
ENVIRONMENTAL & SOCIAL IMPACT ASSESSMENT (ESIA) REPORT

SUBDIVISION OF ERF 97, ETOSHPOORT, OUTJO TOWNLAND, OUTJO, NAMIBIA



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JANUARY 2021

Document Status

PROPONENT	Outjo Municipality
PROJECT TITLE	Subdivision of Erf 97, Etoshpoort, Outjo Townlands, Outjo, Namibia
PROJECT TYPE	Environmental & Social Impact Assessment Study
PROJECT LOCATION	Etoshpoort, Outjo Townlands, Outjo, Kunene Region, Namibia
COMPETENT AUTHORITY	Environmental Commission (Ministry of Environment and Tourism)
PROJECT EAP / REVIEWER	Contact person: Mr. David Shikoyeni NAMLAND CONSULTANTS P.O. Box 55160, Rocky Crest, Windhoek Cell: 0812805501; 0811474742 Fax 2 mail: 0886562044 Email:consultancy@namland.com.na
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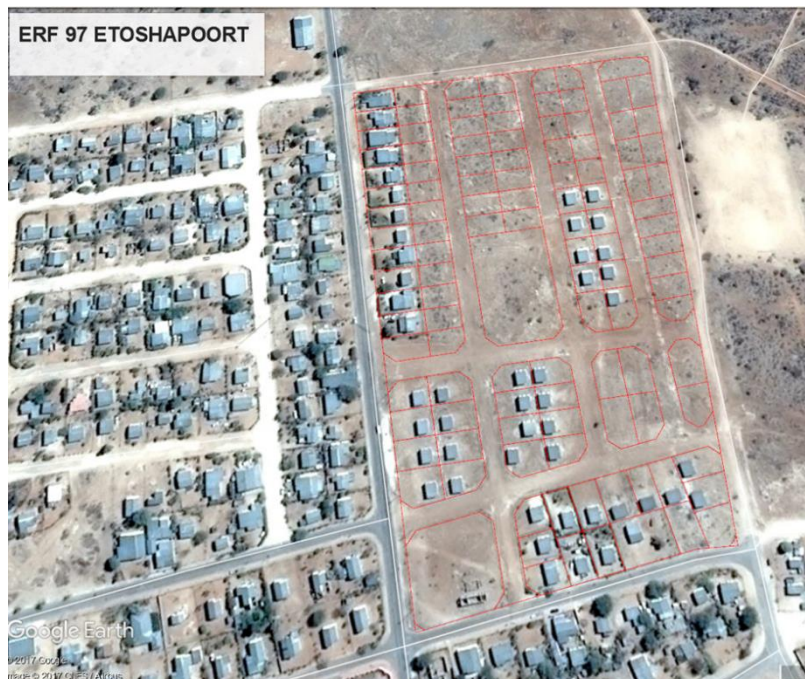


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ABBREVIATION OF TERMS USED

– BID	Background Information Document
– CV	Curriculum Vitae
– DEA	Department of Environmental Affairs

– EA	Environmental Assessment
– ECC	Environmental Clearance Certificate
– EIA	Environmental Impact Assessment
– EMP /S	Environmental Management Plan / Statement
– GG	Government Gazette
– GN	Government Notice
– ha	Hectare
– HIV	Human Immunodeficiency Virus
– NMT	non-motorised transport

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EXECUTIVE SUMMARY

I. INTRODUCTION

The Outjo Municipality has a series of challenges that need to be approached in a structured way over the short to medium term to enable the development of a successful town over the long term and these include:

- The need to consolidate the town and make 'one town'.
- The need to absorb more residents, but this may have difficulties with surrounding land ownership issues, resulting in the need to densify.
- The need to improve the public environment To create parity between the public environment
- The need for the town to expand to accommodate the growing population; and the need for this expansion to include the expansion of the Townlands area so that the town can expand radially rather than the linear expansion that has been seen previously.
- The provision of good quality low income housing.
- General improvements to public open space.
- The need for more industrial opportunities

The following policies are seen as fundamental to the long term development of the town of Outjo:

- **Integration** - Towards one town.
- **Consolidation** - Making the most of the existing town.
- **Densification** - Reducing urban sprawl by encouraging greater densities in central areas
- **Expansion** - Managing spatial growth with the separation of land provision for industry and for living.
- **Spatial Quality** - Improving the quality of public space & connectivity of public space.
- **Improving circulation** - For the vehicle, pedestrian & cyclist.
- Working towards social upliftment.

There is a vast difference in the quality of the built environment between the lower income, higher density neighbourhoods and the higher income lower density neighbourhoods. As such, the municipality is working towards:

- The provision of good quality low income housing.
- Improvements to public open space.
- Meeting the town's infrastructure requirements.
- Creating neighbourhoods of sufficient density.
- Providing enough space for urban expansion.
- Improving the town's entrances

Each of these structural problems is being addressed gradually. But in order to resolve these issues, the following policies are seen as fundamental to the long term development of the town.

POLICY	DESCRIPTION
- Integration	Towards one town
- Consolidation	Making the most of the existing town
- Densification	Reducing urban sprawl by encouraging greater densities in central areas
- Expansion	Managing spatial growth through land provision for industrial and residential purposes.
- Spatial Quality	Improving the quality of public space & connectivity of public space

– Improving circulation	For the vehicles, pedestrians and cyclists.
Working towards social upliftment.	

This Environmental and Social Impact Assessment (ESIA) Report was prepared following the assessment of the proposed development that entails provision for xxxxx residential erven with an average ruling erf size of xxxxm², xxxx business erven, xxxx institutional erf and 1 public open space.

Overall, there are no significant environmental and social impacts predicted should the development take place as it falls under the Outjo Municipality Town Planning Scheme. However, efforts will be made to address especially socio-environmental issues likely to be instigated by the whole project.

The proposed development calls for an EIA Process, and as such, the purpose of this study is to identify the direct and indirect impacts that the development will have on the natural resources, eco-system, and the socio- economic dimensions of the neighbouring communities and populations.

It should be noted that this whole process will be carried out in accordance with the Namibian Environmental Management Act (No. 7 of 2007) and its Regulations and Section 50 of the Local Authorities Act of 1992, Act 23 of 1992, as amended.

II. PROJECT OBJECTIVES AND OUTPUTS

The overall objective of the Subdivision of Erf 97 of Etoshpoort, is to support Oujos’ urbanization process by delivering basic services that will improve living conditions and promote local economic development. The project calls for socially equitable development and ensuring of environmental integrity in all urban infrastructure developments. Additional overall urban development guiding principles to be followed in preparing this project are:

- (a) designs which will encourage densification of the town, resulting in reduced urban infrastructure and services costs,
- (b) local economic development must also be taken into consideration in the dialogue with the cities as to investment options, and
- (c) Using social inclusive growth as a major criteria
- (d) Curbing social ills

III. PROJECT MOTIVATION

The Outjo Municipality has put in place a strategy for Urban Development to mitigate effects and take advantages of opportunities by envisaged increase in the number of people migrating from rural areas to urban centres in search of employment or economic and social opportunities. The identified project is one of the projects put together as a means of achieving the objectives of the Urban Development Strategy.

IV. KEY FINDINGS

The proposed project was generally viewed positively by communities; and the implementation and operationalization of the proposed projects was viewed and assessed by beneficiary citizens as having the following benefits:

- Improved and modern town connectivity, accessibility and infrastructure;
- improved health and sanitation;
- Social cohesion and engagement; and
- Economic opportunities
- Improved safety, security for local residents and home owners bordering the identified site

It can be deduced and reasoned from an environmental and developmental perspective that the whole project has no risk or impact to any physical cultural sites, natural habitats, forests, ecologically sensitive areas, and other socially important facilities and sites such as health centres, graveyards or community social centres. Most importantly, it will not affect any individual properties bordering the identified site.

The short and relatively narrow nature of the proposed project is concentrated on a very small piece of land, and all construction efforts will call for use of medium machinery and manpower.

Anticipated Environmental and Social Risks

The project has been extensively assessed and has no serious environmental and social impacts. No one – person and property - will be displaced or affected by the activity.

Some of the key environmental and social impacts identified are as follows:

IMPACT	DESCRIPTION
– Noise and Dust Pollution	Local Construction efforts will increase ambient noise and slightly decrease air quality through dust. Noise and dust will lead to increased irritation especially in the directly affected communities especially pedestrians who had been temporarily using the identified piece of land for some time now, which may cause social distress, reaction against the project.
– Informal Access “Restrictions” to Services and Developments	The development will play very important but informal socioeconomic role in the communities - providing a variety of services such as access to socioeconomic services and facilities like schools, clinic, and even markets. The Environmental (and Social) Management Plan (EMP) will include explicit details for mitigating the impacts caused by this restricted access.
– Population Influx	The creation of employment opportunities may also result in a population influx into the area in search of possible opportunities, contributing to existing ongoing population expansion in the project areas. Construction teams that are constituted from people not from the project area have potential to create social tensions and cause disruption though at a very low level.
– Conflict Potential	The permanent site closure was assessed not to create any conflict as it was welcomed enthusiastically by all Interested and Affected Parties. Care was taken to ensure that the Grievance Redress Mechanism is well understood by all citizens, especially those directly affected by the implementation of the project.
– Increase in Traffic and Safety Hazards	Residential units’ development will positively lead to a significant increase in human traffic along designated roads and access roads. Concentrated and guided increased human traffic will lead to deterioration of these access routes and the creation of dust. Details for management of impacts of increased traffic during the operational phase of the subprojects are articulated within the ESMP / EMP
– Social-Environmental Linkages	During the implementation of the project, no anticipated resultant environmental degradation is likely to hit hardest any population segment.

Other direct negative impacts will include:

- Wind erosion especially by Westerly Winds;
- Scouring of the landscape due to opening of borrow pits;
- Dust emissions,
- noise and vibrations during construction;

Institutional Capacity for implementing agencies

The ESIA assessed institutional capacity of Outjo Municipality and found that necessary provisions have been made to ensure smooth implementation of all key issues raised in preparation of the project including taking on board environmental and social safeguards.

– Access to Information for All

There should be a policy outlining a clear process for making information publicly available and providing a right to appeal if information-seekers believe they were improperly or unreasonably denied access to information or if there is a public interest case to override an exception that restricts access to certain information.

V. LEGAL REQUIREMENTS

In terms of Section 58 of this Act , the Environmental Management Act came into force on the 6th of February 2012, as determined by the Minister of Environment and Tourism (Government Notice No. 28 of 2012).

Under Section 56 of the Environmental Management Act, 2007 (Act No.7 of 2007), the Minister has made the regulations for Environmental Impact Assessment as set out in the Schedule of Government Notice No. 30 (2012). These regulations require that all projects, plans, programmes and policies that have a detrimental effect on the environment must be accompanied by an EIA. Under Section 27 of the Environmental Management Act, 2007 (Act No. 7 of 2007), and after following the consultative process referred to in section 44 of that Act, the Minister lists in the Annexure to the above mentioned Schedule, activities that may not be undertaken without an Environmental Clearance Certificate (Government Notice No. 29 of 2012).

The most important provisions in terms of guiding this Environmental Assessment process are those contained in the Town Planning, Road and Townships and Division of Land Ordinances, the Water and the Forestry Acts.

The proposed developments will likely have minimal impact on sensitive aspects of the receiving environment, both biophysical and socio-economic.

VI. PUBLIC CONSULTATION / STAKEHOLDER ENGAGEMENT

Public participation was carried out in accordance with the EIA Regulations. Various I&APs at local level were identified and their input solicited. Namland Consultants will emphasized and utilized the Human Rights Based Approach to Programming (HRBAP) in this regard.

Electronic and print media was fully utilized in communicating with the communities and stakeholders. The print media – New Era, which is widely read and circulated in Outjo and nationally respectively – was fully utilized, considering its outreach, readership, and relevance in this regard. Online adverts / notices were placed on the Outjo Municipality Notice Boards, Namland Consultants website, the Facebook page, Bulk emailing and messaging was the other method to be used to communicate with I

&APs. To make sure the messages reached out to the target audience of different tribes and cultures, Namland Consultants translated the messages from English into OshiWambo, Afrikaans, and Damara languages or dialects.

The Consultants engaged on an extensive and exhaustive campaign as a way of engaging, informing and educating Interested and Affected parties.

VII. IMPACT ASSESSMENT

The issues identified by Namland Consultants and along with those identified during the Public Consultation Process were assessed using a range of Assessment Criteria. The application of these criteria involved a balanced consideration of duration, extent, and intensity/magnitude, modified by probability, cumulative effects, and confidence in order to determine significance. Mitigation measures were outlined for each identified impact.

VIII. CONCLUSIONS AND RECOMMENDATIONS

Considering the fact that the Outjo Municipality is experiencing housing shortages, this is a noble development. The development will help bring sanity and enhance the environmental aesthetics associated with the development. No negative social, economic or environmental activities are likely to be experienced on the identified piece of land. It is therefore highly and developmentally recommended that an Environmental Clearance Certificate (ECC) be issued by the Competent Authority, which is the Ministry of Environment and Tourism (MET) provided the recommendations included in this report and the EMP are religiously implemented.

1. BACKGROUND

1.1 Introduction

Outjo is one of the fast growing centres in Kunene Region. The proposed development is an indication of various developments planned for the town of Outjo. This development is one of a suite of the town planning instruments used for future spatial planning.

As per the Environmental Management Act (7 of 2007), identified project cannot take place without an Environmental Scoping exercise having been completed and Environmental Clearance Certificate issued from the Directorate of Environmental Affairs (MET).

Namland Consultants has been duly appointed by Outjo Municipality to conduct an Environmental Scoping exercise and develop Environmental Management (& Monitoring) Plan (EMP) for the proposed development. The Consultants boast of relevant experience and exposure with regards executing Environmental Impact Assessment projects at national, regional and international stages. Abridged CVs of the Lead Consultant is attached as Annexure B.

Simply defined, EIA is a systematic process to identify, predict and evaluate the environmental effects of proposed actions and projects. This process is applied prior to major decisions and commitments being made. A broad definition of environment is adopted. Whenever appropriate, social, cultural and health effects are considered as an integral part of EIA. Particular attention is given in EIA practice to preventing, mitigating and offsetting these significant adverse effects of proposed undertakings.

The purpose of EIA is to:

- provide information for decision-making on the environmental consequences of proposed actions; and
- Promote environmentally sound and **sustainable development** through the identification of appropriate enhancement and mitigation measures.

According to UNCED (2015), Sustainable development is a key concept that has gained increasing international acceptance during the last two decades. A milestone in this process was the Brundtland Report, which defined sustainable development as “development that meets the needs of today’s generation without compromising those of future generations”. Five years later, the UN Conference on Environment and Development (UNCED), the Earth Summit, established a number of international agreements, declarations and commitments (see table below). Agenda 21 of the Global Action Plan for Sustainable Development, emphasises the importance of integrated environment and development decision-making and promotes the use of EIA and other policy instruments for this purpose (UNCED, 2015; UNEP, 2016).

Table 1.1: Four Cornerstones of the Earth Summit

Adapted from UNCED (2015)

Four cornerstones of the Earth Summit	
Cornerstone	Summary
a) The Rio Declaration on Environment and Development	A set of principles which provide guidance on achieving sustainable development.
b) Framework Convention on Climate Change	An international treaty to stabilise greenhouse gas concentrations in the atmosphere.
c) Convention on Biological	An international convention with three objectives: the conservation of

Diversity	biodiversity, the sustainable use of its components, and the equitable sharing of benefits from genetic resources.
d) Agenda 21	A global programme of action for achieving sustainable development to which countries are politically committed rather than legally obligated.

1.2 Perspectives on Sustainable Development

Sustainable development is an evolving concept, which is continually being redefined and reinterpreted. The starting point for most people is the Brundtland definition, which also can be formally stated as twin principles of intra- and inter-generational equity. In practice, these principles mean improving the welfare of the world's poor and maintaining the development opportunities for the generations that follow (UNCED (2015)).

The challenge of sustainable development may be summarised by comparing three overriding indicators:

- **First**, human activity is estimated to currently consume or pre-empt 40 per cent of net primary productivity on land.
- **Second**, 60 per cent of the world's population live close to or under the poverty line.
- **Third**, the world's population is projected to double by mid-century (circa. year 2050).

Without major policy and technology changes, UNEP and other institutions have concluded that such trends threaten the stability of the world community and the global environment (UNCED, 2015; UNEP, 2016).

1.3 Importance of Environmental Impact Assessment (EIA)

Reducing the burden of environmental impacts is necessary if development is to become sustainable. These impacts are more complex, larger in scale and further reaching in their potential consequences than thirty years ago when EIA was first introduced. As a result, EIA has become of ever increasing importance as a tool for development decision-making (UNCED, 2015; World Bank, 2015 & USAID, 2016).

This role is formally recognized in Principle 17 of the Rio Declaration on Environment and Development: *"Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority"*.

According to UNEP (2015), in practice, EIA is applied primarily to prevent or minimise the adverse effects of major development proposals, such as power stations, resource renewal, agricultural processes, waste and sewage disposal, recreation, dams and reservoirs, industrial complexes, township developments, etc. It is also used as a planning tool to promote sustainable development by integrating environmental considerations into a wide range of proposed actions. Most notably, Strategic Environmental Assessment (SEA) of policies and plans focuses on the highest levels of decision making, when better account can be taken of the environment in considering development alternatives and options. More limited forms of EIA can be used to ensure that smaller scale projects, conform to appropriate environmental standards or site and design criteria. Such projects include dredging activities, road realignment and upgrading, and housing subdivisions (UNCED, 2015; World Bank, 2015 & USAID, 2016).

1.4 Aims and Objectives of Environmental Impact Assessment (EIA)

The aims and objectives of EIA can be divided into two categories. The immediate aim of EIA is to inform the process of decision-making by identifying the potentially significant environmental effects and risks of development proposals. The ultimate (long term) aim of EIA is to promote sustainable development by ensuring that development proposals do not undermine critical resource and ecological functions or the well-being, lifestyle and livelihood of the communities and peoples who depend on them (UNCED, 2015).

Immediate objectives of EIA are to:

- improve the environmental design of the proposal;
- ensure that resources are used appropriately and efficiently;
- identify appropriate measures for mitigating the potential impacts of the proposal; and
- Facilitate informed decision making, including setting the environmental terms and conditions for implementing the proposal.

Long term objectives of EIA are to:

- protect human health and safety;
- avoid irreversible changes and serious damage to the environment;
- safeguard valued resources, natural areas and ecosystem components; and
- Enhance the social aspects of the proposal.

1.5 Limitations of Environmental Impact Assessment (EIA)

EIA is also a way of ensuring that environmental factors are considered in decision-making process along with the traditional economic and technical factors. Importantly EIA requires the scientific (technical) and value issues to be dealt with in a single assessment process. This helps in the proper consideration of all advantages and disadvantages of a proposal. Environmental considerations may, therefore, be set aside in favour of what are felt to be more important considerations. Alternatively, predicted adverse effects on the environment might lead to strict conditions being imposed to avoid these effects or remedy any adverse effects, or perhaps lead to the complete abandonment of a proposal (UNEP, 2015).

However, according to UNEP (2015) it is most important to recognise that EIA cannot be regarded as a means of introducing an environmental “veto” power into administrative decision-making processes. Decisions that are unsatisfactory from an environmental point of view can still be made, but with full knowledge of the environmental consequences. The final decision about a proposal depends upon the likely severity of the adverse effects, balanced against other expected benefits.

In other words, EIA is an administrative process that identifies the potential environmental effects of undertaking a proposal, and presents these environmental effects alongside the other advantages and disadvantages of the proposal to the decision-makers. In the vast majority of EIA procedures this means that the outcome of the EIA process provides advice to the decision-makers, it does not provide a final decision. So, by itself, the EIA procedures cannot be expected to stop a proposal although this is an outcome that some members of the general community and environment groups may expect. For Namibia, this is well stipulated under the Environmental Management Act EMA (No 7 of 2007) which requires that projects with significant environmental impact are subject to an environmental assessment process (Section 27), details principles of which are to guide all EAs; as well as Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878) which Details requirements for public consultation within a given environmental assessment process (GN 30 S21) and the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15) (GRN MET, 2016).

1.6 Consultancy Terms of Reference (TORs)

The Terms of Reference (TORs) for the proposed project is technically and legally based on the requirements set out by the Namibian Environmental Management Act (2007) and the accompanying EIA Regulations (2012) and Section 50 of the Local Authorities Act of 1992, Act 23 of 1992, as amended. The process covered the following steps:

- *A description of all tasks to be undertaken as part of the assessment process, including any specialist studies to be included if needed;*
- *An indication of the stages at which the Environmental Commissioner is to be consulted;*
- *A description of the proposed method of assessing the environmental issues and alternatives*
- *An identification of all legislation and guidelines that have been considered in the preparation of the scoping study;*
- *Description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity*
- *A description of environmental issues and potential impacts, including cumulative impacts that have been identified*
- *A Draft Environmental Management Plan that complies with EMA and its Regulations;*
- *The nature and extent of the Public Consultation processes to be conducted during the assessment process.*

It should be noted that the TORs and scope of services will require the Scoping Assessment and production of EMP for the proposed development, and this will include extensive and exhaustive Public Consultation Process.

1.7 The Environmental Assessment Practitioner (EAP)

Namland Consultants is an established Namibian company based in Swakopmund, with national and regional influence and associates. It is a consortium of highly skilled and experienced Associates of researchers, scientists, town and regional planners, mapping and environmental specialists, engineers, geologists, who work with clients to develop and implement site-specific solutions.

The firm navigates the regulatory red tape and guides clients successfully through the waters of prevailing national policies. The Team comprises generalists with good project management skills; environmental assessment; Sustainability; Research – Qualitative and Quantitative; Report Writing – analytical and in-depth skills and related fields.

Namland Consultants team as the EAP designate:

- Have knowledge of and experience in conducting assessments, including knowledge of the Environmental Management Act, the Environmental Impact Assessment Regulations and guidelines that have relevance to this proposed activity, as well as Sustainable Development, Stakeholder Engagement; Data Collection , Analysis & interpretation; Town and Regional Planning; etc
- Have performed the work relating to the application in an objective manner, even if this results in view and findings that are not favourable to the applicant;
- Have complied with the Environmental Management Act, the Environmental Impact Assessment Regulations, guidelines and other applicable laws, and
- Have disclosed to the proponent, competent authority / the Environmental Commissioner all material and information in its possession that reasonably has or may have the potential of influencing –
- Any decision to be taken with respect to the application in terms of the Environmental Management Act, the Environmental Impact Assessment Regulations; or

- The objectivity of any report, plan or document prepared by the EAP in terms of the Act and its regulations.

2 . PROJECT DESCRIPTION IN RELATION TO THE OUTJO TOWN PLANNING

2.1 Need for the township development

The Outjo Municipality has decided to implement a Structure Plan for the area under its jurisdiction commonly known as the Townlands. The town is facing immense spatial pressures. The move is meant to complement the goals set by national development policies and guidelines such as Vision 2030, NDP4 and others notably the Harambee Prosperity Plan (HPP). The whole project is being driven under Section 50 of the Local Authorities Act of 1992, Act 23 of 1992, as amended.

The aim is that the envisaged development takes place in a cohesive way as part of the broader long term development objectives of the Municipality for the benefit of its constituents.

The Structure Plan is thought of as a 'live' document, regularly updated as new information comes to light and to be used as a dynamic policy document that will guide Council when evaluating development options or when attending to township development.

The urban environment cannot be seen in isolation from the natural and social environments, as the future and stability of each component is intrinsically linked. There are clearly a number of challenges that will need to be met when developing Outjo Municipality, with perhaps the most challenging being how to accommodate the rising population, particularly when so many of the new residents in the town are from low income groups.

By planning holistically, with the proposed township development being of paramount interest and importance in this regard, the Outjo Municipality can ensure that future development is both socially and environmentally sustainable.

2.2 The Structure Plan and Its Relationship to the Town Planning Scheme

The Town Planning Scheme is a statutory document, regulating and prescribing specific land-uses that are permissible on each land unit located within the area of jurisdiction.

As such the Town Planning Scheme is a legal document that refers to land-uses on all properties located within the proclaimed Townlands of Outjo Municipality and only relates to permissible land-uses as reflected for each property surveyed and registered with the deeds office.

2.2.1 The Purpose of the Structure Plan

The purpose of the Structure Plan is to guide and organise the various forms of land-use, and to respond to the existing natural and man-made environments in such a way as to optimise the living conditions of the residents of Outjo, and provide a clear development strategy over the long term.

In the absence of a Structure Plan, it can be very difficult for local authorities to make informed decisions when planning applications are presented to the municipality, particularly in the context of rezoning applications on land, applications for densification and increases in height, and for applications for the development of land that does not currently have a determined zoning.

As such, this proposal is based on The Structure Plan to make these decisions. Each new development, no matter how small should always be seen as part of the bigger picture of long term development.

2.3 The Plan: Giving Direction to the Outjo Municipality

As a result of Namibia's relatively high natural population growth and the current high speed of rural to urban in-migration, Namibia's urban populations are growing very rapidly. This means that Namibian towns must pro-actively find ways to accommodate the needs of their fast growing populations.

In order to approach this challenge, the Structure Plan draws on the following sources:

- Current 'best practice' on the development of towns & cities internationally;
- Understanding the local, regional and national development challenges;
- The current & historic planning and construction culture of Namibia;
- Current Planning Legislation;
- Local & national precedents.

2.3.1 Current 'Best Practice' on the Development of Towns & Cities Internationally

There are nine global tendencies which will have a profound impact on spatial planning and design of towns and cities over the long term, and these are Population Growth; Increasing Economic Globalization and Increasing Structural Unemployment; Climate Change; Food Security; Water scarcity; Environmental Sustainability; Fossil Fuel Depletion; Transport Engineer Dominated Modernist Planning Principles and Shelter.

2.4 Understanding International Planning Performance Qualities

There is an increasing consensus in planning circles internationally about the performance qualities that should guide human settlement formation, generally these are;

- **Efficiency** - which relates to the efficient utilisation of land, the efficient provision of services, and efficient spatial relationships between public facilities, public amenities and public services which should be planned in a systematic way, allowing them to be utilised in a single trip. Efficient servicing and utilisation of land is particularly relevant with regard to low income areas where the cost of servicing land must be reduced to a minimum.
- **Sustainability** - which relates both to environmental and social sustainability. In the environmental sense the planning must encourage protection of the environment by respecting the need to avoid development in environmentally sensitive areas and to reduce all forms of pollution through considered design, particularly in relation to non-vehicular transport. In the social sense, planning must create an enabling environment in which people are able to help themselves in terms of economic activities, particularly with regard to low income groups, where informal and semi-formal economic activities and small and medium enterprises offer the best hope of generating income.
- **Equity** - which relates to the fundamental concern within a democratic society that within the public domain all users are equal. Meaning that publicly owned areas such as public open space and public shopping areas must be accessible to all, and not have access controlled so that they can only be used by wealthier individuals.
- **Integration** - which relates to the integration of activities and neighbourhoods. Large empty areas separating higher income neighbourhoods from lower income neighbourhoods should be discouraged, and such areas created in earlier times should be developed to integrate previously dispersed neighbourhoods. Particularly in the Namibian context where many towns applied segregation policies whilst under the South African administration, this pattern must be reversed.
- **Connectivity and Permeability** - which relates to transport networks of all modes. Neighbourhoods must be connected back into the fabric of the town, and spatial planning must not introduce barriers to the efficient circulation through neighbourhoods.

- **Safety and Security** - which relates to the design and planning of neighbourhoods so that safety and security risks can be mitigated. Passive measures can be introduced such as providing adequate space for the ingress and egress of emergency vehicles into settlement areas and control of the surface spread of fire between individual buildings.

2.4.1 The Urban Model

The urban model which emerges from these informants is clear and remarkably consistent, and calls for settlements which:

- Locational decisions are informed by an understanding of the local environmental and ecological conditions.
- Are relatively compact and dense.
- Draw inputs such as water, food, and where possible energy from relatively small distances.
- Engage in local food production and local water capture.
- Recycle in terms of outputs and are ecologically responsible in terms of waste disposal.
- Are structured around public institutions and public space.
- Are scaled to the pedestrian and non-motorised transport (NMT) reducing over the long term dependence on fossil fuels.
- Have a much more progressive approach to transport planning in which transport engineers think much more broadly about the impacts of transport networks in sustainable place making.

2.5 Understanding Local, Regional and National Development Challenges

While all of the international tendencies have applicability, the development challenges in Namibia are flavoured by some unique characteristics.

- Rapid rates of urban growth;
- High levels of poverty, inequality and unemployment;
- High levels of HIV/AIDS;
- Scarce resources (particularly public resources) relative to demands being made upon them;
- Inefficient, or non-existent public transportation resulting in a dependence on personal vehicles for wealthier people, and for poorer people on relatively expensive taxi's ;
- Low skills levels, which result in high levels of unemployment as low skilled employees are no longer needed as a result of mechanisation and globalisation;
- Limited human capacity, which can result in poor decision making;
- Generally poor quality of the public spatial environment;
- High levels of informality, both in terms of economic activity and shelter;
- High levels of uncertainty, particularly regarding employment and long term economic development;
- High levels of cultural diversity.

2.5.1 The Current & Historic Planning of Namibia

Historically, many of the towns in Namibia were developed by colonial powers for the purpose of aiding in the extraction of goods and materials or as administrative centres. During the period of the South African Administration many planning policies that enshrined apartheid principles were implemented, which resulted in the separation of people and activities on the basis of race, and consequently quality of life. Additionally, during the liberation struggle many towns, particularly in the north were developed in the context of combating armed resistance.

In planning terms, the separation of people was not just in terms of the location of housing, but also in terms of levels of public sector investment and service provision such as sanitation, electrification, roads infrastructure, and the quality of public open space.

One of the typical characteristics of Namibian towns today is the relatively low density and typically higher income residential neighbourhoods which surround the town centre. Then, usually at some distance from the urban centre, high density low income neighbourhoods which house the urban poor

and are usually augmented with high density informal settlements of shack dwellers. This results in those with the least means living the furthest from the town centre.

In many respects this is the opposite of the density relationships that are usually found in contemporary towns and cities in industrialised nations. Typically, a dense compact town centre evolves where land prices are more expensive due to their proximity to places of greatest economic activity, eventually resulting in taller buildings. Then, moving away from the town centre densities gradually decrease.

The benefits of this model are that higher density housing can be provided nearer to the town centre, providing affordable housing for people who may have to rely on public or non-motorised transport to get to places of employment. The lower density, and typically more expensive housing provided further from the urban centre can then be occupied by wealthier individuals who are more likely to have access to a motorised vehicle or for which public transportation costs such as commuter trains are not prohibitively expensive.

Since Independence efforts have been made to upgrade lower income areas in terms of infrastructure provision such as water, electricity, telecoms and road infrastructure, but efforts to upgrade have been made more challenging by the rapid growth of these areas, and the quality of public open space has by necessity been a lower priority.

2.5.2 Current Planning Legislation

Table 2.1: Namibia's Current Planning Legislation

PLANNING LEGISLATION	DESCRIPTION
1) Town Planning Ordinance, 18 of 1954, as amended	To make provision for the preparation and carrying out of town planning schemes and for matters incidental thereto and to provide a framework for planners within which such schemes are to be prepared.
2) Townships & Division of Land Ordinance, 11 of 1963, as amended	To consolidate and amend the laws relating to the establishment of townships and to provide for the regulation and control of the development and subdivision of land and for matters related thereto.
3) Local Authorities Act, 23 of 1992	To provide for the determination, for purposes of local government, of local authority Councils; the establishment of such local authority Councils; and to define the powers, duties and functions of local authority Councils and to provide for matters related thereto.
4) Regional Authorities Act, 22 of 1992	To establish Regional Councils in regions determined in accordance with article 103 of the Namibian Constitution; to provide for the election by Regional Councils of members of the National Council; and to define the rights, powers, duties and functions of such regional Councils; and to provide for related matters.

The planning legislation of Namibia at the moment does not legally entrench spatial performance qualities. However, the Ministry of Regional and Local Government, Housing and Rural Development has recently drawn up the "*Town Planning Standards and Urban Design Guidelines for Principle Layout Plans*"; which is a policy directive that was signed in March 2013. It provides standards and guidelines for town planning and urban design, but also touches on desired principals that should be followed when it comes to the build environment. These principles are:

- Holistic thinking.
- Increase of choice.
- Encourage equity.
- Enhance sustainability.
- Promote income generation.
- Promote public spatial quality, and

- Integration of all the different spatial, social, natural and procedural elements that make up the urban environment.

The Townlands area itself is controlled by the Outjo Municipality which is mandated to exercise development control over this area.

In terms of forward planning the overriding guidance document is Namibia's Vision 2030 document, which has a wide scope in terms of aspiration and its broad aims are:

- Prosperity.
- Interpersonal Harmony.
- Peace, and
- Political Stability.

The fundamental principal of Vision 2030 is that development must be sustainable, which Vision 2030 defines as meaning;

'... Development that meets the needs of the present without limiting the ability of future generations to meet their own needs'

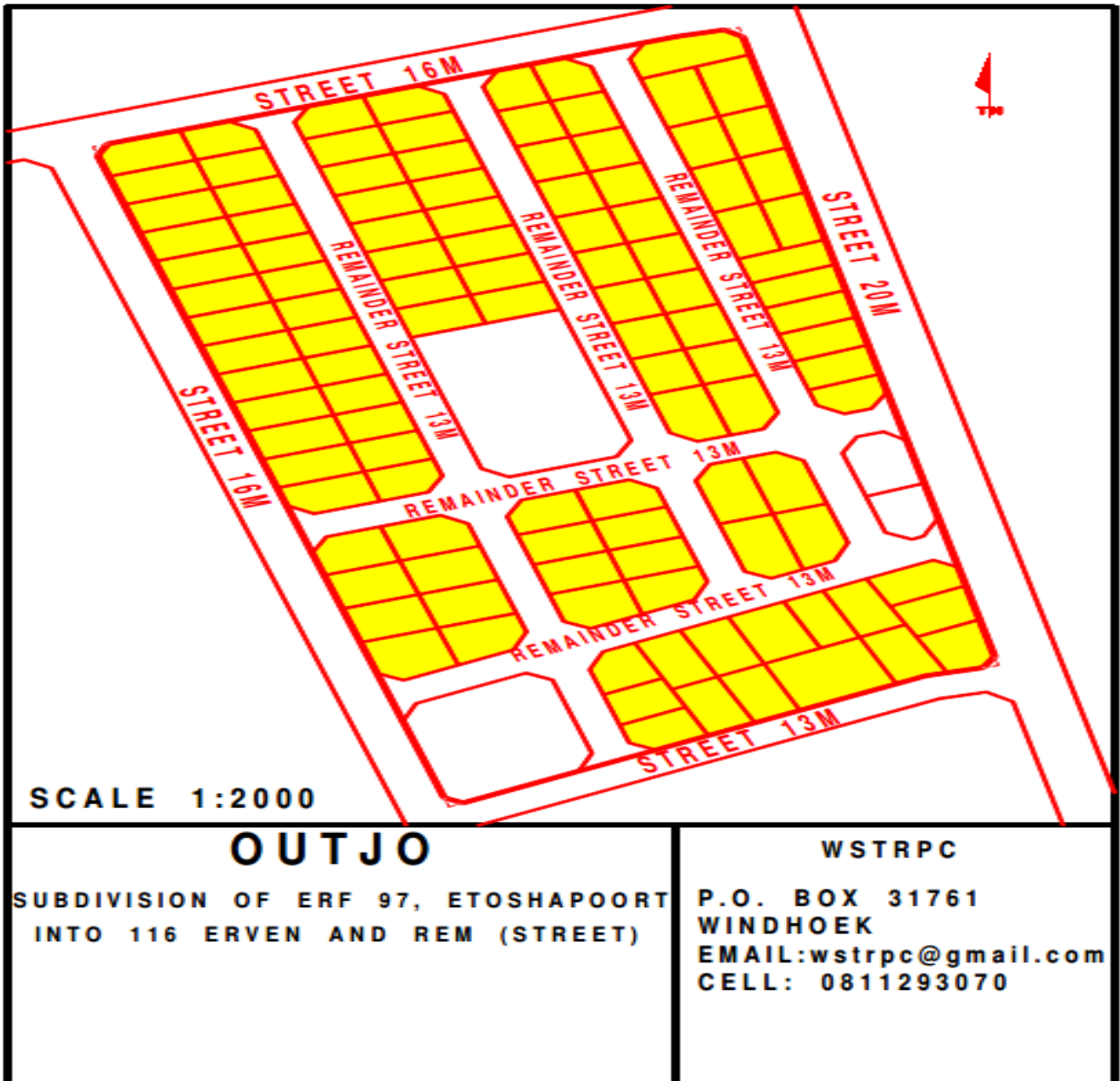
While the principle of sustainable development is the cornerstone on which the strategies for realizing the objectives of Vision 2030 pivot, the driving force among the complex agents of development comprises the following:

- Education, Science and Technology,
- Health and Development,
- Sustainable Agriculture,
- Peace and Social Justice and
- Gender Equality.

3 PROPOSED TOWNSHIP DEVELOPMENT AND LAND USES

The information contained in this section is based to a large extent on the planning applications submitted for the proposed developments to NAMPAB.

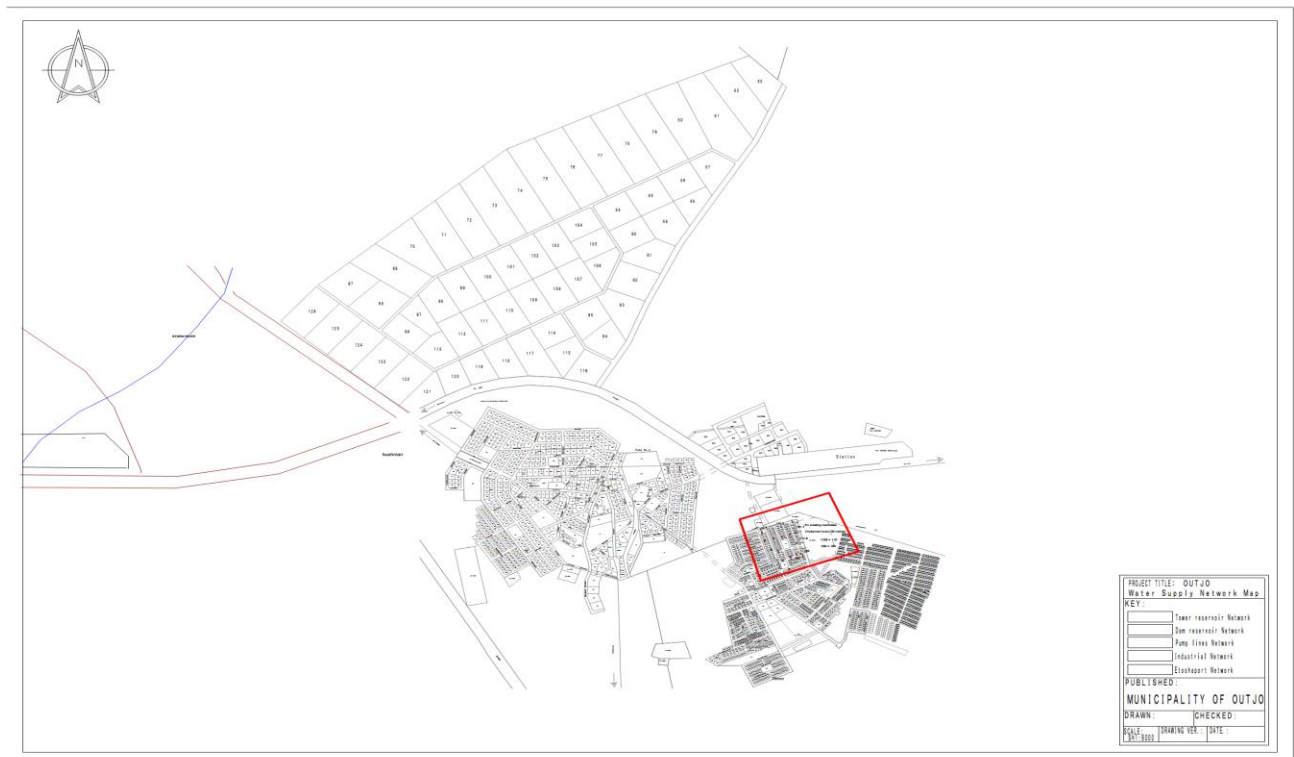
Figure 3:1: Locality Map, Subdivision of Erf 97, Etoshpoort, Outjo Townlands, Outjo, Namibia
Courtesy: WSTRPC



Google Map 1: Subdivision of Erf 97, Etoshpoort, Outjo Townlands, Outjo, Namibia



Figure 3.2: Erf 97, Water Supply Network, Etoshpoort, Outjo Townlands, Outjo, Namibia



4 THE NAMIBIAN LEGAL REVIEW

The pursuit of sustainability, with respect to any development, is guided by a sound legislative and policy framework. This section provides a review of applicable and relevant Namibian legislation, policies and guidelines. This review serves to inform the proponent of the requirements and expectations, as laid out in terms of these instruments, to be fulfilled before the proposed project may commence. The findings of the abovementioned review are summarised below.

Table 4.1: Namibian Legislation relevant to the project

LEGISLATION/ GUIDELINE	RELEVANT PROVISIONS	IMPLICATIONS FOR THIS PROJECT
– Namibian Constitution First Amendment Act 34 of 1998	<i>"The State shall actively promote... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilization of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future" (Article 95(l)).</i>	Ecological sustainability should inform and guide this EA and the proposed development.
– Environmental Management Act EMA (No 7 of 2007)	<ul style="list-style-type: none"> – Requires that projects with significant environmental impact are subject to an environmental assessment process (Section 27). – Details principles which are to guide all EAs. 	The EMA and its regulations should inform and guide this EA process.
– Environmental Impact Assessment (EIA) Regulations GN 28-30 (GG 4878)	<ul style="list-style-type: none"> – Details requirements for public consultation within a given environmental assessment process (GN 30 S21). – Details the requirements for what should be included in a Scoping Report (GN 30 S8) and an Assessment Report (GN 30 S15). 	
– Forestry Act 12 of 2001 – Nature Conservation Ordinance 4 of 1975	<ul style="list-style-type: none"> – Prohibits the removal of any vegetation within 100 m from a watercourse (Forestry Act S22 (1)). – Prohibits the removal of and transport of various protected plant species. 	Even though the Directorate of Forestry has no jurisdiction within Townlands, these provisions will be used as a guideline for conservation of vegetation.
– Labour Act 11 of 2007	Details requirements regarding minimum wage and working conditions (S39-47).	Outjo Municipality should ensure that all contractors involved during the construction, operation and maintenance of the proposed project comply with the provisions of these legal instruments.
– Health and Safety Regulations GN 156/1997 (GG 1617) Public Health Act 36 of 1919	Details various requirements regarding health and safety of labourers. Section 119 states that "no person shall cause a nuisance or shall suffer to exist on any land or premises owned or occupied by him or of which he is in charge any nuisance or other	

	condition liable to be injurious or dangerous to health.”	
National Heritage Act 27 of 2004	Section 48(1) states that “A person may apply to the [National Heritage] Council [NHC] for a permit to carry out works or activities in relation to a protected place or protected object”.	Any heritage resources (e.g. human remains etc.) discovered during construction requires a permit from the NHC for relocation.
Burial Place Ordinance 27 of 1966	Prohibits the desecration or disturbance of graves and regulates how bodies may be unearthed or dug up.	Regulates the exhumation of graves.
Water Act 54 of 1956	The Water Resources Management Act 24 of 2004 is presently without regulations; therefore the Water Act No 54 of 1956 is still in force: <ul style="list-style-type: none"> – Prohibits the pollution of underground and surface water bodies (S23 (1)). – Liability of clean-up costs after closure/ abandonment of an activity (S23 (2)). 	The protection of ground and surface water resources should be a priority. The main threats will most likely be concrete and hydrocarbon spills during construction and hydrocarbon spills during operation and maintenance.
Town Planning Ordinance 18 of 1954	Subdivision of land situated in any area to which an approved Town Planning Scheme applies must be consistent with that scheme (S31).	The proposed use of the project site must be consistent with the Karibib Town Planning Scheme (2012).
Townships and Division of Land Ordinance 11 of 1963	Details the functions of the Township Board including what they consider when receiving an application for Township Establishment (S3).	The proposed layout and land uses should be informed by environmental factors such as water supply, soil etc. as laid out in Section 3.
Road Ordinance 1972 (Ordinance 17 Of 1972)	<ul style="list-style-type: none"> – Width of proclaimed roads and road reserve boundaries (S3.1) – Control of traffic on urban trunk and main roads (S27.1) – Rails, tracks, bridges, wires, cables, subways or culverts across or under proclaimed roads (S36.1) – Infringements and obstructions on and interference with proclaimed roads. (S37.1) – Distance from proclaimed roads at which fences are erected (S38) 	The limitations applicable on RA proclaimed roads should inform the proposed layout and zonings where applicable.

5. RECEIVING ENVIRONMENT: MUNICIPAL SERVICES

An overview of the baseline municipal services is presented here, with which the proposed township development will interact. This information has been sourced from observations made during site visits and existing literature from previous research conducted in the area. This chapter also identifies sensitivities pertaining to key environmental features as well as potential impacts resulting from the proposed project in relation to these sensitivities.

Outjo is situated in the North-West of Namibia in the Great Kunene Region, It is 112km South of the world famous Etosha National Park. It is also surrounded by various tourism attractions such as the Ugab Terraces, the Rock finger, the volcanic mountain area, the rock engravings at Twyfelfontein, the Petrified Forest and the Epupa Waterfalls in the north western of Namibia.

5.1 Sanitation Services

5.1.1 Sewerage system:

The sewerage network consists of full bore gravity drainage system, connected to a series of pump stations. The whole system drains towards the oxidation ponds, located in the lower south-western part of the town.

Construction of Services	Construction of Sewer Reticulation services in Etoshapoort, Outjo	Project completed in July 2015.	
Amalooloo Toilets	Informal Settlement Area	Funded by KRC	Ongoing Regional Council Program

5.1.2 Water

The water is not supplied by Namwater and the Municipality have got its own water sources (boreholes) from which it supplies bulk water for the whole town. There are currently 5 bore of the seven bore holes in operation and water is withdrawn from an average depth of over 100m and transferred through a rising main network to the bulk water storage facility in town. The bulk water storage facility consist of two 900m³ concrete reservoirs and an elevated tower storage facility with an approximate size of 110m³.



Pictures 1-3: Community Prepaid Water Standpipe in Informal Settlement Area. 50 Standpipes installed in this area. Water Tower with 2 Reservoirs supplying water to the town.

5.1.3 Housing

The municipality has embarked on a number of housing projects and programmes as depicted below:

Table 5.1: Outjo New Extensions

New Extensions			
Town Planning: New Extensions	Extension Name	No.of Erven	Comments
	Outjo Extension 4	244 Erven	New Residential erven in process, was on the Agenda of Township Board for approval on 15 March 2016.
	Eoshapoort Ext. 5	251	New Residential (Low cost housing) & Business erven in process, was on the Agenda of Township Board for approval, on 15 March 2016.
	Etoshapoort Ext.5	169	New Residential (Low cost housing), maps layout already approved by Council, awaiting the finalization of Environmental impact Assessment.
	Shack Dwellerws Federation (Saamstaan) Phase 2	99 Erven	Maps & Layout already approved by Council, in process of connection of services.
	Extension 5	201	A 'Greenfield' site planning approach to be adopted. The layout makes provision of 181 new single residential erven which will have a density of 1:450 as well as 11 General Residential erven with a density of 1:150.

Table 5.2: Outjo House Development

	Number of Houses	Comments
Outjo House Development	Construction of 34 Social houses for pensioners	Houses 95% completed, sewerage & water connections will be completed by end of March 2016 and houses will be handed over to Beneficiaries.
	53 Build Together houses	Started in 2011/12 – 51 houses completed, 2 still under construction.
	53 Build Together houses	Started in 2012/13 – 48 houses completed, 5 still under construction

6. ENVIRONMENTAL BASELINE INFORMATION – OUTJO

The town Outjo in Namibia is undeservedly for most people only a stopover on their way to the Etosha National Park, the Skeleton Coast, Damaraland or the Koakoveld. Outjo is also extremely central to all Tourist attraction in Northern Namibia and is a buzz of tourism activities.

The town is geographically a very central point in Namibia with the furthest towns North, East and West being +/- 600km away. This is even more evident if one compares the position to the population spread.

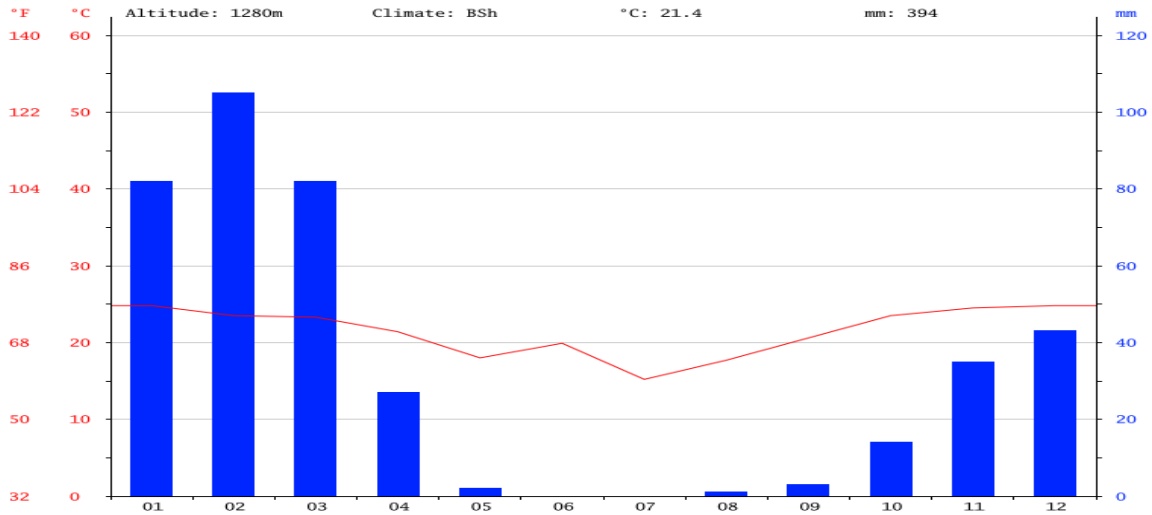
Table 6.1: Outjo Town Profile as of 2012 (Outjo, 2016)

POPULATION SIZE	
– Town Commonage:	10,900 hectares
– Inhabitants:	8,400
– Households:	2400
– Growth Rate (past 10 years):	1.5%
– Immigrants with Permanent Residence:	0.09%
– Refugees:	0%
– Religion:	Christian in denominations of 13 Churches
– Households with access to safe water:	89%
– Households with access to toilet facilities:	60%
– Households with access to Electricity for Lighting	51%
– Unemployment Rate:	31.9%
– Sex Groups: Female	51.19%
– Sex Groups: Male	48.81%

6.1. Climate: Outjo

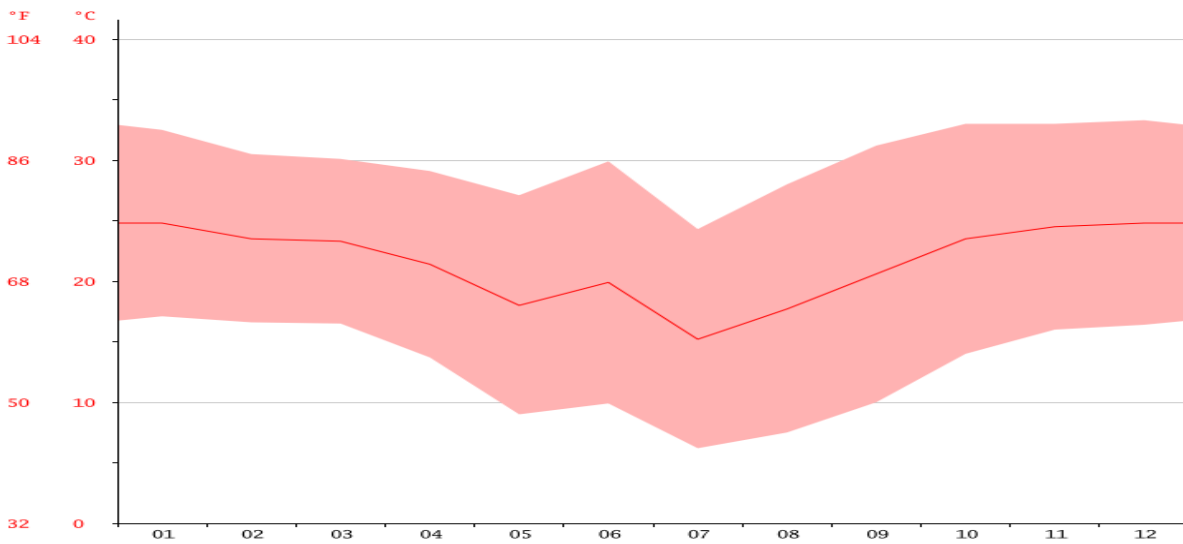
The climate here is considered to be a local steppe climate. In Outjo, there is little rainfall throughout the year. This location is classified as BSh by Köppen and Geiger. In Outjo, the average annual temperature is 21.4 °C. Precipitation here averages 394 mm.

Figure 6.1: Outjo Climate Graph



The driest month is June, with 0 mm of rain. With an average of 105 mm, the most precipitation falls in February.

Figure 6.2: Outjo Temperature Graph



January is the warmest month of the year. The temperature in January averages 24.8 °C. July has the lowest average temperature of the year. It is 15.2 °C.

Figure 6.3: Climate / Weather Table for Outjo

month	1	2	3	4	5	6	7	8	9	10	11	12
mm	82	105	82	27	2	0	0	1	3	14	35	43
°C	24.8	23.5	23.3	21.4	18.0	19.9	15.2	17.7	20.6	23.5	24.5	24.8
°C (min)	17.1	16.6	16.5	13.7	9.0	9.9	6.2	7.5	10.0	14.0	16.0	16.4
°C (max)	32.5	30.5	30.1	29.1	27.1	29.9	24.3	28.0	31.2	33.0	33.0	33.3
°F	76.6	74.3	73.9	70.5	64.4	67.8	59.4	63.9	69.1	74.3	76.1	76.6
°F (min)	62.8	61.9	61.7	56.7	48.2	49.8	43.2	45.5	50.0	57.2	60.8	61.5

There is a difference of 105 mm of precipitation between the driest and wettest months. During the year, the average temperatures vary by 9.6 °C. Useful hints about reading the climate table: For every month, you will find data about precipitation (mm), average, maximum and minimum temperature (degrees Celcius and Fahrenheit). Meaning of the first line: (1) January, (2) February, (3) March, (4) April, (5) May, (6) June, (7) July, (8) August, (9) September, (10) October, (11) November, (12) December

6.2 A digest of information on key aspects of Kunene’s geography

According to John Mendelsohn (2007), Kunene and Erongo Regions are Namibia’s largest and arid regions which set them apart in various ways from the rest of the country. Rainfall in Kunene is usually both low and extremely variable which means that years of abundant rain are often followed by extreme dry conditions. As a result of low rainfall, vegetation is generally sparse, with few trees and a thin covering of grass. Plant cover varies in relation to rainfall, and so the eastern parts of Kunene have more trees and grass than the western, coastal areas. Grass production is highly dependent on rainfall, and so livestock and other animals suffer when rains fail. Farming is thus a difficult enterprise and livestock densities are low in most areas as a result of the low productivity of farm land’.

One feature that does however make livestock farming easier is the absence of fences, which means that both domestic and wild animals can move widely in many places, migrating from areas of poor grazing to other places with more abundant pastures. Farming with cattle and goats predominates, and the highest concentration of these animals is in northern Kunene where herds and flocks are often moved around between distant pastures. The absence of fences is therefore an important asset for livestock production, but it also gives visitors to the regions a sense of freedom and wildness, which they appreciate. The absence of people (density of people.jpg) adds more to the wilderness value of many areas. This is one of many comparative advantages that are special to Kunene, and it is important that members of the Communal Land Board have a full appreciation of these advantages.

The comparative advantages of Kunene. Other than the vast expanses of open land, the region has a great number of other assets. Obvious ones are such attractions as the Namib Desert and its dunes, the Brandberg, Spitzkoppe and rock art, especially at Twyfelfontein, the Petrified Forest, and abundant wildlife, including the famous desert elephants and fur seals. Kunene offers rugged and beautiful scenery, since Kunene straddles the coastal plains and the escarpment. In addition, there are the mountains, and then spectacular and wild valleys: Marienfluss and Hartmann’s valleys for example.

Kunene is also close to Etosha and benefit from the passage of visitors to and from that well-known park (ERC, 2014; UNDP, 2015).

These and other assets give the region qualities that are probably unique in the world. Kunene attracts more tourists than any other regions in Namibia. Much employment and economic activity in the region thus relies on tourism enterprises and attractions, and these also contribute substantial amounts to the national economy. One major recent development to have contributed to the growth of the tourism industry and to have opened up new attractions for visitors is the establishment of conservancies on communal land. Their development followed that of conservancies on freehold farms during the 1970s when new legislation then allowed freehold farmers to make commercial use of wildlife.

The same rights were extended to communal areas when legislation was changed with the passing of the Nature Conservation Amendment Act in 1996. This gave rise to the well-known CBNRM (community-based natural resources management) programme, the success of which has earned Namibia international acclaim. Much of this success has been achieved in Kunene, where many conservancies have developed beyond expectation. There are now almost a dozen communal conservancies in Kunene covering a total of just under 25 thousand square kilometres (25,000 square kilometres), although the borders of conservancies extend into Omusati. This is in addition to freehold conservancies of which almost 100 farms are members. Much of the income from communal conservancies, which is distributed among its members, comes from trophy hunting and especially tourism. This is income earned from visitors who stay in campsites and lodges in the conservancies. Overall incomes for conservancies are now impressive, both for the amounts of money generated and the rate at which incomes have increased (UNDP, 2015).

In summary, Kunene has witnessed and benefited from a massive growth in tourism. Land values have increased, and wildlife now has much greater commercial value than before. Many freehold farms, even those not within commercial conservancies, offer tourist accommodation and trophy hunting, as well as selling both venison and live animals. It is clear wildlife and tourism now earn much more than conventional farming in Kunene. Aside from contributing to employment and economic welfare, conservancies also do much to safeguard and protect wildlife and other important animals and plants. By abutting and adding to the extensive areas of national parks, the conservancies create 'corridors of protection' through which animals can move more safely. Environmental conservation in Kunene is also of special importance because the region has more endemic animals and plants than anywhere else in Namibia. These are organisms that occur nowhere else in world, and everyone in Namibia, especially in Kunene, therefore has a responsibility to protect these endemic species.

6.3 Socio-Economic Profile - Outjo

– Demographics

According to the Namibia 2001 Population and Housing Census, Kunene had a population of 68,735 (34,237 females and 34,487 males or 101 males for every 100 females) growing at an annual rate of 1.9%. The fertility rate was 4.7 children per woman. 25% lived in urban areas while 75% lived in rural areas, and with an area of 115,293 km², the population density was 0.6 persons per km². By age, 15% of the population was under 5 years old, 26% between 5–14 years, 48% between 15–59 years, and 7% 60 years and older. The population was divided into 12,489 households, with an average size of 5.3 persons. 40% of households had a female head of house, while 60% had a male. For those 15 years

and older, 52% had never married, 12% married with certificate, 17% married traditionally, 12% married consensually, 2% were divorced or separated, and 4% were widowed.

According to UNDP (2015), the most commonly spoken languages at home were Otjiherero languages (42% of households) and Nama/Damara (36%). For those 15 years and older, the literacy rate was 57%. In terms of education, 51% of girls and 49% of boys between the ages of 6-15 were attending school, and of those older than 15, 45% had left school, 9% were currently at school, and 41% had never attended. In 2001 the employment rate for the labor force (56% of those 15+) was 77% employed and 23% unemployed. For those 15+ years old and not in the labor force (24%), 19% were students, 56% homemakers, and 25% retired, too old, etc. According to the 2012 Namibia Labour Force Survey, unemployment in the Kunene Region stood at 27.0%. The two studies are methodologically not comparable.

Among households, 73% had safe water, 66% no toilet facility, 22% electricity for lighting, 72% access to radio, and 81% had wood or charcoal for cooking. In terms of household's main sources of income, 35% derived it from farming, 37% from wages and salaries, 7% cash remittances, 7% from business or non-farming, and 10% from pension (UNDP, 2015; GRN, 2015).

For every 1,000 live births there were 49 female infant deaths and 61 male. The life expectancy at birth was 57 years for females and 50 for males. Among children younger than 15, 2% had lost a mother, 5% a father, and 1% were orphaned by both parents. 5% of the entire population had a disability, of which 18% were deaf, 35% blind, 16% had a speech disability, 18% hand disability, 27% leg disability, and 5% mental disability.

6.4 Infrastructure

Table 6.2: Outjo Infrastructure at a Glance

Water	Outjo's water is not supplied by Namwater. The town has its own water sources in the form of boreholes that supply two reservoirs that store 900 cubic meters of water each and supply the tower that holds a further 110 cubic meters.
Electricity	The Cenored Company distribute electricity within the city borders.
Sewerage	Outjo still has 244 erwen that is serviced by a suction pump tanker, while the rest of town is serviced by a full bore gravity drainage system that drains towards oxidation ponds at the South-western part of town.
Telecommunications	Outjo is linked to automated fixed line and cellular networks that supports voice and data transmission.
Government Ministries	All relevant Government ministries and Departments are represented in town.
Financial and Economic Activities	Main business activities in town and the district are livestock farming, charcoal production, tourism and hunting.
Twinning or Cooperation Arrangements	Internationally, the Outjo Development Trust has arrangements with the Stichting Ontwikkelingsproject Maarsen in the Netherlands. Outjo's municipality seek partners locally and internationally to exchange experience and information, aimed at enhancing Administrative and Technical know-how.

7. PUBLIC CONSULTATION / PARTICIPATION

7.1 Introduction

The role of stakeholder engagement in the proposed township development will be greatly explored by the consultant. Namland Consultants explored the different elements of a Stakeholder Engagement Framework, while considering the steps, stakeholder categories, and possible options for public participation in the whole process. It is important to note that there is no single 'magic bullet' solution that exists for stakeholder engagement. Each situation requires thorough design and planning specifically tailored to the objectives sought for the relevant stage of a project or program. Depending on the unique situation and context, a range of different stakeholder engagement and public participation methods will be employed.

The term participation typically refers to some aspect of local community involvement in the design, implementation and evaluation of a project or plan (Brown & Wyckoff-Baird, 1992). According to Smith (1983), public participation encompasses a range of procedures and methods designed to consult, involve, and inform the public to allow those that would be potentially affected by a decision or policy to have input into the process.

Stakeholder engagement broadly refers to a framework of policies, principles, and techniques which ensure that citizens and communities, individuals, groups, and organizations have the opportunity to be engaged in a meaningful way in the process of decision-making that will affect them, or in which they have an interest.

Thus, public participation can be recognised as a practice of stakeholder engagement. Stakeholder engagement and public participation are a means of achieving:

- Participatory democracy (e.g. community empowerment and providing the opportunity to develop knowledge for making informed choices)
- Transparency in decision-making process
- Community empowerment and support
- Reduced conflict over decisions between decision-makers and public groups, and between the groups
- Public participation may involve both individual and group input.

Individual views may be directly attributed from citizens who choose to express their views, while collective views may come from communities, interest groups or other organisations. Effective public participation requires that citizens be informed and knowledgeable about the topic or issue of concern. They must also be willing and able to be involved in the process, which typically involves investing significant personal time. It also requires that government or the relevant sponsor organisation be competent in the development and implementation of public participation programs.

Public participation should be designed and informed by key principles and be sensitive to relevant local institutions and governance arrangements. The following key principles, as adopted from IFC (2007), were considered by Namland Consultants in the implementation of a public participation or stakeholder engagement process:

- Providing meaningful information in a format and language – posters were translated from English to Afrikaans, OshiWambo, Damara, Herero - that is readily understandable and tailored to the needs of the target stakeholder group(s)
- Providing information in advance of consultation activities and decision-making
- Disseminating information in ways and locations that allow ease of access by stakeholders

- Respect for local traditions, languages, timeframes, and decision-making processes
- Two-way dialogue that gives both sides the opportunity to exchange views and information, to listen, and to have their issues heard and addressed
- Inclusiveness in representation of views, including women, vulnerable and/or minority groups
- Processes free of intimidation or coercion
- Clear mechanisms for responding to people’s concerns, suggestions, and grievances
- Incorporating feedback into project or program design, and reporting back to stakeholders

While it may seem easier to simply forge ahead and make decisions on their own, Namland Consultant’s many reasons why it emphasises increased use of direct techniques for public participation.

Table 7.1: Direct techniques for public participation

ISSUE	DESCRIPTION
Enhance effectiveness, public knowledge, understanding and awareness	<ul style="list-style-type: none"> – Public participation can act as a mechanism to break down and address complex decisions by different stakeholders who can provide new information, views, needs and interests. This provides an opportunity for stakeholders to better understand the range of views on an issue. – Implementation can also be improved with public consent and commitment on the process, yielding higher quality decisions, and the ability to better allocate scarce resources.
Meet growing demand for Public Participation	<ul style="list-style-type: none"> – A growing public desire to be involved in decisions that will affect them has influenced the need for greater openness of decision-making processes. Public participation can counter public mistrust of government and in this case, the Outjo Municipality and expert-led decision-making processes in the provision of affordable housing to the previously disadvantaged Namibians. A public participation process can assist to negotiate trade-offs, seek consensus and set common priorities for all parties involved in an issue.
Meet Legal and Policy Requirements	<ul style="list-style-type: none"> – Increasingly, international and national agreements, legislation, and in this case Regulation No 29, Section 21 under the Environmental Management Act (Act No 7 of 2007), which requires some form of public participation or community engagement in relation to project implementation, as well as the Four Cornerstones of the Four Cornerstones of the Earth Summit
Levels of Engagement and Stakeholder Categories	<ul style="list-style-type: none"> – There are many types and levels of stakeholder engagement. Stakeholder engagement in natural resources management / environmental management has been increasingly seen as a basic human right: both as a result of the human right to a certain level of environmental quality, as well as a result of the human right to participatory democracy (IFC, 2007). However, levels to which stakeholders are engaged, as well as types and methods of engagement, are varied. There are about 150 different techniques and approaches that can be applied depending on the objectives of the proponent organisation. Several hierarchies of engagement types and levels have also been developed. These range from low-level of engagement ('passive participation', 'tokenism', 'manipulation'), to a mid-range where participants are involved in decision making about largely predetermined questions; to the higher-end of the scale where stakeholders undertake their own initiatives or are enabled to develop strong leadership roles (e.g. 'partnerships'; 'empowerment', 'citizen control') (IFC, 2007).

The categories of stakeholders (I & APs) identified for involvement in a public participation process will directly have an influence on the method of engagement. Although the specific categories of stakeholders for a given engagement process will be largely dependent on its goals and objectives, a typical generic profile of stakeholders in this project, and assessments were categorised into the following types:

Table 7.2: Categories of Consulted I& APs

CATEGORY	INSTITUTION
– State Owned Enterprises (SOEs) / Departments or Line Ministries	Ministry of Environment & Tourism (MET); Ministry of Industry & Trade; Kunene Regional Council; Roads Authority; NamWater;; NamPol; Ministry of Youths; Ministry of Works;
– Outjo Municipality	Engineering Department: Planning, Projects and Housing Offices; Community Development Services: Local Economic Development, Youths Development; Public Relations Department ; Chief Executive Officer
– Industry or sector representatives	Business Community; SMEs; Cattle Farmers;
– Research (e.g. scientific, technical specialists) or academic institutions	Namibia Institute of Public and Environmental Affairs;
– Special interest groups	Youths; SMEs;
– Local Community Representatives	Local Councillors; Youths Leaders; Church leaders;
– Members of the General Public / Community	Community Leaders;

Regardless of the profile of stakeholder categories identified for involvement, the fundamental rationale for engaging stakeholders is creating ownership or 'buy-in' to the process and thus to its outcomes. This often is the key motivation for project or policy proponents to engage potential stakeholders as early as possible (IFC, 2007; Hamadziripi, 2013).

It is also important that the design of public participation process identifies what each stakeholder category might be able to contribute to the process or how the process (or stakeholder) might generally benefit from being involved. For example, the development may benefit from engaging with a range of stakeholder categories. There will be different stakeholders that may be able to contribute to the whole project determining community goals and values, and in identifying key environmental, social, economic assets associated with specific site.

Consideration was specifically given to:

- The objectives of the project or program and the role of stakeholder engagement in achieving these objectives.
- The stages during development and implementation of a program and when different stakeholders should be engaged. This included:
 - In determining the acceptable levels of impact or risk associated with the development
 - In determining what information should be collected, and what should be reported and how
 - In deciding and implementing management responses
 - Identifying the relevant types and categories of stakeholders to be engaged in the process.

7.2 Steps and Methods used for Public Participation

A stakeholder engagement or public participation process typically involves the following steps:

Table 7.3: Stakeholder Engagement or Public Participation Process Steps

Stage	Description of activities
1. Preliminary Planning and Design	
	(a) Situation Analysis (b) Decision Process (c) Information Exchange (d) Stakeholder Identification and Analysis (e) Planning Team (f) Approvals
2. Develop the Stakeholder Engagement Plan	
	(a) Establish Objectives (b) Identify and address major issues (c) Identify and involve the key stakeholders (d) Determine public participation method (e) Prepare to provide and receive information (f) Develop critical path (g) Budget, staff, resources, logistics, roles and responsibilities (h) Prepare to give and receive feedback
3. Plan Implementation	
	(a) Follow the Critical Path (b) Apply Public Participation Method (c) Provide and receive information (d) Monitor the Process
4. Feedback	
	(a) Report to decision-makers (b) Report to participants (c) Evaluate the overall process

A key to a successful development and application of the EIA and EMP has been the liaison with the stakeholders during the entire project. The EIA regulations call for open consultation with all interested and affected parties at defined stages of the EIA process. This entails participatory consultation with members of the public by providing an opportunity to review and comment on the proposed project. Public Participation has thus been undertaken to fulfil the requirements of Namibia's legislation, but also takes account of other acceptable best and practical approaches used in other areas to ensure that beneficiaries and community affected by the project are informed and consulted prior to the implementation of the project.

The following activities were undertaken by the consultant to successfully complete this process:

- The project was communicated to the Local Officer –Ministry of Environment and Tourism (MET)
- All the key stakeholders, both public and private will be identified
- Notices advertising the proposed project and inviting public to register as I&APs as well as to provide and register their concerns appeared in the New Era Newspaper in January 2018, followed by the Public Meeting at Etosha Poort Hall, St Francis Street, Outjo on 20 January 2018 at 0900 Hours
- I&APs were given three weeks to comment on the project
- A written notification including the BID were hand-delivered and emailed to all relevant government offices at national, regional and local levels, including Police, School Heads, the nearest property owners and community members.

The EIA consultant also provided the opportunities to the public and private stakeholders to contribute and or comment on this project by completing and returning a Registration Form, sending an email, or registering via telephonic communication with the consultants or by sending a cell phone text message to a given number. Targeted briefing and consultation meetings with key stakeholders were undertaken during the Open Sessions (period).

Table 6.5 below outlines an assessment matrix of typical public participation methods to be used by the Consultant for guiding preliminary choices of public participation methods. As there are a variety of ways in which any one method can be applied, it is not possible to definitively state whether a particular method is the correct choice for any given situation or context. The following section outlines a brief summary of the strengths and weaknesses of the public participation methods.

The approach employed throughout the project will be the extensive use of **Surveys**, direct mailings / Emailing.

Table 7.4: Assessment Matrix of typical Public Participation (Source: Adapted from Rowe and Frewer 2000, p.19)

	Public Meetings	Workshops	Advisory Committees	Surveys	Focus Groups
ACCEPTANCE CRITERIA					
– Representativeness of participants	Low	Moderate to low	Moderate to low	High	Moderate
– Independence of true participants	Low	Moderate to High	Moderate to Low	High	High
– Early involvement	Low to Variable	Moderate to High	Variable to High	Moderate to High	Moderate to High
– Influence on final policy or decision	Moderate	Variable	Variable	Low to Variable	Moderate
– Transparency of process to the public	Moderate	Moderate to High	Low to Variable	Moderate	Low
PROCESS CRITERIA					
– Accessibility to resources	Low to Moderate	High	Variable to High	Low	Low
– Task definition	High	High	Moderate to High	Low	Moderate to High
– Cost effectiveness	Low	Moderate to High	Variable	Moderate to High	Moderate to High

7.3 Notice Board & Newspaper Advertising

Given the nature of the proposed development and the means of communication outlined above, it is deemed necessary to display a makeshift Notice Board near the identified site as well as the Outjo Municipality as laid out in the EIA Regulations (RN: MET, 2012: Reg 21(2)(a)). The Consultant advertised using the targeted approach by using both the locally and nationally read and accepted Newspapers to reach out to I & APs – The New Era newspaper, a widely circulated regional newspaper.

The main issues arising from the comments received during the commenting period meeting will be summarized in **Table 6.7**. These comments, as well as those received during the course of the Public Consultation Process will be recorded in an **Issues and Responses Trail**. These issues as well as those identified in Chapter 4 were addressed in the following chapter.

Table 7.5: Issued raised by IAPs

THEME	NEGATIVE ISSUES RAISED BY IAPS	POSITIVE ISSUES
– Economic	– Informal businesses to be affected during construction phase	Employment creation
– Social	– Used as a haven by thieves, illicit sexual activities, alcohol abuses	Curbing of social issues like p
– Environmental	– Borrow pits, noise during construction, accidents	Aesthetic view enhanced ,

8. NEED FOR THE PROPOSED ACTIVITY

It is a given fact that one of the development priorities of today lies in the provision of housing. Housing is defined as a basic need. A tremendous backlog in the provision of housing exists and has to be addressed as a matter of priority.

The Namibian government identified housing as a priority area in 1990 at independence and considers housing as both an enabler of economic growth and a tool for reducing poverty by creating sustainable communities. A National Housing Policy has been in place since 1991 and this was reviewed and updated in 2009. Despite the many components provided in the policy and the awareness of the issues within government, few elements of the policy have been taken forward and little has been achieved in the last twenty years to clear the backlog in housing. (Government of the Republic of Namibia, 2002)

Development pressure in housing provision has placed enormous pressure on the development of vacant land within the urban edge, and existing transport routes. The proposed development will contribute to the improvement of the services and infrastructure for the surrounding communities, as it will provide more social services within the area.

The proposed development promotes a safe and user friendly urban environment in the town of Outjo.

From a strategic planning point of view it is deemed both necessary and desirable to develop parcels of land within the municipal area and urban edge of the Outjo Municipality, especially those that is highly accessible to necessary urban facilities and amenities.

The proposed township establishment will also create job opportunities for the local community which will improve their technical skills. The project will otherwise be a social and financial upliftment for the community and Namibia at large.

9. ALTERNATIVES

In the planning process of the proposed project, Namland Consultants had several consultation meetings with the Local Authority in order to determine the best site for the proposed township establishment.

9.1 No-Go Alternative (Do Nothing Alternative)

Should the proposed development not go ahead as planned, serious consequences can be expected, as there will be a backlog in housing, which may lead to service protests as the community's needs are not addressed or met. Due to the location of the proposed site to the existing residential development, it could attract undesirable land use, e.g. become a hub for criminals, and there could be veld fires due to illegal burning of general waste, establishment of informal settlements.

9.2 Site Alternative

Due to land availability and service connections, the proposed site, Alternative 1, is the only site that has been identified for establishing a township during the consultation process with the Local Municipality. Therefore, no alternative site has been identified or considered during this study.

9.3 Technology Alternative 1:

Due to the type of project, alternative technology can be considered.

9.4 Selection Process

Consultation meetings will be held with the Local Authority and relevant role-players to determine the most suitable area available for the establishment of a township.

10. IMPACT ASSESSMENT

10.1 Approach and Methodology employed for assessment

10.1.1 The EIA Process

Environmental Impact Assessment (EIA) is a systematic process that identifies and evaluates the potential impacts (positive and negative) that a Project may have on the biophysical and socio-economic environment, and identifies mitigation measures that need to be implemented in order to avoid, minimise or reduce the negative impacts and also identifies measures to enhance positive impacts. The EIA is not fully a linear process, but one where several stages are carried out in parallel and where the assumptions and conclusions are revisited and modified as the project progresses. The following sections provide additional detail regarding the key stages in this EIA process. These stages are:

- 1) Scoping Phase;
- 2) Specialist Study Phase; and
- 3) Integration and Assessment Phase.

10.2 Scoping Phase

The first phase of the EIA process is a Scoping Study, with an emphasis on public involvement. The various tasks and consultation activities undertaken by Namland Consultants will be described and summarised below.

10.2.1 Initial Site Visit and Project Initiation

As part of the project initiation Namland Consultants carried out an initial site reconnaissance visit. The purpose of the site visit was to familiarise the project team with the project proposal and affected project area and to begin the environmental and social screening and scoping process.

10.2.2 Public Participation

Table 10.1: Public Participation Tasks

ACTIVITY	DESCRIPTION AND PURPOSE
– Preparation of a preliminary stakeholder database	A preliminary database was compiled of authorities (local and provincial), Non-Governmental Organisations and other key stakeholders. This database of registered I&APs was expanded during the ongoing EIA process.
– Erection of Site Notices	Site notices were placed at the Site and at the Outjo Municipality Notice Board
– Distribution of BIDs	Background Information Documents (BIDs) will be distributed to all I&APs.
– Release of Draft Scoping Report for Public Comment	The Draft Scoping Report was released for public comment. All comments received will be included in this Final Scoping Report.
– Newspaper Advertisement	The release of the Draft Scoping Report was advertised through the Facebook Pages, and bulk emailing
– Surveys / Open Sessions	The Consultant randomly targeted relevant stakeholders. All comments and responses from the Surveys and other engagement methods will be included in this Final Scoping Report, in the Comments and Responses Report
– Compilation of Comments and Responses Report	Through the public participation process a Comments and Responses Report was compiled
– Notification of submission Final Report	Notification of the submission of the final Scoping Report to the MET was sent to registered I&APs.
– Notification of issuance of	The I&APs will be notified through the normal channels on the

Environmental Clearance Certificate	issuance of the Environmental Clearance Certificate. Newspaper adverts will also be utilised.
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10.3 Specialist Studies Phase

During the Specialist Study phase, the Consultant gathered data relevant to identifying and assessing environmental impacts that might occur as a result of the Project. They assisted the project team in assessing potential impacts according to a predefined assessment methodology included in the Scoping Report. The Consultant also suggested ways in which negative impacts could be mitigated and benefits could be enhanced.

10.4 Integration and Assessment Phase

The final phase of the EIA is the Integration and Assessment Phase. The assessment of impacts proceeds through an iterative process considering three key elements:

- 1) **Prediction of the significance** of impacts that are the consequence of the Project on the natural and social environment.
- 2) **Development of mitigation measures** to avoid, reduce or manage the impacts.
- 3) **Assessment of residual significant impacts** after the application of mitigation measures.

A synthesis of the studies, which addresses the key issues identified during the Scoping Phase, will be documented in this ESIA. Relevant technical studies will be included as appendices to this ESIA. The Draft ESIA was made available to I&APs for a public comment period.

Comments received on the Draft EIA were consolidated and the EIA project team provided appropriate responses to all comments. All registered I&APs will be notified when an Environmental Authorisation has been issued by MET.

10.5 Impact Assessment Methodology

10.5.1 Impact Assessment Process

The following diagram (Figure 7.1) describes the impact identification and assessment process through scoping, screening and detailed impact assessment. The methodology for detailed impact assessment is outlined in Section 7.5.2 below.

Figure 10.2: Impact Identification and Assessment Process

Scoping	<ul style="list-style-type: none"> – SCOPING: Interactions between project activities and environmental and social receptors are identified for further assessment. Areas where interactions are not expected to occur are 'scoped out' of the assessment.
Initial Assessment	<ul style="list-style-type: none"> – INITIAL ASSESSMENT: Potential interactions are further evaluated against site-specific conditions using information gathered through baseline studies. – Interactions are 'screened out' if the potential for impact does not exist or is negligible.
Detailed Assessment	<ul style="list-style-type: none"> – Interactions with potential for impact are assessed in detail to determine the nature and characteristics. Mitigations are applied and the residual impact is re-assessed. The significance of the residual impact is then reported.

10.5.2 Impact Assessment Methodology

The purpose of impact assessment and mitigation is to identify and evaluate the significance of potential impacts on identified receptors and resources according to defined assessment criteria and to develop and describe measures that will be taken to avoid or minimise any potential adverse effects and to enhance potential benefits.

Definition of Key Terminology

- **Project** - The features and activities that are a necessary part of the Project Proponent’s development, including all associated facilities without which the Project cannot proceed. The Project is also the collection of features and activities for which authorization is being sought.
- **Project Site** - The (future) primary operational area for the Project activities. Private transport corridors (i.e., those dedicated for use solely by Project operational activities) are included as part of the Project Site.
- **Project Footprint** - The area that may reasonably be expected to be physically touched by Project activities, across all phases. The Project Footprint includes land used on a temporary basis such as construction lay down areas or construction haul roads, as well as disturbed areas in transport corridors, both public and private.

Table 10.3: Impact Types and Definitions

Nature or Type	Definition
Positive	An impact that is considered to represent an improvement on the baseline or introduces a positive change.
Negative	An impact that is considered to represent an adverse change from the baseline, or introduces a new undesirable factor.
Direct impact	Impacts that result from a direct interaction between a planned project activity and the receiving environment/receptors (e.g. between occupation of a site and the pre-existing habitats or between an effluent discharge and receiving water quality).
Indirect impact	Impacts that result from other activities that are encouraged to happen as a consequence of the Project (e.g. in-migration for employment placing a demand on resources).
Cumulative impact	Impacts that act together with other impacts (including those from concurrent or planned future third party activities) to affect the same resources and/or receptors as the Project.

An impact is any change to a resource or receptor brought about by the presence of a project component or by the execution of a project related activity. The evaluation of baseline data provides crucial information for the process of evaluating and describing how the project could affect the biophysical and socio-economic environment.

Impacts are described according to their nature or type, as summarised in *Table 10.4*.

Table 10.4 Significance Criteria

IMPACT MAGNITUDE	
Extent	On-site – impacts that are limited to the boundaries of the development site.
	Local – impacts that affect an area in a radius of 25km around the development site.
	Regional – impacts that affect regionally important environmental resources or are experienced at a regional scale as determined by administrative boundaries, habitat type/ecosystem.
	National – impacts that affect nationally important environmental resources or affect an area that is nationally important/ or have macro-economic consequences.

Duration	<p>Temporary – impacts are predicted to be of short duration and intermittent/occasional.</p> <p>Short-term – impacts that are predicted to last only for the duration of the construction period.</p> <p>Long-term – impacts that will continue for the life of the Project, but ceases when the project stops operating.</p> <p>Permanent – impacts that cause a permanent change in the affected receptor or resource (e.g. removal or destruction of ecological habitat) that endures substantially beyond the project lifetime.</p>
Intensity	<p>BIOPHYSICAL ENVIRONMENT: <i>Intensity can be considered in terms of the sensitivity of the biodiversity receptor (i.e. habitats, species or communities).</i></p> <p>Negligible – the impact on the environment is not detectable.</p> <p>Low – the impact affects the environment in such a way that natural functions and processes are not affected.</p> <p>Medium – where the affected environment is altered but natural functions and processes continue, albeit in a modified way.</p> <p>High – where natural functions or processes are altered to the extent that they will temporarily or permanently cease.</p> <p><i>Where appropriate, national and/or international standards were used as a measure of the impact.</i></p> <p><i>Specialist studies should attempt to quantify the magnitude of impacts and outline the rationale used.</i></p> <p>SOCIO-ECONOMIC ENVIRONMENT: <i>Intensity can be considered in terms of the ability of people/communities affected by the Project to adapt to changes brought about by the Project.</i></p> <p>Negligible – there is no perceptible change to people’s livelihood.</p> <p>Low - people/communities are able to adapt with relative ease and maintain pre-impact livelihoods.</p> <p>Medium – people/communities are able to adapt with some difficulty and maintain pre-impact livelihoods but only with a degree of support.</p> <p>High - affected people/communities will not be able to adapt to changes or continue to maintain-pre impact livelihoods.</p>
Likelihood - the likelihood that an impact will occur	
Unlikely	The impact is unlikely to occur.
Likely	The impact is likely to occur under most conditions.
Definite	The impact will occur.

Once a rating is determined for magnitude and likelihood, the following matrix can be used to determine the impact significance.

Table 10.5 Significance Rating Matrix

		SIGNIFICANCE		
		LIKELIHOOD		
MAGNITUDE		Unlikely	Likely	Definite
	Negligible	Negligible	Negligible	Minor
	Low	Negligible	Minor	Minor
	Medium	Minor	Moderate	Moderate
	High	Moderate	Major	Major

Table 10.6 Significance Colour Scale

Negative ratings	Positive ratings
Negligible	Negligible
Minor	Minor
Moderate	Moderate
Major	Major

Table 10.7 Significance Definitions

SIGNIFICANCE DEFINITIONS	
Negligible significance	An impact of negligible significance (or an insignificant impact) is where a resource or receptor (including people) will not be affected in any way by a particular activity, or the predicted effect is deemed to be 'negligible' or 'imperceptible' or is indistinguishable from natural background variations.
Minor significance	An impact of minor significance is one where an effect will be experienced, but the impact magnitude is sufficiently small (with and without mitigation) and well within accepted standards, and/or the receptor is of low sensitivity/value.
Moderate significance	An impact of moderate significance is one within accepted limits and standards. The emphasis for moderate impacts is on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable (ALARP). This does not necessarily mean that 'moderate' impacts have to be reduced to 'minor' impacts, but that moderate impacts are being managed effectively and efficiently.
Major significance	An impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. A goal of the EIA process is to get to a position where the Project does not have any major residual impacts, certainly not ones that would endure into the long term or extend over a large area. However, for some aspects there may be major residual impacts after all practicable mitigation options have been exhausted (i.e. ALARP has been applied). An example might be the visual impact of a development. It is then the function of regulators and stakeholders to weigh such negative factors against the positive factors such as employment, in coming to a decision on the Project.

Once the significance of the impact has been determined, it is important to qualify the **degree of confidence** in the assessment. Confidence in the prediction is associated with any uncertainties, for example, where information is insufficient to assess the impact. Degree of confidence can be expressed as low, medium or high.

Mitigation Measures and Residual Impacts

For activities with significant impacts, the EIA process is required to identify suitable and practical mitigation measures that can be implemented. The implementation of the mitigations is ensured through compliance with the regulatory Frameworks. After first assigning significance in the absence of mitigation, each impact is re-evaluated assuming the appropriate mitigation measure(s) is/are effectively applied, and this results in a significance rating for the residual impact.

10.6 Identification of Mitigation Measures

For the identified significant impacts, the project team, with the input of the client, will identify suitable and practical mitigation measures that are implementable. Mitigation that can be incorporated into the project design, in order to avoid or reduce the negative impacts or enhance the positive impacts, have been defined and require final agreement with the client as these are likely to form the basis for any conditions of approval by MET.

10.7 Specialist Study Methodology

10.7.1 Botany, Terrestrial Ecology and Avifauna

A botany, terrestrial ecological and avifaunal specialist study was undertaken. As part of this study, a desktop study was carried out of publicly available scientific publications to investigate the ecology and biodiversity of the affected project area. A site visit was undertaken where the different biodiversity features, habitat, vegetation and landscape units present at the site were identified and mapped in the field. This included generating a fine-scale vegetation map for the site which identify and map the different plant communities present. Walk-through-surveys was conducted across the site and all plant and animal species observed were recorded. Searches for listed and protected plant species at the site were conducted and the location of all listed plant species observed was recorded. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.

10.7.2 Archaeology, Heritage and Palaeontology

A paleontological, archaeological and cultural heritage study was undertaken.

STUDY	DESCRIPTION
Palaeontology	A desktop paleontological study was undertaken for the identified site. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.
Archaeology	A desktop study will be carried out of publicly available scientific publications to determine the archaeological history of the affected project area. In addition, an archaeological field survey was undertaken of the affected project area. Archaeological materials and structures were inventoried, with approximate age and descriptions recorded as necessary. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.
Heritage	Publications of the history of the affected project areas was investigated and informed the specialist study. A heritage field survey was undertaken in order to identify existing heritage structures in the affected project area. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.

10.7.3 Landscape and Visual

A landscape and visual impact assessment study was undertaken. Site visits were undertaken where visual features and the landscape setting of the site were recorded. An assessment was also made as to what degree people who make use of these locations (e.g. a nearby holiday resort) would be sensitive to change(s) in their views, brought about by the Project. These receptors were then identified, as well as Key Observation Points (KOPs) (those sensitive receptors who had views of the Project) particularly those relating to intersections of major roads, arterial and scenic routes, as well as urban areas, settlements and farmsteads.

The landscape character was then be surveyed in terms of scenic quality (landscape significance) and receptor sensitivity to landscape change (of the site) in order to define the visual objective for the project site. Photomontages using panoramic photographs will be used to determine the degree of visibility of the Project and change in views of the surrounding landscape. The impact assessment phase involved the determination of the nature of likely impacts of the development and recommendations on mitigation.

10.7.4 Agriculture

An agriculture impact assessment study was also considered, although in this whole project it was not of much impact or relevance considering the nature of the whole project

10.7.5 Socio-economic

The socio-economic study was undertaken. The study begun with the compilation of a baseline description. The baseline description was derived from a range of secondary data (including but not limited to census data, existing reports, development plans and other strategic planning documents) and primary data collection. The primary data used for the baseline was based on information provided by the Outjo Municipality and the Town & Regional Planners and issues raised through the public consultation process.

The impact assessment incorporated the identification and assessment of socio-economic impacts (direct, indirect and cumulative) that may result from the township development (construction and operation phases) of the project. Mitigation measures that address the local context and needs were recommended as the final phase of the study.

11. ASSUMPTIONS & LIMITATIONS

Environmental Impact Assessment is a process that aims to identify and anticipate possible impacts based on past and present baseline information. There is, inevitably, always some uncertainty about what will actually happen in reality. Impact predictions have been made based on field surveys and with the best data, methods and scientific knowledge available at this time. However, some uncertainties could not be entirely resolved. Where significant uncertainty remains in the impact assessment, this is acknowledged and the level of uncertainty is provided.

In line with best practice, this ESIA has adopted a precautionary approach to the identification and assessment of impacts. Where it has not been possible to make direct predictions of the likely level of impact, limits on the maximum likely impact have been reported and the design and implementation of the project (including the use of appropriate mitigation measures) will ensure that these are not exceeded. Where the magnitude of impacts cannot be predicted with certainty, the team of specialists have used professional experience and available scientific research from solar facilities worldwide to judge whether a significant impact is likely to occur or not. Throughout the assessment, this conservative approach will be adopted to the allocation of significance.

11.1 Gaps and Uncertainties

Inevitably knowledge gaps remain.

Gaps in Project Description

- Regarding the location of the site, the assessment is based on a refined layout / rezoning derived from revisions of earlier layouts, to accommodate environmental sensitivities. Although the final layout has been confirmed,

Gaps in Baseline Information

- Ecological limitations; a limitation associated with the sampling approach was the narrow temporal window of sampling. Ideally, a site should be visited several times during all the different annual seasons to ensure that the full complement of plant and animal species present will be captured, as well as the temporary usage of the land by some local residents.

However, this is rarely possible due to time and cost constraints and therefore, the data captured will be representative of the species at the site.

All impacts included in the table below will fall within the scope of this project and responsibility of the Proponent. Each of the potential impacts will be screened and subjected to the criteria stipulated above. The significance of each potential impact is determined based on the criteria in the **Table below**.

Detailed descriptions of mitigation measures for impacts that require mitigation are contained in the EMP (**Appendix B**).

Impacts for which insufficient information is available are discussed at the end of this section.

POTENTIAL IMPACT	DESCRIPTION	EXTENT	DURATION	INTENSITY	PROBABILITY	CONFIDENCE/ SUFFICIENT INFORMATION AVAILABLE?	SIGNIFICANCE	SIGNIFICANT MITIGATION DEEMED POSSIBLE?	NEXT STEP
Aesthetic issues	The change in the existing landscape may be an eye sour to existing residents and pedestrians due to blockage of open views.	Immediate area	Temporary	Low	Improbable	Yes	Low	Yes	EMP
Employment creation	The construction activities associated with the project is due to create local employment opportunities.	Local	Temporary	Medium	Definite	Yes	Low	Yes	EMP
Noise (construction phase)	Construction activities can create noise for local nearby residents.	Local	Temporary	Low	Highly probable	Yes	Low	Yes	EMP
Dust (construction phase)	The ingress and egress of construction vehicles can create dust.	Local	Temporary	Low	Improbable	Yes	Low	Yes	EMP
Traffic (Operational phase)	Increase in traffic in the area is expected due to construction activities	Local	Permanent	Medium	Definite	Yes	Low	Yes	EMP
Impact on	The proposed		Long-term	Low	Probable	Yes	Low	Yes	EMP

existing properties	development is believed to impact on exiting property values in the area.	Local							
Public open space encroachment	The proposed development may encroach in public areas	Local	Temporary	Low	Probable	Yes	Low	Yes	EMP

Table 11.1: Screening and assessment of impacts

11. CONCLUSIONS AND RECOMMENDATIONS

As discussed earlier, the purpose of project, township development, and subsequent construction of residential units is hinged on the Outjo Structure Plan, meant to guide the Outjo Town Council in future decision making with regards to planning decisions such as development control.

The unexpected high growth of Outjo' population in recent years has created a number of challenges for the municipality in terms of providing land for the increased population, servicing land with the provision of infrastructure and creating the conditions for economic growth and thereby employment opportunities for this growing population.

Potential impacts associated with the proposed project have been identified and their significance determined. None of the potential impacts identified had "high" impact significance. All identified impacts can be mitigated so as to reduce the significance of these impacts to an acceptable level. Mitigation measures are described in greater detail in the EMP. Hence, the project, as proposed in this report, can be implemented with no significant impacts if executed according to the EMP.

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LIST OF ANNEXURES

ANNEXURE	DESCRIPTION
Annexure A	(EMP) Environmental Management Plan
Annexure B	Background Information Document and I&APs Registration Form
Annexure C	Interested & affected Parties Registration
Annexure D	Outjo Structure Plan
Annexure E	Locality & Google Earth Maps
Annexure F	The Team CVs
Annexure G	Proof of Registered Mail
Annexure H	Press & Poster Notices to Interested and Affected Parties
Annexure I	Minutes of Public Meeting