shall be removed and disposed at a designated (permitted) Hazardous waste facility.

### 4.4.5 Sanitation for Construction

Portable toilets with associated septic tanks will be used. The septic tanks will be emptied on a regular basis ensuring no spillages in the proposed sites of infrastructure construction. The effluent shall be disposed of at a licenced facility.

Due to health and safety concerns, personnel may not relieve themselves in the surrounding environment.

### 4.4.6 Rehabilitation of temporary construction sites and laydown area

The removal of all temporary construction equipment will be undertaken at the end of construction activities. This will be done as per Environmental Management Plan recommendations.

## 4.5 Operational Phase

This is the phase during which the newly constructed and equipped Waste Disposal Site will be operational.

The Omungwelume Village Council and the general public will make use of the facility to dispose of general waste. This waste will be sorted on site depending on the type of waste, by the use of the various recycling methods. This facility will be fenced off and inaccessible to animals and community members at all times for health and safety reasons. A security guard will be stationed onsite to control and ensure that only community members that wish to disposed off their waste are permitted on site.. Additionally, workers will be present on site, to handle the waste registry and management of the disposed waste, following the appropriate and recommended waste management measures as per the National Waste Management Strategy.

## 4.6 Decommissioning Phase

Decommissioning referred to herein is for the decommissioning of the construction works and sites at the end of the construction phase. The decommissioning phase will particularly entail the following:

• Dismantling and removal of all infrastructures and structures that will no longer be required for the operational and maintenance phase. These structures include storage tanks, onsite temporary offices, ablution facilities and other supporting structures erected for construction. These will be transported to designated storage facilities offsite.

• Removal of all project related vehicles, machinery, and equipment from site to designated parking and storage sites off site, respectively.

• Carrying away the waste storage containers and disposal of waste to designated and approved waste management sites.

• Closure of all access roads that may have been created for the construction phase and no longer required for operational phase.

• Levelling of stockpiled topsoil and where possible, backfilling of all construction excavated pits and trenches.

# 5 PROJECT ALTERNATIVES

## 5.1 Alternative Site Locations for Waste Disposal Sites

It was identified that the proposed site is the most suitable for the Waste Disposal Site. This is due to the fact that it is in the direct vicinity of sewerage ponds, that treat waste water, therefore, localizing the potential environmental impacts in one area.

## 5.2 The “no project” option

With reference to section 1.3, the aims and objectives of the project is to find an alternative/solution to the current practice of unregulated and informal disposal of general waste in the Omungwelume settlement. The proposed project will therefore allow the Omungwelume Community to practice the recommended environmental practice of waste disposal and contributing and playing its role to environmental sustainability.

Therefore, the challenge facing the project proponent is its contribution towards achieving these goals while at the same time preventing and/or mitigating potential negative social and environmental impacts.

Without the implementation and adherence of the commitments in the EMP, the project will be a “fatal flaw”.

# 6 DESCRIPTION OF THE CURRENT ENVIRONMENT

## 6.1 Land Use

With reference to section 4.1, The proposed dumpsite is located on the eastern direction of the Omungwelume settlement covering approximately 2 hectares and next to existing sewerage ponds (Figure 1). The site in a commual area, on a land primarily used for cattle grazing and open for human movement.

The broader land-use area consist of subsistence agriculture as the main type of communal farming practice. In addition, there are residential, business, Government, institutional and local authority land uses, indicating increasing urbanization and human habitation taking place within the Omungwelume settlement Townlands area, located approximately 3 km west of the proposed dumpsite.

## 6.2 Vegetation

The site consists of 11 Mopane Trees that are scattered and patches of grassland towards the eastern boundary of the site.

The vegetation in the broader area is generally classified as Broadleaf Savannah. The vegetation is characterized by broad-leafed deciduous woodland, which varies in structure and species composition due to soil and topographic heterogeneity. This variation takes place at a localized spatial scale, which makes the classification of plant communities challenging. The vegetation in this region is therefore characterized as “mosaics” of smaller units as opposed to vegetative units (Obeid & Mendelsohn, 2001). There are two major “mosaic” units prevalent in the Settlement area. The first vegetation grouping includes vegetation types associated with drainage systems. The prevalent vegetation type within this grouping is Floodplain and Open Water vegetation (as outlined by Obeid & Mendelsohn, 2001). Overgrazing by livestock has impacted much of the natural vegetation within the floodplain in the region.

## 6.3 Archaeology/Heritage

No archaeological sites were noted within the perimeter of the sites during I.N.K’s visit or identified by the locals.

## 6.4 Wildlife

The major wildlife resources in the region are Rabbits, Squirrel, Rats and woodland birdlife (NACSO, 2007). Habitat destruction and the road transport route paralleling the human activity, has led to the exclusion of most wildlife from the region. It is possible that there is still limited smaller wildlife present in areas with limited disturbance. The only prevalent wildlife remaining in the area is birdlife. This fauna is currently being impacted by human activity in the region and is likely to decrease significantly in numbers should careful environmental planning not take place.

## 6.5 Socio-Economic

### 6.5.1 Cultural conflict

The development of the region has attracted a number of people from different cultures to the area. This often results in conflict between various cultural groups, particularly over the scarce resources and the available services.

### 6.5.2 HIV/AIDS prevalence

HIV/AIDS is becoming increasingly prevalent in the region. This is shortening the average lifespan in the region, placing strain on local medical services and creating social issues. The number of orphans in the region is growing due to an increase in HIV/AIDS related deaths of parents.

### 6.5.3 Crime

The growth of the population and increasing competition for resources has resulted in an increase in crime in the region.

### 6.5.4 Relocation of existing households

As per the National Solid Waste Management Strategy, a proposed disposal site should be at least 500 m from existing and planned housing. Therefore, the homesteads indicated in Figure 1 will require relocation.

## 6.6 Topography

The Ohangwena region is extremely flat. The specific sites all relatively flat, sparsely vegetated and and it is unlikely that any sites of archaeological significance will occur here, although some may occur around the base of large trees in the vicinity of the sites. The site consist of vegetation (large trees) and therefore providing risks of having to cut down certain big trees for the construction. However, attempts will be provided to prevent cutting down and clearing of all vegetation in the area.

## 6.7 Noise

Existing noise sources within and around the project site include:

- Natural sounds from wind, animals, and birds;

The immediate surroundings of the project site has inhabitants of Omungwelume. The sensitivity of noise receptors usually increases at night when conditions are quiet, and ambient noise levels are at their lowest. However, no construction activities are anticipated at night time.

# 7 ENVIRONMENTAL ASPECTS AND POTENTIAL IMPACTS

The activities associated with the proposed construction of the dam have the potential to impact on the environment. Environmental aspects and potential impacts were identified during the screening and scoping phases, in consultation with authorities, land owners, I&APs and the environmental team. Given the relatively small scale of the proposed project and taking the existing environment into consideration, the potential impacts were qualitatively assessed by I.NK.

Table 7- 2 and Table 7-3 below provide a summary of the activities associated with the proposed project during the construction phases respectively, the associated environmental aspects and potential impacts on the environment and also a qualitative assessment of these impacts (before and after mitigation).

Table 6 shows the methodology used to conduct the qualitative assessment. Both the criteria used to assess the impacts and the method of determining the significance of the impacts is outlined. This method complies with the Environmental Impact Assessment Regulations: Environmental Management Act, 2007 (Government Gazette No. 4878) EIA regulations. Part A provides the approach for determining impact consequence (combining severity, spatial scale and duration) and impact significance (the overall rating of the impact). Impact consequence and significance are determined from Part B and C. The interpretation of the impact significance is given in Part D. Both mitigated and unmitigated scenarios are considered for each impact.

## Table 5: Assessment Methodology and Criteria

| PART A: DEFINITION AND CRITERIA | | |
|---|---|---|
| **Definition of SIGNIFICANCE** | | **Significance = consequence x probability** |
| **Definition of CONSEQUENCE** | | **Consequence is a function of severity, spatial extent and duration** |
| **Criteria for ranking of the SEVERITY/NATURE of environmental impacts** | **H** | Substantial deterioration (death, illness or injury). Recommended level will often be violated. Vigorous community action. Irreplaceable loss of resources. |
| | **M** | Moderate/ measurable deterioration (discomfort). Recommended level will occasionally be violated. Widespread complaints. Noticeable loss of resources. |
| | **L** | Minor deterioration (nuisance or minor deterioration). Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints. Limited loss of resources. |
| | **L+** | Minor improvement. Change not measurable/ will remain in the current range. Recommended level will never be violated. Sporadic complaints. |
| | **M+** | Moderate improvement. Will be within or better than the recommended level. No observed reaction. |
| | **H+** | Substantial improvement. Will be within or better than the recommended level. Favourable publicity. |
| **Criteria for ranking the DURATION of impacts** | **L** | Quickly reversible. Less than the project life. Short term |
| | **M** | Reversible over time. Life of the project. Medium term |
| | **H** | Permanent. Beyond closure. Long term. |
| **Criteria for ranking the SPATIAL SCALE of impacts** | **L** | Localised - Within the site boundary. |
| | **M** | Fairly widespread – Beyond the site boundary. Within 20 km of the site boundary. |
| | **H** | Widespread – Far beyond site boundary. Regional/ national |

**PART B: DETERMINING CONSEQUENCE**

**SEVERITY = L**

| | | | | | |
|---|---|---|---|---|---|
| **DURATION** | Long term | **H** | **Medium** | **Medium** | **Medium** |
| | Medium term | **M** | **Low** | **Low** | **Medium** |
| | Short term | **L** | **Low** | **Low** | **Medium** |

**SEVERITY = M**

| | | | | | |
|---|---|---|---|---|---|
| **DURATION** | Long term | **H** | **Medium** | **High** | **High** |
| | Medium term | **M** | **Medium** | **Medium** | **High** |
| | Short term | **L** | **Low** | **Medium** | **Medium** |

**SEVERITY = H**

| | | | | | |
|---|---|---|---|---|---|
| **DURATION** | Long term | **H** | **High** | **High** | **High** |
| | Medium term | **M** | **Medium** | **Medium** | **High** |
| | Short term | **L** | **Medium** | **Medium** | **High** |
| | | | **L** | **M** | **H** |
| | | | Localised<br>Within site boundary<br>Site | Fairly widespread<br>Beyond site boundary<br>Local | Widespread<br>Far beyond site boundary<br>Regional/ national |
| | | | **SPATIAL SCALE** | | |

**PART C: DETERMINING SIGNIFICANCE**

| | | | | | |
|---|---|---|---|---|---|
| **PROBABILITY (of exposure to impacts)** | Definite/ Continuous | **H** | **Medium** | **Medium** | **High** |
| | Possible/ frequent | **M** | **Medium** | **Medium** | **High** |
| | Unlikely/ seldom | **L** | **Low** | **Low** | **Medium** |
| | | | **L** | **M** | **H** |
| | | | **CONSEQUENCE** | | |

**PART D: INTERPRETATION OF SIGNIFICANCE**

| **Significance** | **Decision guideline** |
|---|---|
| High | It would influence the decision regardless of any possible mitigation. |
| Medium | It should have an influence on the decision unless it is mitigated. |
| Low | It will not have an influence on the decision. |

**Table 6: Environmental aspects and potential impacts associated with the construction of Waste Disposal Sites and waste disposal sites**

| ACTIVITY | ASPECT | POTENTIAL ENVIRONMENTAL IMPACT | SIGNIFICANCE DISCUSSION | MITIGATION (with & without) | SEVERITY | DURATION | SPATIAL SCALE | CONSEQUENCE | PROBABILITY | SIGNIFICANCE |
|---|---|---|---|---|---|---|---|---|---|---|
| **Constructionand Operation phases** | | | | | | | | | | |
| Site Preparation and general construction activities | Air Quality and Noise | The site preparation activities and movement of vehicles on the roads will generate some dust.<br>Noise will be generated by construction activities, i.e. excavations, movement of vehicles on the roads.<br>. | Noise could impact (i.e. disturb) animals and people in the immediate surroundings of the activities. However, due to the nature of the activities and the short period of construction, these potential impacts are not considered to be significant. However, seeing that the activities are conducted in close proximity to homesteads, the severity of the impact is regarded medium in the unmitigated scenario. The Project Team must always respect their work environment and implement the relevant management and mitigation measure to keep disturbance to a minimum. | Without | M | L | M | M | L | **L** |
| | | | | With | L | L | L | L | L | **L** |
| | Socio-economic | Potential positive impact on socio-economic (job creation/opportunities) | No significant negative social impacts are expected due to the location, magnitude and nature of the proposed activities and workforce. However, a few job opportunities will be created. This is a positive impact. | Without | L+ | L | L | L | L | **L+** |
| | | | | With | M+ | L | M | M | M | **M+** |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Biodiversity | Potential impact on fauna and flora (poaching and general disturbance and clearing of vegetation) | Site preparation activities for the construction may have potential impacts resulting in the general disturbance and/or physical destruction of vegetation and/or fauna. The site is located in grassland areas with the dominance of the Savanna Woodland. The cutting down of big trees for the construction should be avoided.<br><br>However, due to the fact that the construction team will not be very big, potential poaching and collection of firewood impacts can easily be managed through appropriate management and mitigation measures outlined in the EMP. | Without | H | M | H | H | L-M | **M-H** |
| | | | | With | L | L | L | L | L | **L** |
| | | | | | | | | | | |
| | Heritage / Archaeology | Activities could result in possible damage to/destruction of heritage resources. | The magnitude of the proposed activities is limited to the construction of the Waste Disposal Sites. No archaeological sites are expected or were identified within the perimeters of the sites. | Without | L | L | L | L | L | **L** |
| | | | | With | L | L | L | L | L | **L** |
| | Waste Management | Potential impact on the environment (pollution, impact on biodiversity, environmental degradation). | Waste generated on site (i.e. domestic waste and hydrocarbon contaminated material, empty lubrication bottles, etc.) has the potential to pollute the environment, cause environmental degradation, if not properly managed and could result in visual impacts of the surrounding area. However, relatively small quantities of waste will be generated, reducing the likelihood of potential impacts.<br><br>In the context of the activities that will take place, any waste pollution impacts are however | Without | M | M | M | M | M | **M** |
| | | | | With | L | L | M | L | L | **L** |
| | | | | | | | | | | |
| | | | | | | | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | regarded significant and the unmitigated scenario is assessed as such. | | | | | | | |
| | Hydrocarbon spills and sewage management | Potential impact on soil (contamination) and surface water and ground water pollution | In the event of hydrocarbon or sewage spillages, soil could become contaminated and surface water and groundwater polluted; however, the relatively small volumes of hydrocarbons that could be spilled makes this potential impact less significant. The proposed activity will be limited to only the footprint of the proposed sites. Soil loss and contamination could have an impact on grazing animals. However, the area to be disturbed is very localised, and impacts can be easily mitigated. | Without | L-M | L | M | L-M | L-M | **L-M** |
| | | | | With | L | L | L | L | L | **L** |
| | | | | | | | | | | |
| | Odour from Waste Disposal Sites | Potential impact on people | The site will potentially emit a 'smell' into the atmosphere during the operations that could potentially impact the people living in the nearby settlement. This may affect the locals in proximity of the ponds. Odours from the facility can result in complaints from the neighbouring communities (residents).<br>The severity of the impact is regarded medium in both the mitigated and unmitigated scenario. | Without | M | M | M | M | M | **M** |
| | | | | With | M | M | M | M | M | **M** |
| | Relocation of Homesteads | Potential impact on people and livelihood | As per the National Solid Waste Management Strategy, a proposed disposal site should be at least 500 m from existing and planned housing. Therefore, the homesteads indicated in Figure 1 will require relocation. | Without | M | M | M | M | M | **M** |
| | | | | With | M | M | M | M | M | **M** |

# 8 CONCLUSIONS

The environmental aspects associated with the Waste Disposal Sites has been successfully identified and assessed as part of this EIA Scoping process.

Mitigation measures have been identified and recommended by I.N.K Enviro Consultants cc to promote the positive impacts of the project, as well as to avoid / minimise the negative impacts to acceptable levels. An EMP was further developed which identifies potential impacts of the project during the operation phase. The EMP is a legally binding document, which the proponent must adhere to.

I.N.K concludes that should the management actions and mitigation measures provided in the EIA and EMP report be implemented, the project would have an acceptably low significant impact on the surrounding biophysical and social environment.

# 9 WAY FORWARD

The way forward for the EIA scoping phase is as follows:

- I&APs review the reports
- I.N.K consider comments received and finalised the reports
- MEFT review the final Scoping (including impact assessment) Report and MEFT provide record of decision.

# 10 REFERENCES

Mendelsohn, J., Jarvis, A., Roberts, C. and Roberts, T., 2002. Atlas of Namibia: A portrait of the land and its people. David Philip Publishers, Cape Town, RSA

Namibia Statistics Agency. 2011. *Caprivi Regional report*. NSA, Windhoek.