EVALUATION OF ENVIRONMENTAL IMPACT ASSESSMENTS IN COASTAL MANAGEMENT: A CASE OF THE ERONGO REGION IN NAMIBIA

by

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DECLARATION

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Lovisa Ruth Nangombe
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ABSTRACT

The world is currently faced with many environmental issues like land degradation, deforestation, biodiversity loss as well as the overutilisation of natural resources as a result of unsustainable human activities. To address these challenges, many countries have enacted environmental laws and developed management tools to aid in minimising environmental damage. These tools range from sustainability assessments and Strategic Environmental Assessments (SEA) to environmental impact assessments (EIAs), amongst many others. EIA has been adopted by many countries to assist institutions responsible for environmental governance to identify potential environmental threats resulting from human activities at a project level.

The Namibian Constitution as overall legislation that supersedes all the other laws in the country, stipulates that the state shall ensure the welfare of its people by maintaining ecosystems and sustainable use of natural resources. Other laws relating to environmental management that must adhere to the constitution have also been enacted. Some of these laws have specifically referred to EIA to provide details and guidance for conducting such assessments.

This study evaluates how EIAs comply with Namibian laws and guidelines, and whether they are effective as an environmental management tool in coastal management as per the case studies of developmental projects from the Erongo Region, a coastal region in Namibia. The study was also aimed at determining whether EIAs contribute to the achievement of national development goals and sustainable development.

The study utilised both qualitative and quantitative designs. The research objectives were achieved with a desktop study to review EIA reports, and a survey that collected information from the Ministry of Environment and Tourism. Sixteen (16) EIA reports of some projects that have been conducted in the Erongo Region between 2010 and 2019 were reviewed. A questionnaire was also prepared and distributed to all employees within the Directorate of Environmental Affairs who directly deal with processing EIAs.

The study found that the EIA as an environmental management tool in coastal management complies with Namibian environmental laws and regulations. The study also revealed that the EIA process is effective to a certain extent, although there are weaknesses regarding aspects such as administration,

access to EIA-related information and monitoring that need to be strengthened to ensure complete effectiveness.

Keywords: Environmental Impact Assessments, Environmental Management, Sustainable Development, Coastal Management, Effectiveness, Erongo Region, Namibia

OPSOMMING

Die wêreld word op die oomblik met vele omgewingsprobleme soos agteruitgang van grond, ontbossing, verlies aan biodiversiteit, asook die oorbenutting van natuurlike hulpbronne gekonfronteer as gevolg van onvolhoubare menslike aktiwiteite. Om hierdie uitdagings die hoof te bied, het talle lande omgewingswette ingestel en bestuursinstrumente ontwikkel om die skade aan die omgewing te verminder. Hierdie instrumente wissel onder meer van volhoubaarheidsbeoordelings en strategiese omgewingsevaluasies (SEA) tot omgewingsimpakassesserings (EIAs). EIAs is deur talle lande aanvaar om instellings, wat vir omgewingsbestuur verantwoordelik is, by te staan om potensiële omgewingsbedreigings as gevolg van menslike aktiwiteite op projekvlak uit te ken.

Die Namibiese Grondwet – as algehele wetgewing wat alle ander wette in die land vervang – bepaal dat die staat die welstand van sy mense sal verseker deur die instandhouding van ekostelsels en die gebruik van natuurlike hulpbronne op 'n volhoubare basis. Ander wette oor omgewingsbestuur, wat uiteraard aan die Grondwet moet voldoen, is ook uitgevaardig. Sommige van hierdie wette het spesifiek na EIAs verwys om sodoende besonderhede en leiding te bied vir die uitvoer van sulke assesserings.

Hierdie studie evalueer hoe EIAs aan die Namibiese wette en riglyne voldoen, en of dit as 'n omgewingsbestuursinstrument in kusbestuur doeltreffend is volgens die gevallestudies van ontwikkelingsprojekte uit die Erongo-streek, een van Namibië se 14 streke. Die studie was ook daarop gemik om te bepaal of EIAs tot die bereiking van nasionale ontwikkelingsdoelstellings en volhoubare ontwikkeling bydra.

Met dié studie is van kwalitatiewe en kwantitatiewe ontwerpe gebruik gemaak. Die navorsingsdoelstellings is met 'n lessenaarstudie bereik om EIA-verslae te hersien, asook deur middel van 'n opname wat inligting van die Ministerie van Omgewing en Toerisme versamel het. Sestien (16) EIA-verslae van sommige projekte, wat tussen 2010 en 2019 in die Erongostreek uitgevoer is, is hersien. 'n Vraelys is ook opgestel en versprei aan alle werknemers binne die Direktoraat Omgewingsake wat direk met die verwerking van EIAs te make het.

Die studie het bevind dat die EIA as 'n omgewingsbestuursinstrument in kusbestuur aan die Namibiese wetgewing en regulasies voldoen. Die studie het ook aan die lig gebring dat die EIA-proses tot sekere mate doeltreffend is, hoewel daar swakpunte is ten opsigte van aspekte soos

administrasie, toegang tot EIA-verwante inligting en monitering wat verstewig moet word om volledige doeltreffendheid te verseker.

Sleutelwoorde: Omgewingsimpakstudies, Omgewingsbestuur, Volhoubare ontwikkeling, Kusbestuur, Doeltreffendheid, Erongostreek, Namibia

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ACRONYMS AND ABBREVIATIONS

BGR	German Federal Institute for Geosciences and Natural Resources
BID	Background Information Document
CBRNM	Community Natural Resources Management
CC	Closed Corporation
CSIR	Council for Scientific and Industrial Research
DBSA	Development Bank of Southern Africa
DEA	Department of Environmental Affairs
DST	Decision Support Tools
EAPs	Environmental Assessment Practitioners
ECC	Environmental Compliance Consultancy
EHS	Environmental and Health Safety
EIA	Environmental Impact Assessments
EIR	Environmental Impact Report
EIS	Environmental Information Systems
EMA	Environmental Management Act No.7 of 2007
EMP	Environmental Management Plan
EMPR	Environmental Management Plan Report
EPL	Exclusive Prospecting License
FAO	Food and Agriculture Organisation
GIS	Geographic Information System
GSN	Geological Survey of Namibia
I&APs	Interested and Affected Parties
ICZM	Integrated Coastal Zone Management
IFC	International Finance Corporation
ISO	International Organization for Standardization
MDG	Millennium Development Goals
MET	Ministry of Environment and Tourism
MFMR	Ministry of Fisheries and Marine Resources
NACOMA	Namibian Coast Conservation and Management
NDP	National Development Plan
NDP5	5th National Development Plan
NGO	Non-Governmental Organisation
NPC	National Planning Commission
NPCM	National Policy on Coastal Managament
NTS	Non-Technical Summary
OECD	Organisation for Economic Co-Operation and Development
PPP	Policies Plans Programmes

RoN	Republic of Namibia
RU	Rossing Uranium
RUDP	Rössing Uranium Desalination Plant
SABS	South African Bureau of Standards
SADC	Southern Africa Development Community
SAIEA	Southern African Institute for Environmental Assessment
SANS	South African National Standard
SDG	Sustainable Development Goals
SEA	Strategic Environmental Assessments
SEMP	Strategic Environmental Management Plan
UCCB	University of Namibia Central Consultancy Bureau
UNCTAD	United Nations Conference on Trade and Development
VERSACON	Versatile Environmental Consulting

CHAPTER 1: INTRODUCTION AND BACKGROUND TO THE STUDY

1.1 Introduction

The sustainability concept is concerned with the dilemma mankind is in, when it comes to balancing aspirations towards improved living conditions on the one hand, and with the constraints nature imposes on the other (Kuhlman & Farrington, 2010:3436). Interest in the sustainability concept has been growing over the years, resulting in many sustainability assessments being conducted to help decision-makers deliberate on actions to be taken, or not to be taken, to make society more sustainable (Pope, Annandale & Morrison-Saunders, 2004:596). Although the relationship between development and the environment has been interpreted in many ways, sustainability is mostly interpreted by referring to the balance of social, economic and environmental sustainability (Kuhlman & Farrington, 2010:3439).

Eroding soil, rising carbon dioxide levels in the atmosphere, disappearing species, collapsing fisheries and the need to adapt to ever-changing climatic patterns in various parts of the world, amongst others, are issues that require management of the environment (Institute of Environmental Management and Assessment, 2005:24).

The field of environmental management is broad with various sub-disciplines, including coastal management. Coastal management is considered critical because many coastal areas are vulnerable to detrimental environmental effects where, over time, exploitation of resources and infrastructural development have been increasing, degrading the quality of coastal environments in the process, as people pursue economic growth and improved livelihoods (Food and Agriculture Organisation [FAO], 2000:3).

The way major administrative boundaries are demarcated makes coastal management complicated. In most countries, such boundaries are demarcated so that they follow high or low water lines; the result is that the ocean is managed differently from the land (Kay & Alder, 1999:25). This has led to situations where coastal land is owned by local authorities, while coastal waters are owned by and solely managed by central governments, and uncoordinated management activities are common.

The Namibian coast is made up of sensitive ecosystems with significant biodiversity that need to be protected and conserved. However, the coastal area also supports a variety of economic activities,

like fishing, mining, tourism, transport, real estate, manufacturing and other minor activities, which has resulted in some coastal towns becoming economic hubs where multiple developmental projects are taking place.

Despite benefits such as employment creation, economic growth and improved livelihoods, some projects have detrimental effects on the sensitive coastal environment. Generally, government officials are facing a mammoth task and responsibility whenever they are required to decide on a project that can potentially damage the natural environment, as they are expected to adopt a unified decision-making process that integrates scientific, political as well as normative considerations (Craik, 2008:3).

For Namibia as a developing country with an economy that is heavily reliant on natural resources, environmental problems are serious threats to sustainable development. Lack of adequate protection of key ecosystems and limited inter-sectoral coordination at national level during the implementation of developmental projects are some of the key causes of environmental threats in Namibia (Byers, 1997:35). For regions like Erongo that are characterised by both sensitive marine ecosystems and developmental opportunities due to an abundance of natural resources, such threats are immense, and there is a need to have effective environmental management tools in place to address these threats. This has led to authorities recognising that they need to collect reliable information about possible environmental consequences before such activities commence.

1.1.1 Environmental governance

Effective environmental management practices and processes are expected to contribute towards major end goals such as sustainable development. For a country like Namibia, specifically in the coastal zones, it is a challenge to balance the three pillars of sustainable development, namely the social, economic and environmental. Economic growth and industrialisation and their environmental impacts have been identified as some of the many interlinked fundamental issues that pose significant threats to sustainable development in Namibia (Krugmann, 2001:3).

1.1.1.1 Cooperation and coordination

For years, attempts have been made to follow various governance approaches to address pressing current environmental challenges. This has led to a wide range of combined environmental governance approaches that are being used today (Lemos & Agrawal, 2006:298). Lemos and Agrawal (2006) further state that it is evident that the effectiveness of both state and civil society-based

governance strategies also relies on assistance from other areas of societal relations. A single set of institutional arrangements cannot serve as the only solution to all types of environmental problems, hence there is a need to design institutions in such ways that they can cater for different types of problems (Muller, 2007:18).

Most environmental challenges Namibia faces are cross-sectoral and require a coordinated approach in environmental governance. In addition to the legal framework guiding environmental governance, necessary institutional arrangements to address environmental-related issues in various sectors have been put in place. Some of these crucial institutions are:

- The Ministry of Environment and Tourism (MET)
- The Ministry of Fisheries and Marine Resources
- The Ministry of Agriculture, Water and Forestry
- The Ministry of Land Reform
- The Ministry of Mines and Energy

In addition to the key government ministries, there are also state-owned enterprises, non-governmental organisations (NGOs) and several companies from the private sector that complement the government.

To confront today's environmental problems and their magnitude, the best use of resources and expertise is required, and this can only be realised if there is cooperation among the various sectors (Muller, 2007:46). However, coordination among these key sectors is proving to be a difficult task for some countries. Environmental governance challenges in Namibia are not a result of lack of necessary institutions, but rather a lack of coordination among the key institutions. In some cases, relevant ministries need to ensure that environmental clearance for some activities has been granted by the MET before they issue permits for such activities, but this important aspect of environmental governance is not always adhered to. One such activity is illegal sand mining, which has been on the increase in northern Namibia over the past few years.

1.1.1.2 Environmental Impact Assessment

EIAs are one of a range of environmental management tools that can be used to ensure the rational use of a natural resource (Martinez-Grana, Goy, Gutienez & Cardena, 2014:40), and facilitate informed decision-making in environmental management (Glasson, Therivel & Chadwick, 2005:2). Although EIAs are mostly associated with environmental protection, they also consider economic

benefits and social implications that emanate from proposed projects. It is the tool of choice for authorities, as it involves the systematic, detailed evaluation of environmental damage that is predicted to emanate from a particular developmental project. However, it is generally acknowledged that the EIA process has some weaknesses in terms of effectiveness and does not always identify all negative environmental impacts of projects as desired. Although the process is effective in some cases, it is widely admitted that EIA legislature and practices do not always adapt to envisioned models (Cashmore, Gwilliam, Morgan, Cobb & Bond, 2004: 295).

Like many other countries of the world, Namibia has adopted EIAs, and they have been included in legal and policy frameworks. This empowers the government entity in charge of EIAs to take legal action against anyone contravening the legal instruments in place. However, the effectiveness of EIAs as environmental management tools has not been associated with all the developmental projects that have taken place in Namibia, and specifically the Erongo Region. One of the notable examples that has been widely reported on by various local newspapers in 2016 is the approval of phosphate mining on the Namibian coast, which was later cancelled. The clearance was cancelled due to issues like lack of in-depth study of the environmental consequences and lack of sufficient public consultation.

Although extensive research has been done on the efficiency of the EIA system, for specific countries, most of these evaluations have focused on the developed world (Husselmann, 2016:2). Husselmann further highlighted that of the many EIA system assessments done for developing countries, only a few were for countries in southern Africa like South Africa and Mauritius.

Currently, there is a legal framework in place to support the Namibian EIA system, but questions could be asked on whether the system is always effective at the implementation stage and in yielding desired outcomes. Insufficient public consultation, lack of monitoring after the commencement of projects, inadequate expertise and the level of details in EIA reports have so far been identified as some of the potential threats to the effectiveness of the EIA system in Namibia (Husselmann, 2016:3).

On the other hand, there is inadequate literature available on the efficiency of the Namibian EIA system to substantiate these statements, hence there is a need to conduct more reviews. This study will contribute towards the literature on the system and provide details on its effectiveness.

1.1.2 Description of the study area

Erongo region is one of the 14 administrative regions of Namibia and it covers some of the country's coastal zones. The regional western border is by the Atlantic Ocean, while it shares borders with the

Kunene Region in the north, Otjozondjupa Region in the east, Khomas Region in the south-east and Hardap Region in the south.

According to the Namibia Population and Housing Census conducted in 2011, the Erongo Region has 150 809 inhabitants (Namibia Statistics Agency, 2011:6). Various towns in the region support the mining industry. Towns like Swakopmund are popular holiday destinations that greatly contribute to the Namibian tourism industry. The manufacturing industry is also supported by various activities in Swakopmund. Moreover, Walvis Bay, the second major municipality in the country hosts the only deep seaport as well as the largest producer of solar sea salt in sub-Saharan Africa.

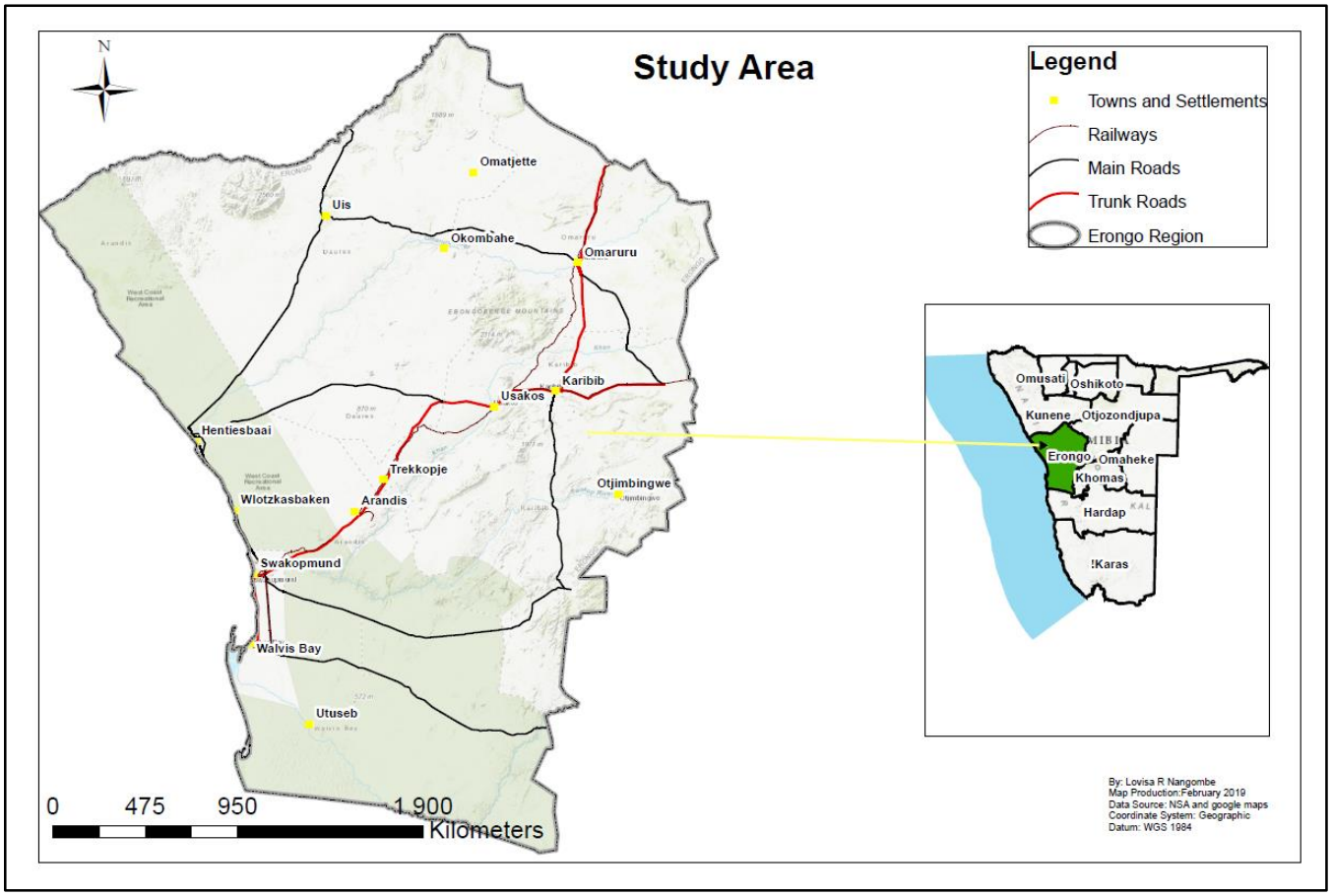

Figure 1.1 Map of the study area. ***Source: Researcher, 2020***

1.2 Research problem

1.2.1 Introduction

The environment is an integral part of the Namibian economy as the top sector that contributes to the gross domestic product, and over 30% of the country's workforce is natural resource-based. It has been recorded that about 70% of the Namibian population depends on natural resources for their livelihoods (National Planning Commission of Namibia, 2016: 83). Due to this reliance on natural

resources, environmental protection has been placed high on the Namibian agenda. This has resulted in about 44% of the country's landmass being put under conservation management.

One of the goals of the current and fifth Namibian National Development Plan (NDP5) is to guarantee a sustainable environment and improve resilience. With this goal, Namibia aspires to be a country with effective environmental management tools in place that ensure the sustainable use of natural resources as well as combat climate change. The spatial distribution of natural resources must be recorded during the EIA process. According to Johannes (1993:35), EIAs should not only concentrate on the direct environmental impacts that emanate from a project, but also on how the project will alter human access to natural resources. This provides insight into how the communities in areas of interest will use the new opportunities availed as a result of a project. Ideally, the EIA system is a tool that will contribute to the achievement of this goal. However, this contribution might be inadequate due to the challenges associated with the implementation of EIAs. Therefore, this study strives to identify factors that might limit the effectiveness of EIAs and ways to overcome those challenges in order to achieve national environmental goals.

In many parts of the world, including Namibia, EIAs are legally binding and compulsory before activities can be granted environmental clearance and authorisation to start (Walmsley & Patel, 2011:9). EIAs are expected to contribute towards the achievement of sustainable development by assessing the impacts on social, economic and environmental dimensions and assist in ensuring that there is a balance among the three components. Although the process of evaluating environmental consequences is viewed as an exercise that is value-free and technical, past experiences have proven that EIA processes are often more political in their operations (Craik, 2008:11). This political nature of the EIA process leads decision-makers to making a trade-off between economic and environmental goals, and too often as an either-or decision.

1.2.2 Problem statement

It is important to evaluate the effectiveness of EIAs in the role they play to protect and conserve the coastal environment as well as its other objectives. The evaluation includes looking at the processes of various EIAs in detail to determine how they align with EIA evaluation criteria that were adapted from literature, such as monitoring, reassessment and reinforcement at different stages of the project cycle. Hence, this study attempts to establish whether projects that have been granted environmental clearance are being monitored for compliance with all conditions that were agreed upon at the beginning of the project. Weaknesses and strengths of EIAs for various projects were also assessed,

with a focus on the coastal zones of the Erongo Region, as they are hubs for various developmental projects and industrial activities that require EIAs before commencement.

The study does not provide a detailed comparison of EIAs conducted in Namibia, but rather evaluates the extent to which EIAs of projects and activities conducted in coastal zones have achieved the objectives set for sustainable coastal development for the period from 2010 to 2019. Respondents for the study include key sources like EIA reports and staff from the Department of Environmental Affairs (DEA) in the MET. This department is headed by the environmental commissioner, and it is responsible for processing EIA applications in the country.

1.3 Aim and objectives of the study

1.3.1 Research aim

This research aims to evaluate how EIAs comply with Namibian laws and guidelines, and whether they are effective as an environmental management tool in coastal management.

1.3.2 Research objectives

1. To identify the Namibian legal framework, policies and procedures for coastal EIAs.
2. To develop criteria from the literature to evaluate the effectiveness of EIAs.
3. To assess EIA documents, procedures and outcomes against these criteria through a desktop study of documents and survey of stakeholders.
4. To determine whether EIAs are contributing to the achievement of national development goals.
5. To make recommendations to improve the effectiveness of EIAs in coastal areas.

1.4 Limitations of the study

Not much research has been done on the effectiveness of EIAs in a developing country like Namibia; hence, there is limited literature on the subject. However, literature on EIAs and how they are practiced in other countries is available and is discussed as it is relevant to this study.

In some cases, an EIA is viewed as simply one of the steps that one must complete to get environmental clearance for their project, a ‘tick box’ approach. In such cases, people hardly relate

the effectiveness of such an activity to achieving the goals of the National Development Plans (NDPs), such as environmental sustainability.

The biggest challenge regarding this study, and others like it, is access to relevant information. Currently, the MET only has hard copies of EIA reports of all the projects conducted earlier than October 2019. For safety reasons, the public is not allowed to make copies of these reports or take them out of the ministry's premises. Lack of digital copies of these reports and related records makes conducting this type of study very difficult, as it is not always practical to go to the ministry and read through all the reports one needs to review for a study. Although environmental practitioners have digital copies, they hardly make them available to the public as they are viewed as the intellectual property of their clients. Of the clients contacted to grant access to their EIA reports, only one responded - their EIA reports are publicly shared on their website. This challenge limited the scope of work for this study as it constrained the variety of EIA reports to choose from.

Moreover, the views of the environmental practitioners were very important for this study. However, no response was received from those contacted. Online surveys and digital copies of the questionnaire were shared several times, but there was no response, and their views therefore could not be included in this study. It was also a challenge to arrange face-to-face interviews during the lockdown measures of the Covid-19 pandemic.

1.5 Definition of key concepts

Concept

An idea of something formed by mentally combining all its characteristics or particulars.

Coastal management

Coastal management can be defined as "a dynamic process by which actions are taken for the use, development and protection of coastal resources and areas to achieve national goals established in cooperation with user groups and regional and local authorities" (FAO, 2000:26). This refers to planning development and managing coastal resources on both land and water in a coordinated and sustainable manner.

Effectiveness

Effectiveness is defined as the degree to which something or a process is successful in producing the desired result.

The environmental commissioner

The environmental commissioner is the person appointed in terms of section 16 of the Namibian Environmental Management Act (EMA) No.7 of 2007 and is tasked with the responsibility of managing the DEA within the MET.

Environmental clearance certificate

A certificate that grants permission for one to carry out listed activities, except for cases where the Minister of Environment and Tourism has issued an exemption for the activity in the Government Gazette.

Environmental management

Environmental management is a systematic approach to find practical ways to save resources such as water, energy and other materials as well as reducing environmental impacts. Environmental management is broad and involves a diverse group of stakeholders who make decisions about the use of natural resources, and it requires a multidisciplinary perspective.

Environmental governance

Interventions aiming at changes in environmental-related incentives, knowledge, institutions, decision-making and behaviour. It also refers to the set of regulatory processes, mechanisms and organisations through which political actors influence environmental actions and outcomes.

EIA

An EIA can be defined as a process that collects all the information about the environmental effects of a project, assesses such information and considers it when deciding whether a project should continue. On the other hand, it is simply an assessment of the impacts a planned activity will have on the environment that also considers alternatives of such a project as well as mitigation measures that should be in place if the project continues (Morris & Therivel, 2009:3).

Geographic Information System

A Geographic Information System (GIS) is a system that is designed to capture, store, manipulate, analyse, manage and present all types of geographic data.

Listed Activities

Activities that may not commence without an environmental authorisation from the competent authority.

SEA

SEA is “a process to assess the environmental implications of a proposed strategic decision, policy, plan, programme and piece of legislation or major plan” (Department of Environmental Affairs and Tourism, 2004:4). SEA is a process that is complementary to EIA and aimed at determining environmental consequences that are associated with programmes, policies and plans (PPP). While the EIA mainly focuses on the positive and negative impacts likely to result from a particular

development project after its design, the SEA gives decision-makers a chance to proactively determine the development types that will be suitable for certain areas before the formulation of development proposals for that area (Department of Environmental Affairs and Tourism, 2004:4).

Sustainable development

"Sustainable development is the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (International Institute for Sustainable Development, n.d.). In environmental management, sustainable development is a notion that can resolve conflicting views from different parties and allow for common ground when environmentalists, economists, governments and industries are discussing and making decisions regarding developmental projects and the environment.

Sustainability

The ability to be maintained at a certain rate and avoid the depletion of natural resources to maintain an ecological balance.

Proponent

This refers to an individual, company, group or government body created by law who proposes to undertake a listed activity.

1.6 Organisation of the thesis

Chapter 1: Introduction and background to the study - The first chapter gives an overview of the study with an introduction, description of the study area, EIAs and coastal management, research problem, aim and objectives of the study, limitations of the study, definitions of key concepts, and organisation of the thesis.

Chapter 2: Research design and methodology – This chapter gives details of the research and design methodology chosen for this study. The discussion focuses on the population for the study, data collection methods and data collection instrument.

Chapter 3: Conceptual framework - This is the chapter that provides a comprehensive analysis of the literature related to this study, and the conceptual framework for the evaluation of the findings.

Chapter 4: Legal operational framework – In this chapter, some of the crucial documents that provide a legal basis and framework for the study are discussed. The documents discussed are the legislative framework that includes the Namibian Constitution (RoN, 1990), the EMA No.7 of 2007 and EIA regulations as well as the SEA for the Erongo Region and the NDP5.

Chapter 5: Data collection and findings – In this chapter, details regarding how the data for this study was collected and analysed are given, as well as the findings

Chapter 6: Discussion - The findings are discussed and interpreted in this chapter, in terms of the conceptual framework of Chapter 4 and the research questions.

Chapter 7: Conclusion and recommendations – This chapter concludes the interpretations of the findings of the study, and provides recommendations for further EIA practice and studies.

1.7 Summary

This first chapter provides background information on environmental management, sustainable development and the use of EIAs in natural resource management as well as coastal management. The study area is also briefly described. It is the Erongo Region, a coastal area in Namibia considered to be one of the hot spots for developmental projects, but also prone to environmental challenges due to its fragile ecosystems. A brief discussion on the role of environmental assessment in environmental governance was also presented.

CHAPTER 2: RESEARCH DESIGN AND METHODOLOGY

2.1 Introduction

According to Mouton (2001:55), the research design is a plan that provides details on how you propose to carry out your research study. It provides information about the type of study you are conducting, and whether it will answer your research questions well, compared to other types. While the research design focuses on the type of study being planned and the results it aims to achieve, research methodology focuses on the process of the research as well as the tools and procedures (research methods) that will be used. Moreover, these complement each other - where the design is about the type of evidence the researcher requires to address the research questions sufficiently, the methodology is about the individual steps in the process (Mouton, 2001:56).

2.2 Research design

The study design is outcome evaluation research. Mouton (2001:160) defines this as "research that is aimed at answering the question of whether an intervention (programme, therapy, policy or strategy) has been successful or effective". Outcome evaluation research helps the researcher show whether a programme or strategy put in place is operating as planned, whether it is producing desired outputs (Project Star, 2006:1), and whether the outcomes that have been intended or unintended for a particular programme have materialised or not (Mouton, 2001:161). This includes both long-term and short-term outcomes and impacts of the programme.

Evaluation research has also been defined as "the systematic assessment of the operation and/or the outcomes of a programme or policy compared to a set of explicit or implicit standards as a means of contributing to the improvement of the programme or policy", and they can be used to support needs assessments, professional compliance reports and new projects (Powell, 2006: 103,105).

The design of this study was a mixed one. It used a combination of both qualitative and quantitative techniques to evaluate the effectiveness of EIAs in coastal management. This was based on EIAs that have been conducted, and responses from key stakeholders.

The commonly used methods in evaluation studies are input measurement, output/performance measurement, impact, outcomes, assessment, service quality, process evaluation, benchmarking,

standards, quantitative evaluation, qualitative evaluation and cost analysis (Powell, 2006:105). From the above-mentioned methods, output/performance measurement, impact/outcome assessment, process evaluation and standards are most applicable to this study.

2.3 Research methodology

The methodology included a desktop study for assessing the EIAs, and a survey for collecting primary data from key stakeholders.

Specific methods included the evaluation of EIAs for various projects conducted in the Erongo Region from 2010 to 2019 to determine whether projects on which such assessments have been conducted are being monitored to ensure continuous compliance during and after implementation. An evaluation criterion was adopted from literature and customised to be suitable for evaluating the Namibian EIA system.

The second part of the study is based on findings from a survey for officials from the environmental commissioners' office (DEA), the unit responsible for guiding, approving and rejecting EIAs in Namibia. The information from these respondents was collected through a self-administered questionnaire.

In the context of this study, effectiveness criteria were used to assess the EIAs based on various measures that should be in place. The following preliminary criteria adopted from Ahmad and Woods (2002:216) were chosen to evaluate the effectiveness of the coastal EIAs.

Table 2.1: EIA evaluation criteria

CRITERIA
CATEGORY A: SYSTEMATIC MEASURES
EIA legislation
1.1 Legal provisions for EIA
1.2 Provisions for appeal by the developer or the public against decisions
1.3 Legal or procedural specification of time limits
1.4 Formal provision for SEA
EIA administration
2.1 Competent authority for EIA and determination of environmental acceptability
2.2 Review body for EIA
2.3Specification of sectoral authority's responsibilities in the EIA process
2.4 Level of coordination with other planning and pollution control bodies
EIA process
3.1 Specific screening categories
3.2 Systematic screening approach
3.3 Systematic scoping approach
3.4 Requirements to consider alternatives
3.5 Specified EIA report content
3.6 Systematic EIA report review approach
3.7 Public participation in EIA process
3.8 Systematic decision-making approach
3.9 Requirement for environmental management plans
3.10 Requirement for mitigation of impacts
3.11 Requirement for impact monitoring
3.12 Experience of SEA
CATEGORY B: FOUNDATION MEASURES
Existence of general and/or specific guidelines including any sectoral authority procedures
EIA system implementation monitoring
Expertise in conducting EIA (national universities, institutes, consultancies with EIA technical expertise)
Training and capacity-building

Source: Ahmad & Wood (2002:216)

Due to the nature and size of the population studied, purposive sampling was used. Purposive sampling is a type of non-probability sampling technique that can either be judgmental, selective or

subjective (Lund Research, 2012). The sampling technique sees the researcher using subjective judgment to select the units for investigation (Laerd, n.d.).

Purposive sampling is more applicable to this study because the sample studied is quite small and focuses on characteristics in a population of interest. Total population sampling is a "type of purposive sampling technique where you choose to examine the entire population (i.e., the total population) that have a particular set of characteristics" (Laerd, n.d.). The entire population is often chosen in cases where the population is already small, and some units cannot be excluded.

Since the population of the study is small, Microsoft Excel was used to enter and analyse the results. The results will be represented in charts and graphs, accompanied by descriptive statistics.

2.4 Research ethics

Guidelines on responsible and accountable conduct of the researcher must always be followed. Honesty, objectivity, integrity, openness, confidentiality, respect for intellectual property and social responsibility are some of the ethical principles that the researcher must maintain throughout the process.

This study conformed to the above, as permission was granted by the Department of Environmental Affairs within the Ministry of Environment, Tourism and Forestry before interviewing employees at their offices. The study was also granted clearance by the University of Stellenbosch's Ethics Committee. Data collection only commenced after this approval was granted.

2.5 Summary

The chapter highlights the differences between research design and research methodology. It further indicates that the study employed an outcome evaluation research that employs both qualitative and quantitative techniques to answer the study questions. Detailed evaluation criteria that were used to assess the effectiveness of the EIAs were also discussed in this chapter.

CHAPTER 3: CONCEPTUAL FRAMEWORK

3.1 Introduction

The conceptual framework is a very important component of research studies and is based on the review of literature relevant to the study. The importance of the literature review cannot be overemphasised, as it gives the researcher an idea of what other scholars have already investigated in a particular research area (Mouton, 2001:87). Mouton further states that the literature review provides the researcher with an opportunity to learn from other researchers on how they have conceptualised issues, as well as the various instruments they have used.

Conducting a literature review ensures that the study being carried out does not simply duplicate what has already been done in that field. It also assists the researcher with the most used and accepted key concepts in that field that are essential for helping the readers understand the study.

3.2 Sustainability

Although the terms sustainability and sustainable development are used interchangeably in some discourses, they have been interpreted differently since the introduction of the sustainable development concept at the United Nations (UN) Conference on the Human Environment in 1972 (Mayer, 2008:278).

Sustainability has been defined with regards to how resources are consumed, and how activities at all levels are carried out in such a manner that continuing them does not collapse systems providing goods and services to humans (Mayer, 2008:278). Sustainability is also a concept that implies that both current and future generations can access the same resources equally (Ramanathan, Bhattacharya, Dittmar, Prasad & Neupane, 2010:6). Mathematically, sustainability has been referred to as "the local rate of change for all the resources by organisms is zero" (Ramanathan, et al., 2010:6). Sustainable management of resources is enforced due to low resilience of ecosystems that cannot handle the pressure of unsustainable practices. Sustainable management is ensured through good practices like the use of low carbon production and land protection technologies (Strano, De Luca, Falcone, Iofrida, Stillitano & Gulisano, 2013:12).

Stakeholders such as consumers, farmers and policymakers are all concerned about the environmental and economic sustainability of products since it influences the decisions they must make. This has led to high demand for new management approaches that can meet consumers' demands of healthy and high-quality products while natural resources are being used rationally (Strano et al., 2013:12). According to Mayer (2008:278), there is an increase in quantitative sustainability research which enables the implementation and monitoring of more targeted policies.

According to Gibson (2013:2), ecological and other biophysical systems can no longer sustain increasing human demands. These demands are characterised by growing greenhouse emissions and rising material consumption, amongst others, which result in loss of species and depleted groundwater supplies (Gibson, 2013:3). The environmental challenges outlined above necessitated the deliberations on sustainability. Gibson (2013:3) has identified the following categories as core criteria required to achieve sustainability:

- long-term socio-ecological system integrity;
- livelihood sufficiency and opportunity for everyone;
- intra-generational equity;
- intergenerational equity;
- resource maintenance and efficiency;
- socio-ecological civility and democratic governance;
- precaution and adaption; and
- immediate and long-term integration.

The categories outlined may not be comprehensive, but they indicate the magnitude of what is desired for sustainability. They further highlight the significant implications that sustainability has on the practice of environmental assessments (Gibson, 2013:3). Gibson (2013:3) also pointed out that since most human activities and demands are unsustainable, the focus of environmental assessments on mitigating adverse impacts should be enforced. Gibson (2013:3) further argued that the core sustainability concerns overlap and are interconnected, hence there is a need to understand how the complex systems have an effect, then find ways to integrate them into day-to-day planning as well as decision-making processes.

Since sustainability is widely used as a baseline for studies, it has attracted research in many parts of the world, and some organisations are using it as a framework for capacity development in disciplines such as environment, geography, economics and sociology (Imoh-Ita, 2016: 4). Moreover,

components of sustainability like indicators have become an essential part of international and national policies, leading to prolific academic and policy literature on sustainability (Reed, Fraser & Dougil, 2005:406). Due to this increased research, the concept has been re-evaluated, with a move away from descriptive analysis and towards meeting developmental needs of poor communities in society (Imoh-Ita, 2016: 4).

3.3 Sustainable development

Sustainable development first became visible in the international development dialogue during the late 1980s, and developed a higher profile at the UN Conference on Environment and Development in 1992 and the World Summit on Sustainable Development in 2002 (cited in Imoh-Ita, 2016: 3). The widely used definition of sustainable development is that by the World Commission on Environment and Development (Brundtland Commission), 1987, which defines it as development that allows the present generation to meet their needs without compromising the ability of future generations from meeting theirs. Sustainable development is made up of three dimensions: Environmental, social and economic.

Connelly (2007:269) stated that sustainable development is a dominant topic due to its ability to incorporate a balance of environmental, economic and social priorities while prioritising the environmental aspect that some previous dominant policy agendas neglected. On the other hand, it is argued that sustainable development is hard to define since it is impossible to demonstrate that goals from all three dimensions can be allocated equal weights (Connelly, 2007:269).

The recent report by the UN (2019: 52) on the Sustainable Development Goals (SDG) states that we are currently experiencing a shortage of services that are essential to human beings, because of land degradation that took place between 2000 and 2015. Variables such as changes in land cover, the organic carbon in the soil and land productivity were tested to determine this. The report further indicates that land has been degraded by 22.4% to 35.5% in most regions of the world, resulting in a direct impact on the lives of the world population.

The UN (2019: 50) report on the SDGs emphasises that oceans play a very important role in sustaining human lives. The ocean is the largest ecosystem on earth and covers most of the Earth's surface while supporting people with food and livelihoods (UN, 2019: 50). In addition to trees, oceans also produce some of the oxygen we breathe, absorb atmospheric heat and regulate the climate. However, heat has been building up in the oceans due to increased carbon emissions from human activities. Therefore,

the 14th Sustainable Development Goal (SDG) - life below water - is aimed at the sustainable use of oceans and marine resources.

The UN (2019: 52) further points out that the increase in human activities is destroying various ecosystems that support all species on earth. Although there has been a decrease in the loss of forest, deforestation continues, posing a great risk for the extinction of one million plant and animal species. Many countries have started putting in place legal mechanisms to ensure conservation and sustainable use of natural resources (UN, 2019: 52).

The 15th SDG is one of the mechanisms on a global level that is aimed at protecting terrestrial ecosystems, land and forests by combating desertification, halting land degradation and reducing biodiversity loss significantly. The UN (2019: 53) maintains that countries are putting efforts towards adopting practices that encourage sustainable use of natural resources through sharing of benefits acquired from resources such as plants, animals and other genetic material found in communities.

As a developing country where the main sectors that drive the economy are heavily reliant on natural resources, the government of Namibia continues to be committed to sustainable development. The commitment of the Namibian government towards sustainable development is spelt out in Article 95(1) of the Constitution, the supreme law, which states that: “The state shall actively promote and maintain the welfare of the people by adopting policies aimed at the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future” (Government of Namibia, 1990). Consequently, the government adopted several policies that promote sustainable development.

Despite all the conservation efforts and that Namibia is one of the countries that has been managing its natural resources sustainably, the following challenges are threats to environmental sustainability (National Planning Commission of Namibia, 2016: 84):

- Growth in population and industrial development: This leads to increased needs for natural resources and services, resulting in an increased volume of waste and pollution as well as the destruction of some ecologically sensitive areas.
- Weak institutional capacity and governance mechanisms: This leads to a lack of enforcement of legislation like the EMA No.7 of 2007 and a lack of sufficient resources required for effective environmental management.

- Namibia is vulnerable to climate change that is generally characterised by droughts and floods that reduce agricultural yields and affect vegetation types as well as species in various ecosystems.
- Centralisation and tasks essential for environmental management: The efficiency of the sub-national government in service delivery is affected by centralisation of environmental management.
- Sustainability of Community-Based Natural Resources Management (CBNRM) programmes: Some conservancies and community forests are not achieving the anticipated benefits.
- Human-wildlife conflict: With population growth, the coexistence of humans and wildlife is becoming a challenge that requires management and adaptation.

Although development comes with many positive changes, one of four national development objectives for Namibia is strong economic growth, which can be a challenge for sustainable development. This objective could lead to over-exploitation of the country's renewable resource base, which is already limited and fragile (Krugmann, 2001:4). This over-exploitation is mostly reflected in processes like the erosion of biodiversity, depletion of fish stock, water over-consumption, land degradation and deforestation. There is no doubt that economic growth is required to reduce poverty and improve sharing of resources, equitable distribution of income as well as generate economic and job opportunities in the country (Krugmann, 2001:4). However, there is a need to maintain the quality and quantity of Namibia's renewable resource capital to balance economic, social and environmental objectives.

The literature above is supported by the report published by the National Planning Commission, (2018:10) which states that since 1990, Namibia's economy has been growing rapidly. As a result of this growth, Namibia was classified as a Middle-Income Country (MIC) in 2009, and later in 2014, upgraded to upper MIC. Although the economic growth resulted in reduced poverty as well as economic and livelihood opportunities, it is still marked by extreme inequalities (National Planning Commission of Namibia, 2018:10). Despite the economic growth, Namibia still faces many developmental challenges which can all be attributed to huge social and economic inequalities in the society.

3.4 EIA

3.4.1 The evolution of EIA

Since the introduction of EIA in the United States at the end of the 1960s, many developed and developing countries have adopted the system and incorporated it into their national environmental management programmes (Glasson, Riki & Chadwick, 2005:7). At the time, EIA emerged as part of environmental management. There was also a significant increase in recognition of nature as well as implications for the environment that resulted from human actions. During the last 15 to 20 years, institutionalising EIA progressed quickly as it was recognised in the international arena (Morgan, 2012:6). Morgan (2012:6) further highlights that this has led to the recognition of EIA in various international conventions and agreements such as:

- the convention on transboundary EIA;
- the convention on Wetlands of International Importance;
- the convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters;
- the UN Framework Convention on Climate Change;
- the Protocol on Environmental Protection to the Antarctic Treaty.

According to Sadler (1996), EIA has been developing in terms of legal framework, procedures as well as the use of technology since the 1970s as outlined with the timelines in table 3.1 below.

Table 3.1: Development of the EIA

YEAR	DEVELOPMENT OF EIA
Pre-1970	Project review based on the technical/engineering and economic analysis. Limited consideration given to environmental consequences.
Early/mid-70s	EIA introduced by the National Environmental Policy Act (NEPA) in 1970 in the US. Basic principle: Guidelines, procedures including public participation requirement instituted. Standard methodologies for impact analysis developed (e.g. matrix, checklist, and network). Canada, Australia and New Zealand became the first countries to follow NEPA in 1973-1974. Unlike Australia, which legislated EIA, Canada and New Zealand established administrative procedures only.

	Major public inquiries help shape the process' development.
Late 1970 and early 80s	More formalised guidance. Other industrial and developing countries introduced formal EIA requirements (France, 1976; Philippines, 1977), began to use the process informally or experimentally (the Netherlands, 1978) or adopted elements, such as impact statements or reports, as part of development applications for planning permission (German states and Ireland). Use of EA by developing countries (Brazil, Philippines, China, Indonesia) SEA, risk analysis included in EA processes. Greater emphasis on ecological modelling, prediction and evaluation methods. Provision for public involvement. Coordination of EA with land-use planning processes.
The mid-80s to end of decade	In Europe, the EC directive on EIA establishes the basic principle and procedural requirements for all member states. Increasing efforts to address cumulative effects. World Bank and other leading international aid agencies establish EA requirements. Spread of EIA process in Asia
1990s	Requirement to consider trans-boundary effects under Espoo convention. Increased use of GIS and other information technologies. Sustainability principal and global issues receive increased attention. Formulation of EA legislation by many developing countries. Rapid growth in EA training.

Source: Sadler, 1996

Today, many countries have adapted the EIA process to purposes that are linked to decision-making at different levels of governing structures. EIA is mostly applied to projects and development at the local level, but in some cases, it is also used for assessing regional and global issues (Anderson, 2008:3). However, Ahmad and Wood (2002:213) state that many countries in the developing regions

of the Middle East and East Africa only started introducing their EIA systems later in comparison to their counterparts in South Asia and Latin America. The 1992 UN Conference on Environment and Development has contributed greatly to the adoption and implementation of EIA in Southern Africa (Tarr, 2008:2). After this conference, the implementation of EIA within the Southern Africa region improved. Despite challenges that have been and are still being experienced regarding the implementation, the region has been able to achieve some milestones in terms of legislation, institutional arrangements as well as the EIA practice.

The EIA process is multifaceted and plays various significant roles such as assisting with the decision-making process, a guide in the design of development actions and a tool for sustainable development (Glasson et al., 2005:7). The complex nature of EIA is attributed to the fact that it is expected to consider the impacts of activity in environmental, social and economic dimensions in an integrated way. To effectively contribute towards sustainable development, EIA must also contribute to economic development, employment creation and poverty alleviation (Tarr, 2008:1).

In some cases, negative environmental impacts only surface when an activity has already commenced. This makes it difficult to mitigate such impacts, because by the time they are identified, the damage is already done. It is due to such cases that EIA should serve to identify all the unwanted effects associated with a project before they occur and determine appropriate mitigation measures (Marshall, 2011:10). To ensure consideration of all aspects, social impacts are also included in the EIA. This has led to the development of the EIA method into a systematic way that is aimed at finding a solution with both low social and environmental impacts (Andersson, 2008:3).

Like other types of impact assessments, EIA has been widely accepted as a tool that should make it possible to analyse both consequences of a planned activity as well as the legal procedures guiding the evaluation of such an activity. Although the EIA systems of several countries around the world are guided by the same principles, they are also unique as they are products of different legal, organisational and political situations (Banias et al., 2017:805). Hence, the EIA process is informed by a broad range of activities from various sectors which involves many stakeholders (Bond & Morrison-Saunders, 2011:48).

3.4.2 EIA and public consultation

According to Abaza, Bisset and Sadler, (2004:28), the EIA process is incomplete without public consultation, as it is a cornerstone of the process. Efforts should be made to ensure that all affected and interested parties can comment on proposed projects' impacts. Involving the public in the EIA

process contributes greatly towards the achievement of the overall objective of the EIA as well as its procedural principles (Abaza et al., 2004:28).

Although public involvement serves the same purpose, the extent to which the public is consulted or given opportunities to participate in the EIA vary in different countries due to their legal requirements (Andersson, 2008:15). Procedures for public involvement followed by various countries might even differ when they are evaluated against international EIA standards (Abaza et al., 2004:28). In some countries like Namibia and South Africa, public participation is required by the EIA regulations. Meanwhile, all central and eastern European countries refer to public involvement in their EIA legislation, but not all of them enforce it (Abaza et al., 2004:28).

Sheate, (2014:12) outlines the following as the objectives of the public participation process:

- informing various stakeholders about the proposed project, its alternatives as well as possible environmental effects;
- providing a platform for the presentation of different views, concerns and values from the public;
- providing an opportunity to obtain local and traditional knowledge;
- reducing or avoiding conflict by identifying contentious issues early;
- ensuring transparency and accountability to increase public confidence in the process.

Moreover, public consultation is aimed at protecting the interests of all the communities that are expected to be affected by impacts of the proposed project. When the public is engaged, it is important to ensure that special attention is paid to indigenous people, the poor, ethnic minorities, the most vulnerable and any other group that is at more risk of environmental change and disruption of lifestyles emanating from proposed activities in their areas (Abaza et al., 2004:28).

To avoid downplaying of the public participation process and it merely being a tick on a checklist, the competent authority should evaluate it and ensure that objectives are met. The evaluation of the process should be done by checking whether all the legal requirements have been complied to, and whether sufficient information was provided amongst other requirements.

According to Dray et al. (2008:3) the public participation process is essential for effective stakeholder identification, which leads to good impact assessment results. The process of stakeholder participation is also known for good democratic practice techniques in natural resource management.

Making information available for all the concerned parties to access and air their views is likely to promote transparency and accountability when EIA procedures are being implemented. It is crucial to include public views in the decision-making process as it ensures more acceptable social and environmental outcomes that are fair for both parties (Abaza et al., 2004:28).

However, Glasson et al. (2005:155) argue that public consultation comes with both advantages and disadvantages, although the emphasis is mostly placed on the advantages. They further state that developers are usually not in favour of the public participation process, due to the associated additional costs and prolonged time frames. Despite additional costs, the process does not always lead to a conclusive decision as there might be different concerns and priorities of various interest groups (Glasson et al., 2005:155).

3.4.3 The importance of EIAs in environmental decision-making

The EIA process plays a significant role in making informed environment-related decisions. It provides decision-makers with a detailed examination of possible environmental effects resulting from a proposed action, as well as alternatives that should be considered before a decision is taken (Glasson et al., 2005:7). The EIA can also serve as a basis that allows the public, the developer and other interested parties to negotiate and achieve the balanced interest of both the development action and the environment. It has been highlighted that the EIA process must first be completed before any final decision to pursue action is taken to ensure that all possible environmental impacts are put into consideration during the decision-making process (Eccleston, 2011:201).

Some scholars have questioned whether conducting EIA has been making "any significant difference in influencing environmental management decisions. Although determining the significance of the EIA process in decision-making can be complex, several kinds of literature have indicated that one of the major aims of the EIA is to serve as an advocacy tool for decision-making" (Bevan, 2009:10). Determining the significance of environmental impacts depends on two major factors: The impact characteristic, which is known as the magnitude and the impact importance which is known as the value (Bevan, 2009:18). Based on the two factors, one can measure the magnitude of change that comes with the project as well as how much people value the environmental qualities being lost due to the project.

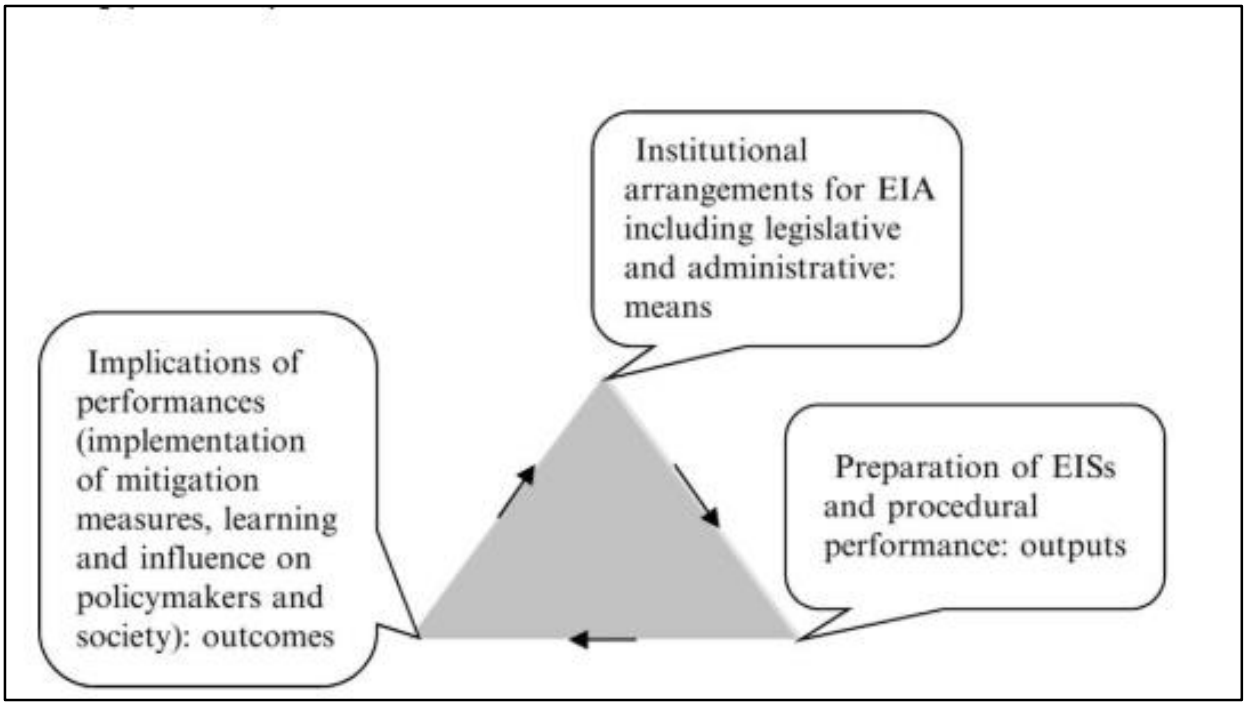

Figure 3.1: Dimensions of an effective EIA. Source: Momtaz & Kabir (2018:43)

Like many other environmental management tools used by environmental practitioners to provide facts to decision-makers and various stakeholders, the EIA process has some advantages. Environmental conditions in different geographic locations are ever-changing as they are influenced by many factors. The importance of understanding these complex and ever-changing environmental dynamics cannot be overemphasised. One of the greatest ways in which the EIA benefits us is by providing us with information and helping us understand our environment to manage it properly.

3.4.4 EIA and cumulative impacts

There is increasing evidence that, in some cases, damaging environmental effects result from the combination of individual minor effects of several actions that have taken place over time rather than direct and indirect effects of a particular action (Eccleston, 2011:1). Hence, the assessment of cumulative impacts is a fundamental part of the EIA process.

Cumulative impacts are defined as environmental impacts that are the combination of various actions carried out over time, regardless of the agency/person undertaking such other actions (Eccleston, 2011:2). Such impacts can be a result of individual minor actions that become collectively significant over some time.

To have a full understanding of the overall consequences of a project that can be expected in the future, environmental practitioners need to assess and integrate all direct and indirect impacts of the

past and present as well as foreseeable plans (Eccleston, 2011:2). The importance of cumulative impacts can be attributed to the fact that when possible environmental impacts of a project are assessed in isolation, they may be insignificant, but when they are combined with impacts from other projects, they may be significant (Eccleston, 2011:4). However, it has been acknowledged that there are more challenges associated with analysing cumulative impacts than ordinary impacts due to difficult aspects such as defining temporal and spatial boundaries of the analysis (Eccleston, 2011:2).

Cumulative impacts have been divided into two main classes, namely: Additive cumulative impacts and synergistic cumulative impacts. Additive effects are the magnitude of the sum of individual effects, while synergistic effects are substantially greater than expected - the whole is greater than the parts (Eccleston, 2011:6). However, it is a challenge to assess both additive effects and synergistic impacts that are not quantifiable, like visual impacts. Outlining geographic and temporal boundaries are some of the factors that contribute to this challenge. Outlining spatial and temporal boundaries that are too broadly defined can result in exhausting and excessively alarming analyses, while the ones that are narrowly defined make the analysis insufficient to be relied on when decision-makers are considering potentially significant cumulative impacts (Eccleston, 2011:9).

According to Eccleston, (2011:7), there are several multiple pathways through which additive or synergistic cumulative impacts alter environmental systems, such as:

- *Growth-inducing pathway*: This takes place when a new project induces further actions or more projects to occur in a particular area.
- *Physical or chemical transport pathway*: This refers to the transportation of a physical or chemical constituent away from the activity being assessed.
- *Nibbling loss pathway*: This results from the ongoing disruption and loss of habitat.

3.4.5 Benefits of the EIA

Without disputing that an EIA process cannot always be equated to a project that has no negative impacts on the environment, it is important to acknowledge that it heavily contributes towards minimising the severity of a particular projects' adverse impacts (Eccleston, 2011:224).

According to Abaza et al. (2004:34), benefits of EIA are hard to pinpoint as they are mostly long-term and generalised in comparison to costs, which are likely to be immediate. The overall benefit of an EIA is that it saves countries from repairing environmental damages at a later stage by ensuring that such damages are prevented or minimised. It has also been acknowledged that effective implementation of the EIA process results in sustainability (Abaza et al., 2004:34). The public sector

and the proponent can both benefit from the enhanced economic performance, through reduced delays in approval procedures, as well as better designed and economically efficient projects (Abaza et al., 2004:34).

Additionally, some of the benefits of the EIA include:

- assists in ensuring that policies and regulations are adhered to;
- gathers detailed information about the project;
- considers alternatives;
- promotes sustainable development, including consideration of economic and social dimensions;
- encourages public participation.

Abaza et al., (2004:34) identified more benefits of the EIA:

- improved project design;
- contributes towards more informed decision-making processes
- influences more decisions that consider the sensitivity of the environment;
- promotes and increases accountability and transparency during the development process;
- improves the integration of projects into their environmental and social setting;
- reduces environmental damage;
- leads to more effective projects in terms of meeting financial and socio-economic objectives.

During an EIA process, the public is given a platform to become well acquainted with the proposed project and to provide their inputs. In that sense, "public participation promotes openness and transparency principles; hence it is regarded as one of the EIA benefits" (Dray et al., 2008:3).

Even though EIA is not the only tool that contributes to the achievement of sustainability, it has proven to be beneficial when evaluating the sustainability of developmental proposals (Muralikrishna & Manickam, 2017). Since the EIA facilitates the process of making informed environmental decisions, it aids in avoiding developmental actions that are not sustainable. Such developmental actions are avoided based on the information collected, analysed, interpreted and communicated to relevant authorities and stakeholders by the EIA (Muralikrishna & Manickam, 2017). Since the inception of EIA, it can be linked to several sustainable goals as indicated in figure 3.2 below.

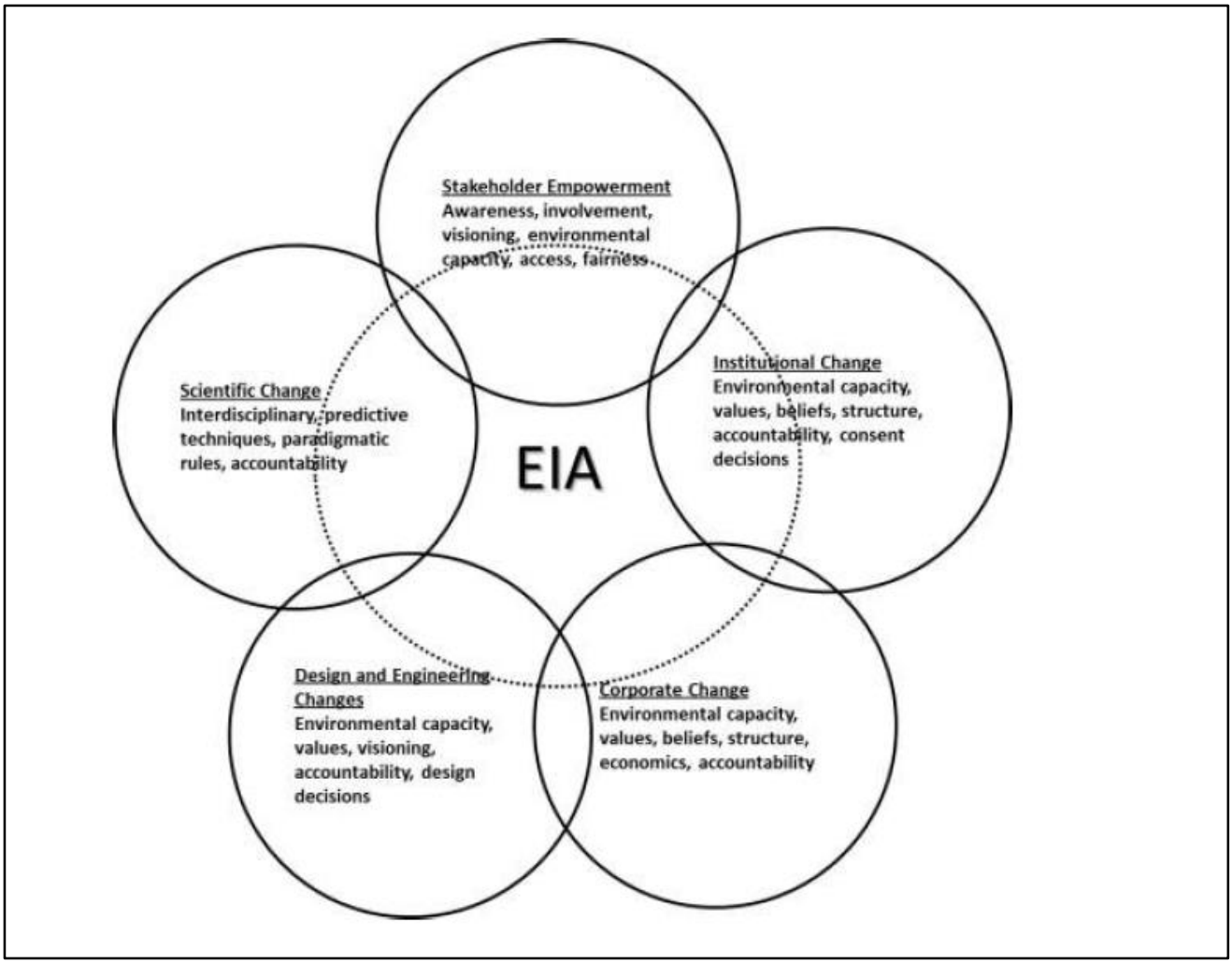

Figure 3.2: The influence of EIA

Source: Cashmore et al. (2004:306)

Moreover, EIA has addressed the need for integrating assessment methods that embrace the social dimension by considering the distinctive features of all the affected communities (Dominguez-Gomez, 2016:114). The gap regarding social and traditional factors needed to be addressed as the success of developmental projects and policy formulation depends on them.

Another benefit associated with the EIA is the contribution it makes towards increased scientific knowledge, especially for projects of big magnitudes in remote areas. This is contained in the United Nations Conference on Trade and Development (UNCTAD) (2017) study report. Many EIA reports have become the instigators of deep studies, especially in natural sciences. This is because EIA reports do not unfold many scientific shreds of evidence, but cite further possibilities that researchers find interesting for deepening their studies.

There is a need to always have alternative tools to guide us in making rational decisions regarding the use and conservations of natural resources, since the distribution of most environmental services falls outside the market process (UNCTAD, 2017). EIA is one of the alternative tools available to address such gaps. Before the inception of EIAs and other environmental tools, people used unstructured ways to make environmental decisions. This meant that trade-offs between dollars and environmental resources were not made explicit, which led to poor to bad environmental management decisions.

The FAO (2012) gave reasons why it is important to conduct an EIA. Among others, these are:

- it promotes awareness about the nature of the proposed activity and possible effects on the local environment;
- it ensures adherence to all applicable environmental laws and regulations;
- it ensures reliable and reasonable analysis of development proposals by applying an organised review procedure that comprises environmental assessment; and
- it provides an opportunity for considering replacements to the proposed development or approaches to alleviate impacts, if necessary.

3.4.6 Shortcomings of EIAs

For environmental protection efforts to make a significant difference, they need to be successfully implemented in many parts of the world. Despite some developing countries having successful EIA systems in place, the EIA as an instrument is not able to address environmental issues on a global level adequately, due to shortcomings within EIA systems in many developing countries (Wood, 2003:3). Wood (2003:3) further states that it is crucial to improve the EIA systems of developing countries to protect at least three-quarters of the world's environment.

Momtaz and Kabir (2018:39) support Wood's (2003) argument by stating that the evolution of EIAs proceeded differently in various parts of the world. EIAs in developing countries resulted from the pressure development assistance agencies placed on these countries on a project basis, while developed countries implemented EIA in response to local demands for environmental protection (Momtaz & Kabir, 2018:39). Literature from various scholars has proven that EIA systems in developing countries over the years have more shortcomings than those in developed countries.

Although it has been 17 years since Wood (2003:8) outlined the following shortcomings of EIA systems in most developing countries, some might still be applicable today:

- Legal basis of EIA systems
- Coverage of EIA systems
- Consideration of alternatives
- Screening of actions
- Scoping of impacts
- EIA report preparation
- EIA report review

Similarly, Abaza et al. (2004:8) outlined the following shortcomings associated with EIA applications at that time. These conditions might still prevail currently in some instances:

- difficulties in ensuring that there is adequate and meaningful public participation;
- lack of integration of EIA work at various vital decision stages concerning feasibility studies in the project life cycle;
- lack of consistency in selecting projects that require EIA;
- techniques for making early arrangement on the scope of EIA studies are weak;
- the relationship between baseline reports and impact prediction are not well understood;
- poor integration of social and economic factors with biophysical environmental impacts;
- produced EIA reports are not clear enough for decision-makers to understand them due to their technical nature;
- there are no mechanisms place to ensure that EIA reports are considered in decision-making;
- the linkages between EIA report recommendations on monitoring and project implementation are very weak;
- many countries do not have sufficient technical and managerial skills to implement EIAs.

Although many developing countries have adopted the EIA process and it's built on the same set of ideologies as the rest of the world, the implementation does not always meet international standards due to factors such as insufficient consideration of public participation, potential impacts and project alternatives (Li, 2008:1). The EIA processes of countries that are not performing well are characterised by weak – or the lack of – follow-up processes, enforcement of stipulated terms and conditions, and effective monitoring (Li, 2008:3). EIA processes also do not consider cumulative impacts and provide information that is not relevant to decision-making (Li, 2008:3).

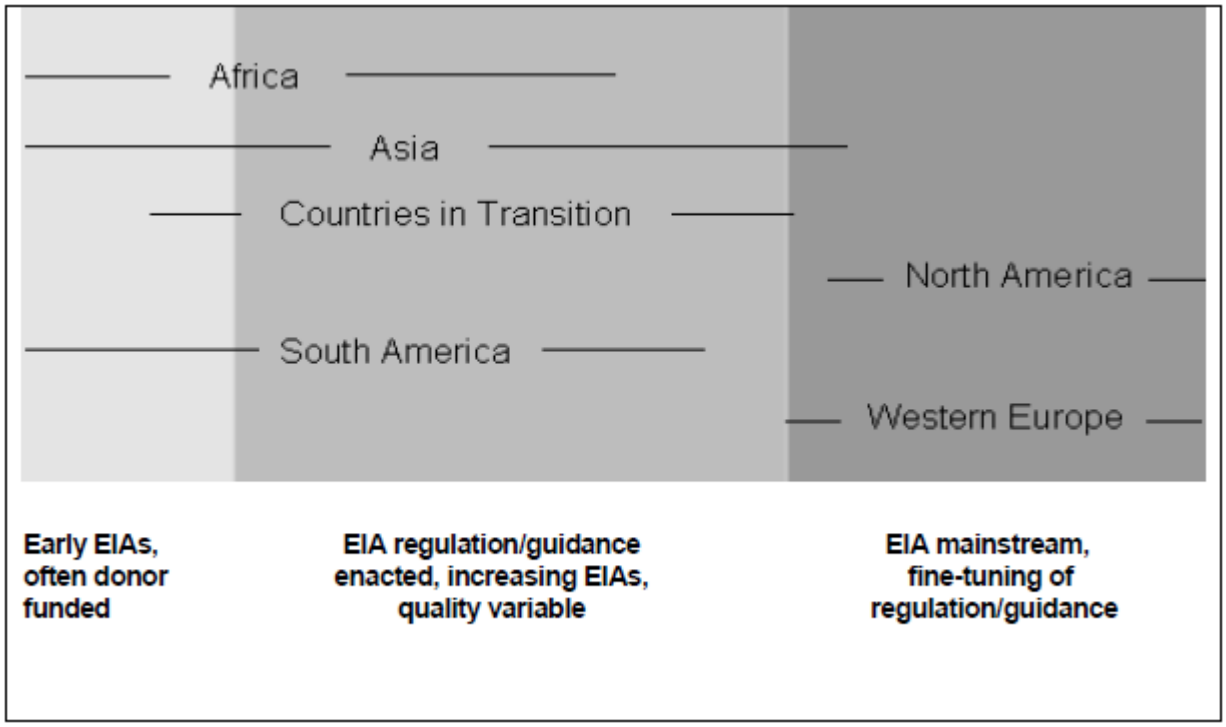

Figure 3.3: Status of EIA systems worldwide in 2008

Source: Li (2008:5)

In addition to these shortcomings, Eccleston (2011:225) identified the following to be disadvantages of EIAs due to them being project-specific:

- they offer inadequate platforms for effective public participation during the preparation and decision-making stages;
- the ability to address cumulative impacts is limited, especially for large developmental projects that often result in secondary development;
- analysis of stand-alone processes, which may be linked to the project cycle, is limited.

Due to limited published literature on the Namibian EIA system, available literature on other African countries is crucial as it is more relatable to Namibia. In the absence of a comparison between a developed country like the USA and Namibia as a developing country, reference is made to the comparison between USA and Ethiopia and Kenya in Grebreyesus (2017). Despite some positive trends of the EIA systems in Kenya and Ethiopia described in Table 3.2 below, there are still obstacles that hinder the achievement of full benefits of EIA in the two countries (Grebreyesus, Koskei, Shen & Qian, 2017:49).

Table 3.2: Comparisons of EIA guidelines of Kenya and Ethiopia with the US

ISSUES	USA	KENYA	ETHIOPIA
EIA time frames	Time limits are defined between various stages of EIA process	Whole process timeline is defined in a systematic manner	Time limits are defined between various stages of EIA process
EIA screening	Clear on exempted projects but not well explained for other projects	Clear on preparation and submission, but clear on EIA guidelines as well as no specific details are given	Lists and thresholds are the most commonly suggested screening approach
EIA scoping	Very well described with methods clearly explained	Methods and procedures plainly stated	Scoping by using TOR is the common approach
Public participation	Methods, time, and forms specified	Clear in timeline and total involvement between proponent, issuing authority and Communities involved	Public access to EIS report, and opportunity to comment
EIA report	Contents detailed	Contents detailed	Contents detailed
Quality review	Required and explained	Not clear on the quality of review	Required, but not clear
Environmental baseline studies	Requirements listed	Required to know the status of the project before implementation	Requirements are not specific and brief
Assessment of alternatives	Alternatives are listed including the 'no	Not fully stated	Not fully stated

	action alternative'		
Mitigation measures and impact management	Included in the alternatives' evaluation	Included in both normal and alternatives evaluation	Included in the alternatives' evaluation
EIA reporting	Explained and timeframe set	Clearly expounded and fully detailed	Clearly described and timeframe set
Decision making	Well explained	Described in detail	Briefly described

Source: Grebreyesus et al. (2017:48)

The gaps and challenges of the Kenyan and Ethiopian EIA systems, as described by Grebreyesus et al. (2017:49) are presented below.

3.4.6.1 Implementation of laws

Many years after the EIA legislation was enacted, there are still no well-defined and coordinated enforcement mechanisms in place to determine whether certain projects should be subjected to an EIA before an investment permit is issued (Grebreyesus et al., 2017:49). Lack of legal enforcement means to enforce the law results in miscommunication between the environmental authority and investment agencies. Although key sectors that should be subjected to EIA have been identified, it is a challenge to enforce this due to lack of specific indicators and threshold values for development projects that might require such detailed information (Grebreyesus et al., 2017:49). Lack of implementation is also rooted in a lack of criteria that define adverse significant impacts of projects as well as standards required to review EIA study reports (Grebreyesus et al., 2017:49).

3.4.6.2 Awareness of the EIA

Various stakeholders in both countries have inadequate and insufficient information about the EIA process. Although lower administrative structures in government play important roles in the implementation of projects, knowledge about EIA and laws relating to it is not sufficient at these levels (Grebreyesus et al., 2017:49). Factors such as insufficient information about environmental laws have led to little or no EIA knowledge. Since there are no effective mechanisms to facilitate public participation and create awareness among stakeholders as well as the general public, some stakeholders who are supposed to implement the EIA do not understand its significance (Grebreyesus et al., 2017:49).

3.4.6.3 Lack of capacity

Implementation capacity is a crucial aspect of any EIA system and full implementation is heavily dependent on it. Lack of multidisciplinary expertise and sufficient funds associated with environmental authorities responsible for the EIA and consultants in both countries make it difficult for them to conduct quality EIAs (Grebreyesus et al., 2017:49). Additionally, essential infrastructure required to complete some components of the EIA such as laboratories are not sufficient.

When it comes to the Southern African region, it is a challenge to find recent literature that represents the status of EIA systems in Southern Africa Development Community (SADC) countries. All SADC countries have institutions or departments responsible for EIA, with most of them faced with challenges of insufficient funding and staffing to process EIA applications and follow-up compliance audits (Walmsley & Patel, 2011:9).

Furthermore, though environmental law in some SADC countries makes provision for inter-ministerial EIA committees, they are not yet constituted in countries like Botswana, Lesotho and Namibia (Walmsley & Patel, 2011:9). The absence of these platforms have resulted in lack of participation by all key ministries in the EIA process, and limited awareness of the links between the environment, economic development and social dimensions (Walmsley & Patel, 2011:9). The requirement of separate Environmental Management Plans (EMPs) is not enforced in SADC countries, except in the DRC and Swaziland (Walmsley & Patel, 2011:14). However, it is compulsory to include mitigation measures and sometimes the management programme in the EIA report in most countries. This challenge is worrisome as it is the source of vague statements of intent in most mitigation plans.

3.4.7 Effectiveness of EIAs

Although the general definition of effectiveness refers to the degree to which something or a process is successful in producing the desired result, the meaning of the term might slightly differ depending on the context.

When it comes to the EIA process, most authors work with the simple definition of whether the EIA system works as envisioned to meet the purpose for which it was planned. EIA effectiveness has also been referred to as “whether an EIA system achieves its objectives, at the least cost with minimum delay and without bias or prejudice, and includes concepts such as the efficiency of operations,

fairness of procedures, cost-effectiveness of the operation, the potential to deliver a particular result, and compliance with specific procedural requirements" (Sandham et al., 2013:155).

The discussions around the effectiveness of EIA started in the mid-90s with the introduction of a major international review of EIA effectiveness (Abaza et al., 2004:7). Since the study was very detailed, it serves as the baseline for most studies on the benefits, weaknesses and effectiveness of EIAs. The study also revealed that since the introduction of EIA as an environmental management tool, most countries have made legal amendments to strengthen EIA procedures and improve its effectiveness (Abaza et al., 2004:7).

Despite the straightforward definitions, evaluating EIA effectiveness is still complex due to its multidimensional nature. To have complete coverage, one has to consider various steps involved in conducting an EIA as well as the wider EIA system that is not simply just about the process, but also about the external aspects linked to such a system (Loomis & Dziedzic, 2017:30).

There has been an increase in the study of EIA practice and its effectiveness, which has resulted in many authors describing the subject from different perspectives, also influenced by different factors related to the EIA process (Veronez & Montano, 2015:1). However, most authors have outlined four main dimensions on which the evaluation of EIA effectiveness should be based as summarised in table 3.3 below.

Table 3.3: Dimensions of EIA effectiveness

DIMENSION	QUESTION	CRITERIA
Procedural	Have appropriate processes been followed that reflect institutional and professional standards and procedures?	Checking of actions following the appropriate procedures and international best practices.
Substantive	In what ways and to what extent does EIA lead to changes in process?	Identification of project changes during the EIA Identification of public participation on the scoping Perception of the stakeholders as to the EIA contributions to a better project EIA quality
Transactive	To what extent and by whom is the outcome of conducting EIA considered to be worth the time and cost involved?	Perception of the stakeholders related to the time and cost involved Empirical identification of the aspects that influence the time course of EIA processes
Normative	In what ways and to what extent does the EIA enable learning?	Identification of evidence of learning on the EIA process

Source: Veronez and Montano (2015)

3.4.7.1 Procedural effectiveness

Procedural effectiveness focuses on whether procedures and good practices of the EIA system have been complied to. It has been acknowledged that it is assessed more than the other three dimensions (Veronez & Montano, 2015:2). This is the procedure that should provide details of whether policies have been implemented as well as how they have been implemented, as it mostly relates to the principles that are governing the EIA process (Bond & Cashmore, 2012:3).

This dimension mostly involves one or more case studies, commonly applied in both the developed and developing world (Loomis & Dziedzic, 2017:30). They further state that although the original procedural dimension concentrated on the process by identifying weaknesses and strengths of various regulatory frameworks, it is currently shifting from the process to the system (Loomis & Dziedzic, 2017:30).

Bond and Cashmore (2012:3) have outlined the most important factors that should be considered when evaluating procedural effectiveness:

- ***Relevant policy framework and procedures for impact assessment processes***
  The existence of national policy frameworks, developmental plans, regulations and guidelines, standards and other legal frameworks is essential for guiding the EIA processes, procedures and implementation. If there are no clear guidelines for how the EIA should be conducted in a particular country, people are likely to get away with not following the correct procedures.
- ***Institutional Infrastructure***
  The existence of relevant environmental monitoring institutions, agencies and networks that represent the government and are responsible for overseeing the EIA process also play a crucial role in the effectiveness of the EIA.
- ***Involvement of stakeholders and public participation***
  Affected parties and all interested stakeholders must be given a platform to air their complaints and provide inputs to achieve procedural effectiveness. The success of any developmental project depends on how comfortable the affected communities are with it. The affected parties might also be able to give more insight into the social and economic aspects of the assessment to guide environmental practitioners, as they can relate more to the conditions of their area.

3.4.7.2 Substantive effectiveness

According to Bond and Cashmore (2012:3), the substantive category is about whether the objectives set for the EIA have been achieved. They further stated that "substantive effectiveness is the performance obtained when the practice is completed, compared to the objectives set". This dimension is also about the degree to which the EIA process influences project decision-making and mitigates negative environmental impacts (Loomis & Dziedzic, 2017:31). Although substantive effectiveness is of great importance, it is less common in literature due to it being the least assessed dimension.

Rationality, decision and sustainability have been identified as the three characteristics of substantive effectiveness with 'decision' being the aspect the literature mostly focuses on (Loomis & Dziedzic, 2017:31).

There are several crucial aspects of the substantive effectiveness dimension as identified by Bond and Cashmore (2012:5):

- ***Regulatory framework***

  This refers to the implementation of EIAs in decision-making.

- ***Incorporation of proposed changes***

  This is the aspect that relates to whether most proposals or additions, which were made as part of the changes to be incorporated into the draft programme from the impact assessments, were considered and incorporated into the final version of the programme.

- ***Informed decision-making***

  This is about determining whether all the mandatory documents that resulted from the impact assessment process, as well as from engagements with affected parties, are used to inform the decisions being made and formulating the final version of the programme.

- ***Institutional benefits***

  Past experiences have resulted in evidence of better departmental and institutional relations, as well as the development of expertise that would have been absent without EIAs. Impact assessments also encourage learning, establishment of new agreements and improved communication between the public and private sectors.

- ***Successful public consultation***

  The EIA process is considered effective if all public consultation bodies are given a fair chance to air their views, and their concerns are considered.

Theophanous et al., (2010:1137) stated that outcomes of the EIAs are substantively effective when they result in integrated environmental decision-making, environmental protection as well as sustainable development.

3.4.7.3 Transactive effectiveness

This category of effectiveness refers to investing minimum cost and time required for the assessment process, while still achieving the intended outcomes that are efficient (Bond & Cashmore, 2012:4). This highlights the importance of using the required resources efficiently, hence the skills and roles environmental practitioners need and must play in the process are also considered.

Just like substantive effectiveness, there is limited literature on the transactive effectiveness element, as it is not assessed much. However, it is crucial for the global effects of environmental assessments, as project delays and high budgets result in negative economic impacts for developers. The notion of transactive effectiveness being the least assessed dimension is also supported by Loomis and Dziedzic (2017:32), when they argued that it is only mentioned in passing and not as often as the other three dimensions.

Moreover, case studies that have been conducted proved that the success of transactive effectiveness tends to be influenced by substantive effectiveness, therefore poor substantive effectiveness results in weak transactive effectiveness (Loomis & Dziedzic, 2017:32).

3.4.7.4 Normative effectiveness

Normative effectiveness is related to whether lessons are learnt along the process and whether there are improvements and changes effected, as per the identified lessons (Veronez & Montano, 2015:3). These types of analyses can only be done if all the lessons learnt are identified properly, and if the extent to which learning has taken place is understood well. It is also about whether EIAs contribute to a wider policy like sustainable development, by adding social and economic aspects to the environmental aspect (Loomis & Dziedzic, 2017:33). The category is also expected to contribute to the enactment of environmental policies that are more transparent.

This dimension relates to "the achievement of normative goals which could be incremental changes in institutions, organisations, philosophy, science and culture that could bring about changing consent and decision-making" (Bond & Cashmore, 2012:5). Notable changes in the EIA process and decision-making plays an essential role in effectiveness as it indicates whether attention is being paid to challenges that need to be addressed, instead of repeating the same things over and over even when there is no success in combating environmental damage.

Bond and Cashmore (2012:5) further outlined four aspects that should be considered when evaluating normative effectiveness:

- adjustment of a relevant policy framework;
- learning process, perceptions and lessons learned from SEA/EIA;
- development of changes in relevant institutions;
- improvement of health and quality of life.

From various literature consulted, it has been acknowledged that some aspects of EIA effectiveness, such as legal frameworks and stakeholder engagement, are cutting across more than one dimension of EIA effectiveness (Bond & Cashmore, 2012).

The study on EIA effectiveness conducted in the mid-90s identified several difficulties and constraints that prevent EIA from delivering the benefits it is supposed to deliver in some countries (Abaza et al., 2004:8). The study looked at EIA effectiveness from two dimensions, which are scope and application. In terms of scope, the study considered the scale of projects that are normally subjected to the EIA process, while application includes various factors throughout the process (Abaza et al., 2004:8).

3.4.8 The importance of monitoring in the EIA process

Monitoring is an important aspect of the EIA process. It involves the measurement of all variables associated with developmental impacts. This activity is aimed at providing details on the characteristics, as well as how variables function in time and space, with the emphasis on the magnitude of impacts and when they are likely to occur (Glasson et al., 2005:184). The importance of monitoring is further emphasised by Abaza et al. (2004:60) when they state that monitoring ensures the availability of information that is critical to improving the EIA practice, as well as the management of impacts. Monitoring is essential for many aspects, such as successful environmental impact auditing, improvement of project management, early warning systems and the identification of harmful trends in a particular place (Glasson et al., 2005:184).

According to Abaza et al. (2004:60), the following three main types of monitoring can be applied to a project:

- compliance monitoring that deals with the amount of or content of waste;
- mitigation monitoring determines whether agreed-upon schedules have been taken into consideration during the implementation of mitigation actions;
- impact monitoring deals with the scale and extent of impacts the project has caused.

All large complex projects require comprehensive monitoring projects, since they are always accompanied by uncertainties regarding the significance and scale of adverse impacts (Abaza et al., 2004:60). Generally, when there is a new developmental project planned for a particular area, communities there are concerned about how local economically important resources will be affected. Hence, monitoring aids in continuously providing information that will address some of the

communities' queries. Monitoring serves the purpose of systematically collecting information from various sources over a long period (Glasson et al., 2005:185). To ensure transparency, all the information that has been collected should be stored, analysed and shared with all relevant stakeholders participating in the EIA process. Since monitoring is a critical part of EIA, it is to be expected that monitoring implications are kept in mind when baseline data is being collected, as well as when impact predictions and mitigation measures are being developed (Glasson et al., 2005:186).

To ensure that monitoring recommendations are fully formulated, Abaza et al. (2004:60) have outlined the following aspects as important issues that should be considered:

1. An appropriate monitoring programme should be developed for each identified impact.
2. The estimated duration of individual monitoring programmes should be indicated.
3. The documentation of institutional systems through which the data for monitoring will be collected, integrated, analysed and interpreted.
4. Having in place an action response programme that will be followed should monitoring results exceed prescribed levels.
5. Indicated expenses that will result from the implementation of recommended monitoring programmes.

It is very important to ensure that monitoring activities are carried out as part of the institutional framework, for example, ISO 14001, to avoid wastage of funds by implementing monitoring programmes that will not result in actions being taken. If there are no organisational structures put in place to guide the process of data collection and ensure that there will be right information required for impact management, monitoring is not serving any purpose (Abaza et al., 2004:60). Factors such as the number of impacts that should be monitored, the nature of the individual monitoring schemes as well as the type of institutional system needed to manage the data are some of the factors that influence the cost of monitoring.

Furthermore, monitoring should be done in such a way that comparisons between the pre- and the post-project situation can be made (Abaza et al., 2004:61). These comparisons serve as evidence that environmental changes being experienced are a result of a particular project and can be separated from other factors. For most projects, activities that are conducted at the beginning of the EIA process to establish baseline conditions can be continued into the impact monitoring programme (Abaza et al., 2004:61). Since monitoring is aimed at protecting the environment and the interest of local people, it is crucial to ensure that local communities are aware of and understand monitoring plans.

3.5 EIA in Namibia

3.5.1 Evolution of EIA in Namibia

With a Constitution that includes the protection of the natural environment, it was essential for Namibia to develop policies and other legislation that relate to the conducting of EIAs. A process of consulting various stakeholders from key sectors started in 1992 to develop legislation to guide the EIA process. With relevant legislation like the EMA No.7 of 2007 and EIA guidelines now in place, EIA is practiced as one of the key environmental management tools in the country.

The use of EIAs in Namibia before independence was very limited and only started picking up after 1990. Between 1990 and the early 2000s, most EIAs conducted in Namibia were for the mining sector, due to mining legislation requirements which stipulate that conducting an EIA is compulsory before exploration and the mining of resources (Tarr, 2003:16).

In addition to the Namibian environmental regulations, most mining companies operating in Namibia are foreign-owned, and they have to adhere to the code of conduct of their parent companies, which include conducting EIAs and adhering to environmental standards (Tarr, 2003:16). As mentioned earlier in this paper, it is compulsory for projects that are funded by most donor agencies to be preceded by an EIA. Even in Namibia, large infrastructural development projects that require funding and were conducted during the 1990s were preceded by EIAs without much insistence from MET, but rather from the lending agencies (Tarr, 2003:17). However, after the EMA No.7 of 2007 was enacted, MET has been enforcing the undertaking of EIAs for most projects in the country.

One notable aspect of the EIA process that Namibia has done differently is the fast-track EIA system that was introduced in 1998. This arrangement was initiated to ensure that formerly disadvantaged people also gain access to the mining industry and avoid industry domination by multinationals. With this system, the government was able to waive its requirement for a full EIA process, and rather concentrated on the completion of a "comprehensive environmental questionnaire that led to the setting of environmental conditions" (Tarr, 2003:14). Initially, the system was introduced for small companies prospecting for diamonds along the Orange River, but over time it was expanded to include other projects like prospecting for dimension stone (Tarr, 2003:14). Small-scale activities that are later expanded to operate on a large-scale level are required to go through a normal comprehensive EIA system as they no longer qualify for the waiver (Figure 3.3).

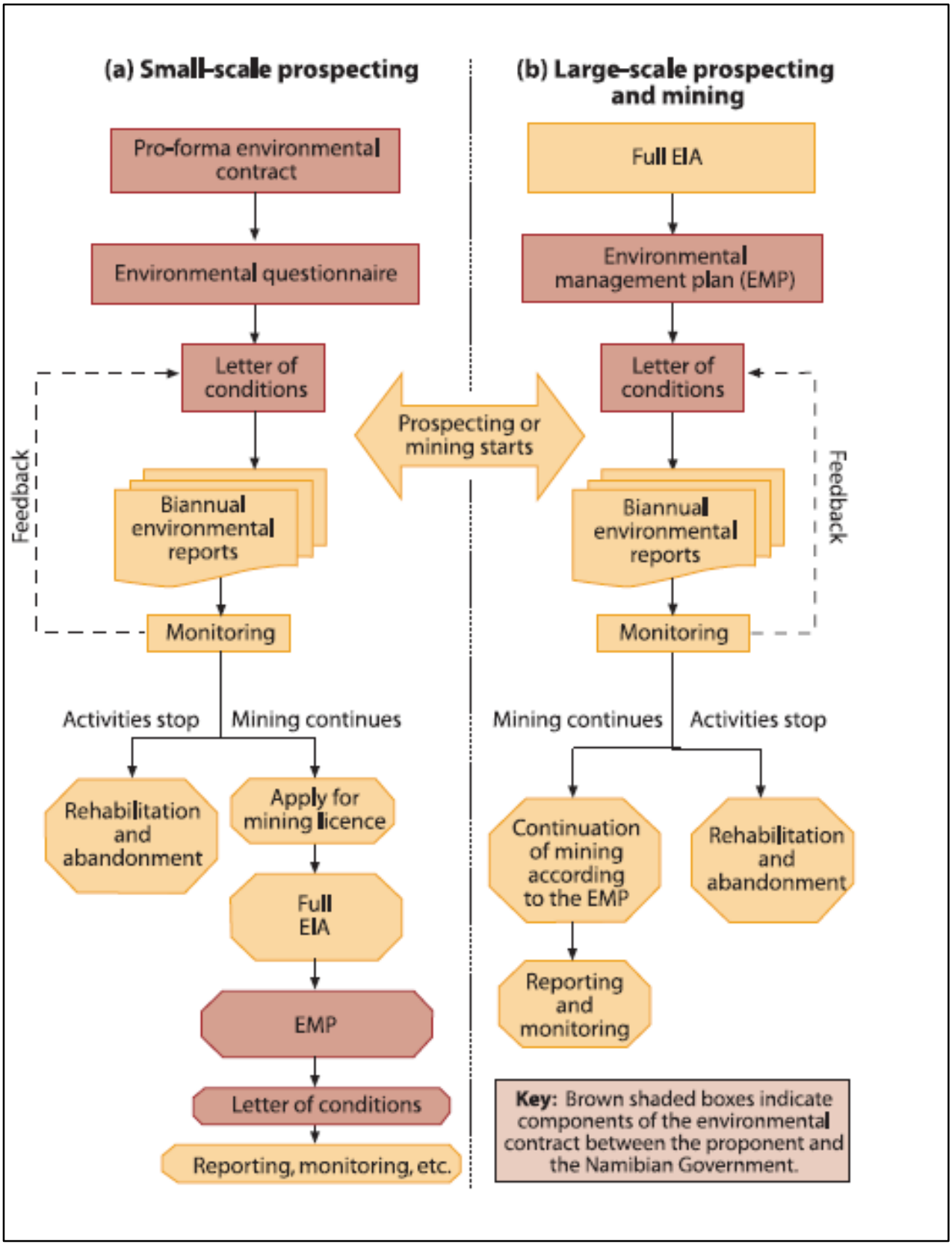

Figure 3.4: EIA process for small- and large-scale mining activities
Source: Tarr (2003:15)

At first, only minimal EIAs were conducted in the agriculture, fisheries, tourism and water sectors. Although these are among the crucial sectors in Namibia, this trend was worrisome considering the

scarcity of water and sensitivity of the marine fisheries (Tarr, 2003:18). However, the situation has drastically improved over the years and many EIAs from the above-mentioned sectors are being conducted for listed activities.

3.5.2 Strengths of the EIA system in Namibia

The clearly defined regulatory framework is one of the strengths of the Namibian EIA system. The EIA policy and legislation have accounted for all elements of the EIA process, except for those about monitoring (Husselmann, 2016:103). Good framework conditions such as statutory clauses, the Office of the Ombudsman and the functional democracy are some of the notable legal strengths of the system. The regulatory framework also ensures that the public has a key role in the EIA system (Tarr, 2003:18).

Moreover, the institutional framework has been put in place, and key partnerships relevant to the EIA process have been created. Having an office of the Ombudsman in the country that can back up MET where environmental matters are concerned makes a big difference. There are also many local non-government organisations (NGOs) with EIA experts who are willing to get involved in local issues (Tarr, 2003:16). Bottom-up decision-making cultures like CBNRM that are likely to promote better EIA practices have been successfully adopted in Namibia. Educational institutions also play a role by including environmental issues in their curriculums.

Furthermore, there are strengths associated with the EIA practice itself in Namibia. It has been ensured that there is a systematic EIA review system that is used to verify whether all the requirements are met before a clearance certificate is granted. Since the introduction of EIAs in the country, it has been associated with positive experiences; this has contributed to improved awareness about the system as well as good attitudes towards it (Tarr, 2003:16). Tarr (2003) further states that many government agencies, parastatals and private companies have been motivated to start their own internal EIA systems and guidelines. An increasing number of qualified EIA experts who can conduct EIAs is also a notable strength, as this has contributed to minimal importation of skills (Walmsley & Patel, 2011:16).

The latest factor contributing to the success of EIAs in Namibia is the introduction of the online EIA application system that was launched in October 2019. The system was developed to better services within the DEA as there is an increasing demand to process environmental clearance certificates efficiently.

3.5.3 Challenges facing the EIA process in Namibia

Although Namibia has good environmental policies that also make provision for the EIA practice, several challenges are faced at the implementation stages, resulting in differences between what is expected and what is being done on the ground (Tarr, 2003:3). This is supported by the study conducted by Husselmann (2016:112), where it is highlighted that despite having an EIA regulatory and institutional framework in place, the practical implementation of the EIA system in Namibia is still a challenge. Husselmann (2016:116) further indicates that this can be attributed to the fact that Namibia is still a developing country with limited funding, capacity and expertise.

The challenges and weaknesses of EIA in Namibia according to Tarr (2003:16) are presented in the list below. In the absence of recent literature on EIA in Namibia, some of them may no longer be relevant as the situation has improved, most noticeably since the implementation of the EMA No. 7 of 2007:

- the majority of the general public might not be aware of the environmental legislation; hence there is a need to socialise and popularise them;
- there are still some inconsistencies across sectoral law, leading to laws that sometimes contradict each other;
- although the Office of the Ombudsman is empowered by the EMA, it is hardly utilised for EIA-related cases;
- the majority of government employees seem to be unaware of the EIA system;
- lack of specialists in the environmental field lead to the overextension of the few skilled and experienced staff available;
- sometimes the government is reluctant to outsource EIA reviews even when necessary;
- terms of references for EIAs are generally insufficient and affect the EIA process at later stages;
- insufficient post-implementation monitoring is done, leading to EIA being just a paper exercise in some cases;
- factors such as cumulative impacts are not addressed due to inadequate use of SEA.

3.6 SEA

3.6.1 The concept of SEA

SEA is a process by which the environmental repercussions of a proposed policy, plan or programme are assessed way before assessments for individual projects are carried out (Department of

Environmental Affairs and Tourism, RSA, 2004:4). The same document further defines SEA as the process that allows the integration of the sustainability concept into strategic decision-making stages. Since SEA mostly needs to be driven rather than it being merely adherence to legal requirements, its scope of application is much wider than that of EIA (Abaza et al., 2004:9).

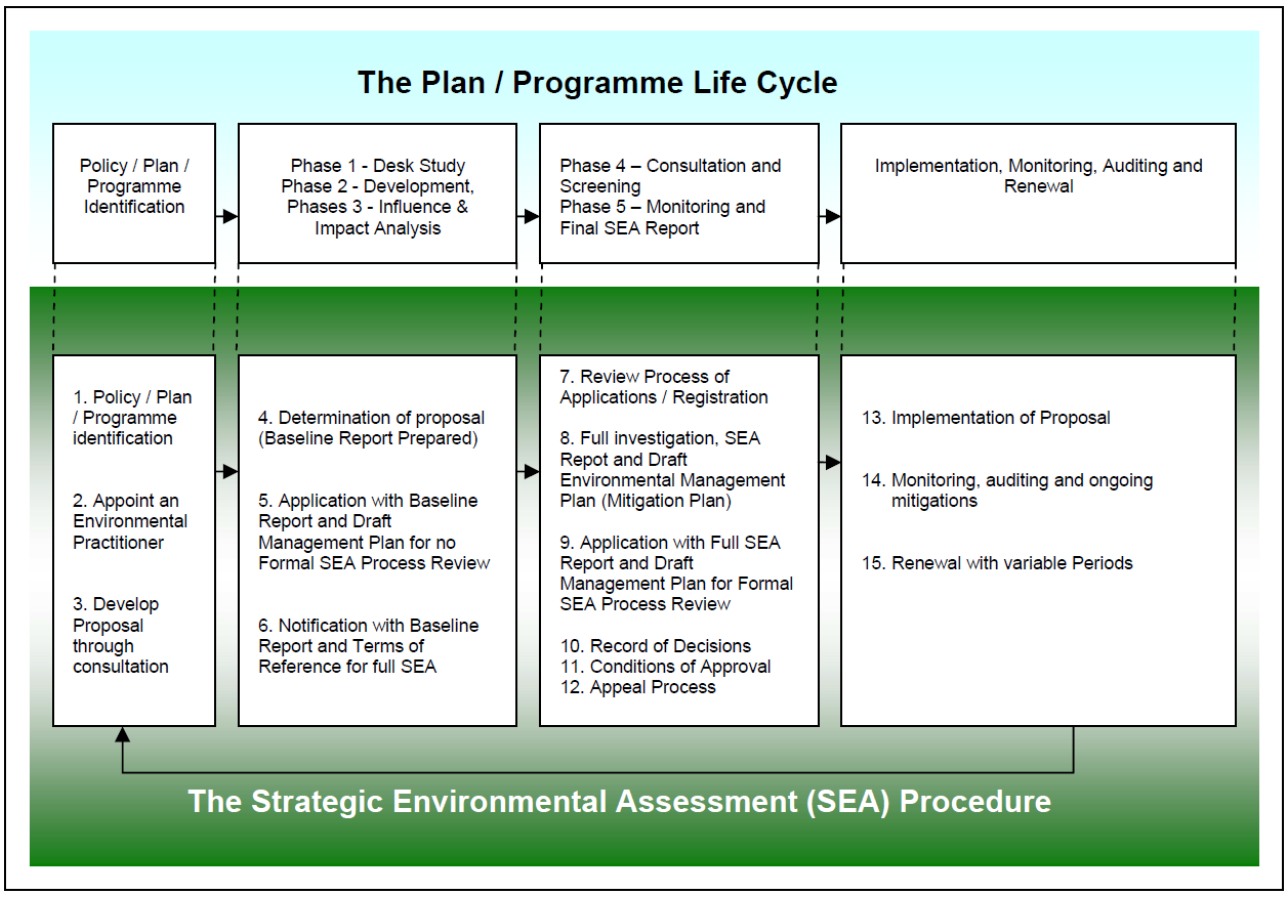

Figure 3.5: The SEA process

Source: Department of Environmental Affairs and Tourism, South Africa (2004:7)

SEA is a procedure that complements the EIA with the aim of identifying environmental consequences connected to PPP. The main focus of the EIA are impacts that are predicted to emanate from a particular activity after a developmental project has already been designed. On the other hand, the SEA focuses more on providing opportunities to decision-makers to identify suitable development types for certain areas before any development proposals are formulated (Department of Environmental Affairs and Tourism, 2004:4). It is very important to ensure that the integration of social, economic and environmental dimensions in policies and processes is substantively covered by the SEA.

3.6.2 The importance of SEAs in environmental decision-making

Nghitila, Uebelhör and Kehrer (2011:1) stated that SEAs are known to propose well-developed methodologies aimed at improving strategic decision-making as well as the integration of environmental issues into PPP. SEA promotes the implementation of sustainable development that is cross-sectoral by including social and economic effects to ensure that decisions made are well-balanced (Nghitila, Uebelhör & Kehrer., 2011:1).

Furthermore, when the SEA draft is compiled, efforts are made to ensure that the information in the report takes into account responses to the public consultation carried out to review PPP as well as their implications and recommendations (Directorate of Environmental Affairs, 2008:38). Environmental practitioners then compile a summary of how the findings have been integrated into specific policies and the extent to which environmental considerations have been made to appear in the final SEA report (Directorate of Environmental Affairs, 2008:38). It is from this stage that the SEAs reports start to add to the value chain of benefits to the society.

The Directorate of Environmental Affairs (2008:38) further stated that the summary of the SEA report is sufficient enough to explain the extent to which the content of the report has changed as a result of incorporating information collected through public consultations. Such a summary must elaborate why alternative proposals made during the consultation process were incorporated or rejected. The draft SEA report also documents all proposed monitoring measures which are then confirmed or modified as per the results of the consultation in the final report. The final SEA report is expected to outline the details of how the monitoring programme and promotion of sustainable development will be carried out during the implementation phase (Directorate of Environmental Affairs, 2008:38).

3.6.3 Shortcomings of SEAs

Namibia started establishing a regulatory and institutional framework for conducting SEAs some years back. The country's EMA No.7 of 2007 stipulates environmental assessments for some PPP (Nghitila, Uebelhör & Kehrer, 2011:2).

SEAs conducted over the past few years have been conducted voluntarily, in the absence of legal requirements (Nghitila, Uebelhör & Kehrer., 2011:2). Hipondoka, Dalal-Clayton and Van Gils (2016) also highlight that SEA is not yet a strict requirement in Namibia and that the country plans to build national experience in formulating SEAs before developing SEA regulations.

3.6.4 Criteria for evaluating Namibia's SEA system

In the study by Hipondoka, Dalal-Clayton and Van Gils (2016:203), they mentioned that SEA is not formalised in Namibia. However, they have reviewed some SEA reports using the methodology that comprises an analytical template focusing on three key attributes of SEA quality, as follows:

- Framework 1: Procedural compliance – was the application of the SEA process consistent with Namibian environmental legislation and international principles and procedural requirements?
- Framework 2: Technical quality – was the SEA fit for purpose and relevant to the needs of decision-making on PPPs?
- Framework 3: Influence, utility and benefits – was the SEA effective in achieving positive environmental benefits and outcomes?

Table 3.4 shows that the main themes addressed under the three frameworks during the reviews can be used as guidelines for SEA evaluation criteria.

Table 3.4: Framework for SEA reviews

NO.	FRAMEWORK	FOCUS	ELEMENTS
1.	Procedural compliance	The focus of evaluation: Compliance of SEA process with principles and requirements established internationally (e.g. OECD/DAC SEA guidance 2006).	Elements of compliance review: Preliminary assessment (screening/scoping); Detailed analysis of effects; Stakeholder (affected and interested parties) consultation; SEA report; Decision-making and monitoring decisions are taken on the proposal and the results of their implementation.
2.	Technical quality	The focus of evaluation: Relevance of the SEA process to issues and needs of decision-making on the PPP.	Elements of quality review: Presentation, usefulness and quality of information

NO.	FRAMEWORK	FOCUS	ELEMENTS
			(including identification of issues most important to sustainable outcomes); Co-operation and stakeholder (interested and affected parties) participation; Assessment of environmental impacts, including cumulative effects; Consideration of alternatives; Planned follow-up activities and monitoring implementation of PPP, including cumulative impacts.
3.	Influence, utility and benefits	The focus of evaluation: Contribution and value of SEA process for decision-making (immediate outcome), development design and implementation (intermediate outcome) and delivering environmental (and social) benefits (long-term outcome).	Elements of utility and benefits review: The difference made to the decision-making process; Influence on design, content, and implementation of development; Achievement of environmental and development assistance goals.
4.	Overall test of effectiveness	How the SEA positively influenced decisions and delivery of development strategies, leading, in turn, to 'good outcomes' and resulting in 'environmental benefits'.	

Source: Hipondoka et al. (2016:199)

3.6.5 Current status of the SEA process in Namibia

Since SEA is not yet a strict requirement in Namibia, only a few SEAs have been undertaken in Namibia so far; these have been done voluntarily and not consistently (Hipondoka et. al., 2016:199).

SEAs that have been developed for the coastal regions in Namibia like Kunene and Erongo as well as Hardap are based on international experiences and were undertaken at the time of mounting production sector pressures in the country (Skov, Bloch, Lauridsen & Uushona, 2010: I).

The aim of these SEAs is user-friendly and policy-relevant documents that can guide technical and political decision-makers at all levels of government when making decisions concerning biodiversity conservation, land-use planning and socio-economic development for coastal regions. The assessments were undertaken to achieve requirements, and a common understanding and a strategic perspective is shared on all environmental, economic and social interactions involving coastal development (Skov, Bloch, Lauridsen, & Uushona 2010: V). Hence, EIAs of all the projects being carried out in these coastal zones are meant to be based on SEAs, since they are the broader environmental management frameworks for those areas.

Table 3.5 below explains the differences between SEAs and EIAs.

Table 3.5 Comparison between EIA and SEA

Assessment Type	Activity Focus	Responsibility	Outputs
SEA	PPP	Organs of state (line ministries, parastatals, regional councils, municipalities)	SEA report with a Strategic Environmental Management Plan (SEMP)
EIA	Project-specific activity	Proponent (Private person, a private entity such as companies)	EIA report with an EMP

Source: NACOMA (2012)

3.7 Coastal management

3.7.1 The concept of coastal management

Coastal management can be defined as "a dynamic process by which actions are taken for the use, development and protection of coastal resources and areas to achieve national goals established in cooperation with user groups and regional and local authorities" (FAO, 2000:26). This refers to

planning development and managing coastal resources on both land and water in a coordinated and sustainable manner.

The Ramsar Convention Secretariat (2010:30) defines coastal management as a "mechanism for bringing together the multiplicity of users, stakeholders and decision-makers in the coastal zone to secure more effective ecosystem management while achieving economic development and intra- and inter-generational equity through the application of sustainability principles".

There is one notable thing from the two definitions above, which is integrated coastal management. In most cases, coastal management is not mentioned without integration because coastal zones are multi-sectoral and cannot be managed by one single entity. The economic activities and other projects that take place in the coastal zones are carried out by institutions from various fields, but they take place in the same environment. The mandate to manage and protect the natural resources found in coastal zones are also given to various government institutions. Hence, there is a need to bring together all the involved parties to manage coastal areas efficiently.

3.7.2 Why coastal management?

The importance of coastal regions globally cannot be overemphasised as they are some of the most productive ecosystems that support economies and livelihoods. Coastal ecosystems are made up of a combination of subsystems, enabling functions that cannot be duplicated elsewhere, hence coastal zones are unique habitats for many plant and animal species (Beatley, Brower & Schwab, 2002:2). Although the coastal zones are naturally resilient if left in their natural states, they can only withstand limited pressure from external factors, which is why it is critical to manage them sustainably (Beatley et al., 2002:3).

Many activities in coastal zones such as constructing and operating desalination plants, amongst others, to meet human needs result in both direct and indirect environmental impacts in these areas (Liu, Sheu & Tseng, 2013:10). Coastal areas are difficult to restore after they have been destroyed due to their sensitivity, hence there has been an increase in activities aimed at creating public awareness on the need to protect these environments (Liu et al., 2013:11). The sensitivity of coastal environments also dictates that coastal development should be accompanied by proper environmental management actions to minimise impacts. EIA as an environmental management tool contributes to minimising impacts by evaluating possible impacts through prior scientific investigations (Liu et al., 2013:12).

In Namibia, coastal management is crucial, as the sensitive coastal zones support several economic activities in the country. There are legal frameworks in place under which the coastal areas are managed, like the EMA No. 7 of 2007 and the National Policy on Coastal Management (NPCM) for Namibia.

According to Skov et al. (2010:30), SEAs are among the environmental management tools that are essential for coastal management and planning. According to Kay and Alder (2005, cited in Skov et al. (2010:30)), it can:

- equip coastal managers with information essential for decision making and enable them to elevate the significance of coastal alarms to an equal level as other aspects of development planning;
- enable discussion, cooperation and harmony between organisations and the public on a range of coastal issues.

The SEA's consideration of inter-related processes, as discussed above, highlight that SEA is specifically helpful when environmental issues are considered during the process of preparing land – use plans. SEA further helps environmental practitioners to determine environmental opportunities and constraints related to development in coastal zones in order to promote integrated coastal management.

3.8 Summary

This chapter addressed the theoretical framework of the study. Clear theoretical augments are presented on the key topic relating to EIA. The sustainability, development goals and sustainable development were described to make a clear distinction on how they apply to the EIA setting.

Although the study mainly focuses on the EIA, the theoretical framework expanded to look at SEA as well. Both EIA and SEA were clearly explained and described in this chapter to allow the reader the opportunity to differentiate between the two. There are shortcomings for both EIA and SEA in Namibia and other developing countries.

The literature consulted assisted the researcher to identify benefits and challenges associated with EIA systems, which, though based on the same principles, differ from country to country. This enabled the researcher to identify and choose the most suitable evaluation criteria based on measures

that are more relevant to the Namibian EIA system, such as EIA legislation, EIA administration, EIA process, existence of general and specific guidelines, EIA system implementation monitoring, as well as training and capacity-building.

CHAPTER 4: LEGAL AND OPERATIONAL FRAMEWORK

4.1 Introduction

For every research study, the main purpose is to answer the research questions. However, it is also important to give information based on the legislative and policy framework as well as any other national document relevant to the subject being researched. Documents that are crucial to this study like the Namibian Constitution (Government of Namibia, 1990), the EMA No.7 of 2007, the EIA regulations in Namibia, the SEA for the Erongo Region and the NDP5 are discussed in this chapter.

The legislative and policy framework provides details of Namibian laws for environmental protection and conducting EIAs. Such detail is important in assessing the effectiveness of EIAs, as they provide one with the ability to assess whether rules and procedures were duly followed as stipulated by these legal documents. In addition to the legislative framework, national plans, sectoral plans and regional assessments give an idea of what has been planned for certain areas and the country at large with regards to environmental management. This chapter also gives an overview of how the concept of sustainable development has been incorporated into some of these Namibian documents.

4.2 The Namibian Constitution

The Namibian Constitution adopted on 9 February 1990, just a month before independence, makes provision for environmental management in a specific section on the environment. Article 95 of Chapter 11 states that the state shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at various guiding principles. Section l specifically states that this shall be done through maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and the utilisation of living natural resources on a sustainable basis for the benefits of all Namibians, both present and future. In particular, the government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory (Government of Namibia, 1990: Article 95).

Furthermore, the Namibian Constitution (Government of Namibia, 1990) refers to the environment in Chapter 10, which mentions that the Ombudsman is an independent state office mandated to investigate all the complaints relating to the Namibian government or the constitution. Amongst other

functions, the Office of the Ombudsman is entrusted to investigate complaints about environmental-related issues such as:

- the over-utilisation of living natural resources;
- the irrational exploitation of non-renewable resources;
- the degradation and destruction of ecosystems;
- failure to protect the beauty and character of Namibia.

4.3 Millennium Development Goals and the Sustainable Development Goals

The Millennium Development Goals (MDGs) that were introduced in 2000 have been the most widely supported and comprehensive goals in comparison to any other developmental effort before them. The eight goals with their 18 targets served as a guideline for alleviating poverty, hunger, maternal and child mortality, communicable disease, education, gender inequality, environmental damage as well as the global partnership for development (UN, 2000; cited in Lomazzi, Laaser, Theisling, Tapia & Borisch, 2014:1).

Like in many other parts of the world, environmental sustainability in sub-Saharan Africa remains a challenge resulting from a rapid decrease of biodiversity and a rise in greenhouse gas emissions. (Lomazzi et. al., 2014:2). Environmental objectives in the MDGs were concentrated in the seventh goal - "ensure environmental sustainability" - with its four subsidiary targets. The 2012 UN MDG report (2012; cited in UN Environment Programme, 2013:9), together with other evaluations by the FAO (2012; cited in UN Environment Programme, 2013:9as concluded the following about these targets:

Target 7a was aimed at assisting countries with integrating sustainable development principles into their policies and programmes to minimise the damage of the natural environment. There are five indicators defined for this target, but progress on compliance has only been made on one, which is directed at the reduction of the consumption of ozone-depleting substances.

Other environmental challenges such as reduction in forest cover continue, although it has significantly gone down from a yearly loss of 8.3 million hectares in the 1990s to 5.2 million hectares in 2010 (UN, 2012; cited in United Nations Environment Programme, 2013:9). Global emissions of carbon dioxide did reduce between 2008 and 2009, although they have been going up.

Moreover, resources like marine fisheries have been overexploited between 2008 and 2009. FAO has indicated that, about 30% of marine fish stocks were over-harvested in 2009 (FAO, (2012; cited in United Nations Environment Programme, 2013:9). For the indicator on the proportion of total water resources used, the 2011 UN MDG report of the UN (2011; cited in United Nations Environment Programme, 2013:9) indicates that there has been slow or no progress at all.

Target 7b was about reducing biodiversity loss, aiming for significant improvement by 2010. The target only has two indicators, which were both found not to be improving after the review (United Nations Environment Programme, 2013:9).

Target 7c aimed to significantly decrease the number of people deprived of access to safe drinking water and basic sanitation in the world by 2015. It has been reported that the global target on access to safe drinking water has been met, while the progress towards achieving the sanitation target has been very slow (United Nations Environment Programme, 2013:9). Despite an overall global success on access to safe drinking water, regions like sub-Saharan Africa are not anywhere near meeting this target as over 40% of the global population that does not have access to safe drinking water is in this region (United Nations Environment Programme, 2013:9).

Target 7d was about improving the lives of about 100 million people living in informal settlements. The UN MDG report published in 2012 indicates that this target has been achieved before the deadline globally, although the total number of slum dwellers continue growing (United Nations Environment Programme, 2013:9). However, in countries like Namibia, the situation has been worsening as the number of informal settlement dwellers increases every year.

The introduction of MDGs has both positive and negative sides. Positively, the MDGs served as a focal point and provided direction for countries that resulted in improved effective allocation of funds as well as monitoring of developmental projects (The UN System Task Team on Post-2015. 2012; cited in United Nations Environment Programme, 2013:10). The goals have also been compiled in a simple and easy to understand way and are easy to socialise (The UN System Task Team on Post-2015. 2012; cited in United Nations Environment Programme, 2013:10).

On the other hand, not much progress has been made when it comes to environmental aspects such as loss of biodiversity, degradation of ecosystems and others (United Nations Environment Programme, 2013:10). Moreover, the seventh MDG did not manage to extensively cover a wide range of environmental sustainability issues. The omission of topics relating to arid and semi-arid,

grassland, mountain, oceanic ecosystems as well as failure to address air and water pollution in the developing countries are good examples of the goal's limitations (United Nations Environment Programme, 2013:10).

When the MDGs expired in 2015, they were replaced by the Sustainable Development Goals (SDGs) that were developed to continue with the momentum created by the MDGs beyond 2015.The seventeen (17) SDGs are at the heart of the 2030 Agenda for Sustainable Development that was adopted by all Member States of the United Nations in 2015 (NSA, 2019:21).The SDGs advocate for developmental strategies that can improve health and education, reduce inequality and stimulate economic growth while also protecting the environment by tackling climate change, working to preserve forests and oceans (NSA, 2019:21).

Of the seventeen (17) goals, discussions and conclusions of this study will briefly include indicators under the following goals:

- Goal 1: No poverty
- Goal 3: Good health and well being
- Goal 8: Decent work and economic growth
- Goal 11: Sustainable cities and communities
- Goal 13: Climate action
- Goal 14: Life below water
- Goal 15: Life on land

The decision to evaluate EIAs against selected SDGs was informed by Partidario (2020), who proposed focusing on the 17 SDGs to bolster the comprehensiveness of an EIA. Hacking (2019) advocated project level SDG-focused EIAs, and Kornov et al (2020) provided a framework for integrating SDGs into environmental assessment.

4.4 The NDP5

Namibia is an upper-middle-income developing country with superior natural resources and an economy that has been growing at an average of 4.6% per annum from 2012 to 2016 (National Planning Commission of Namibia, 2016: 1). It is also one of the few countries in the world with a low population density as the area size, 824 292 square kilometres, is only inhabited by 2.3 million people. The country has experienced rapid socio-economic development by achieving the level

"medium human development" and it is currently ranked 125th on the Human Development Index out of 188 countries (National Planning Commission of Namibia, 2016: 1).

Although Namibia is doing better in some areas and ranked higher in other indicators, it has been facing the challenge of income inequality for many years now. The country's scores are always low in the categories of economic equality as well as sustainable economic opportunities.

To track the developmental progress made over the years, Namibia has been developing a series of NDPs that run for five years. The current NDP is called the NDP5 and runs from 2017 to 2022. Like its predecessor and all the previous development plans, NDP5 outlines the course towards the cumulative targets outlined in long-term developmental projects like the Vision 2030.

While the NDP5 is based on the achievements of the previous five-year plans, it also recognises the hurdles that were identified during the execution of previous plans, thus efforts have been made to address such challenges (National Planning Commission of Namibia, 2016: xi). When NDP5 was developed, all the necessary developmental frameworks at the global, continental, regional and national levels were considered to inform it. These frameworks include the Global Sustainable Development Goals (Agenda 2030), African Union Agenda 2063, SADC, Regional Integrated Strategic Plan, Vision 2030 and the Harambee Prosperity Plan.

To ensure inclusivity and that a broader view of the Namibian nation has been considered, a stakeholder-engagement approach was used to develop the NDP5. The stakeholders consulted include community members at all levels of governance; members of the civil society at a large; the private sector, as well as Namibia's developmental partners (National Planning Commission of Namibia, 2016: xii).

One of the achievements Namibia can be proud of is that it is the first nation in the world to incorporate environmental protection into its constitution (National Planning Commission of Namibia, 2016: xiii). The Namib Desert, an integral part of Namibia, is almost entirely protected from environmental damage. Other notable conservation efforts are the protection of 4% of nation's parks and reserves, environmental protection of 18% of the country's land and protection of the entire 1 571km long coastline as a national park.

Being committed to sustainable development has resulted in the protection of the Namibian natural environment, including its coastal ecosystems, marine life and extraordinary wildlife, which includes

the Big Five. Along with Namibia's reputation on conservation, political stability and safety have contributed to it being an eco-tourist destination attracting visitors from various parts of the world.
A road map for achieving fast development while still conforming to the pillars of sustainable development, it has the following key four goals (National Planning Commission of Namibia, 2016:3):

- Achieve inclusive, sustainable and equitable economic growth.
- Build capable and healthy human resources.
- Ensure a sustainable environment and enhance resilience.
- Promote good governance through effective institutions.

The first goal is aimed at strengthening the economy, creating employment opportunities as well as reducing poverty and inequality while the second focuses on creating a healthy workforce. The third goal strives to contribute towards sustainable development by ensuring that both the current and future generations enjoy the benefit of the country's natural resources sustainably. Lastly, the fourth goal recognises the crucial role of creating a favourable environment for socio-economic advancement and obedience to the rule of law (National Planning Commission of Namibia, 2016: 5).

4.5 Coastal management in Namibia

4.5.1 Namibian Coast Conservation and Management

A project called Namibian Coast Conservation and Management (NACOMA) was launched in 2006 to assist the Namibian government with addressing key issues facing the coastal sector at national, regional and local levels (NACOMA, 2007). The project was launched under the MET that is mandated to take care of environmental-related issues on behalf of the government of Namibia.

Barnes and Alberts (2008:6) mention that "the NACOMA project aims to enhance coastal and marine biodiversity conservation through the mainstreaming of biodiversity conservation and sustainable use into coastal policy, a legislative framework and institutional and technical capacity, and by supporting targeted investments for biodiversity conservation in critical ecosystems on the coast".

They further state that the Namibian coast is defined by characteristics such as sensitive habitats and biodiversity hotspots; some of these habitats are currently not protected by law, as they are not within marine protected areas (Barnes & Alberts, 2008:6). Coastal towns have been taken over by rapid

urbanisation, unregulated tourism activities, expansion of fishing, agriculture, mining as well as increased unemployment that pose threats to these sensitive habitats and biodiversity hotspots.

4.5.2 Current status of coastal management in Namibia

Namibia has made efforts to protect its coastal zones since the apartheid years before 1990. Currently, over 90% of the Namibian coastal regions are within a national protected area system. Boundaries of national parks like Skeleton Coast Park, the West Coast Recreation Area and the Namib-Naukluft Park were declared during the apartheid era. Subsequently, the country adopted modern environmental laws to back up the combination of nature conservation and sustainable development (Skov, Bloch, Lauridsen & Uushona, 2010:9). However, "with the exception of the Namib-Naukluft Park, no clear goals have been set up linking management of human resource use and the conservation status of key species and habitats" (Skov et al., 2010:9).

These unclear goals have resulted in a lack of differentiation between biodiversity aspects that establish the focus for the coastal parks, and aspects that are focusing on a more wide-scale habitat conservation action because of their lower occurrence or low disturbances from human activities (Skov et al., 2010:9). Although conservation efforts have been made, failure to target specific areas negatively affects both the conservation of "most sensitive elements of the biodiversity in the coastal parks as well as the implementation of sustainable development within the park's boundaries" (Skov et al., 2010:9).

As has been the norm with many studies on biodiversity trends of the Erongo Region, the SEA clearly indicates inconsistencies between the borders of the protected areas and the movement of biodiversity found in the coastal regions (Skov et al., 2010:9). These trends are remarkable in highlighting that conservation hotspots and habitats in the protected coastal parks are not consistently scattered along the coastal strip, as assumed (Skov et al., 2010:9).

4.5.3 Challenges facing coastal management in Namibia

Namibia's 1 570km coastline has been a focus area for many technical and scientific studies that have been conducted over the years to document the environmental conditions and dynamics of this sensitive area (Skov et al., 2010:30). Additionally, several attempts have also been made to link economic, environmental and social dimensions when planning for coastal development. Despite these efforts, it has been a challenge for stakeholders to reach a consensus regarding the integrated conservation of areas like the Dune belt located between Walvis Bay and Swakopmund, as well as the Walvis Bay Nature Reserve and Sandwich Harbour (Skov et al., 2010:30).

Like in other sectors, challenges faced in coastal management can be attributed to legal mandates of some institutions that are not clearly defined or overlapping, as well as lack of institutional capacities to implement key programmes (Skov et al., 2010:31). Despite the above challenges, Namibia is fairly equipped with the necessary technical and managerial skills to manage its coastal zones, given the country's small population (Skov et al., 2010:31). In comparison to other countries, Namibia is doing better as dedication towards the protection of the coastal zones and marine resources is visible.

Skov et al. (2010:9) further stated that technical and scientific knowledge is not what is lacking, nor the existence of PPP. There are many policies and plans in place which are mostly good documents, although there are few that have not been finalised. The main challenge is the implementation of these policies, as well as the coordination of sectors. Failure to reach an agreement among stakeholders regarding shared perspective on environmental, social and economic interactions that are crucial for coastal development is also an obstacle for better coastal planning and management (Skov et al., 2010:9).

4.6 The EMA No. 7 of 2007

The inclusion of the environment in the Namibian Constitution (Government of Namibia, 1990) is the starting point for the EMA No.7 of 2007. The Act was enacted to promote use of natural resources sustainably by coming up with values for decision-making on aspects affecting the environment, as well as to develop various committees and enable the appointment of some environmental officials.

The MET (2017:1) maintains that "the commitment of the government of Namibia to environmental protection, socio-economic and sustainable development are expressed and articulated in Vision 2030 and at the medium term, included in the National Development. In 2007, the government of Namibia enacted the EMA No.7 of 2007 intending to prevent and mitigate the significant effects of activities on the environment by:

- ensuring that the significant effects of activities on the environment are considered in time and carefully;
- ensuring that there are opportunities for timeous participation of interested and affected parties throughout the assessment process; and
- ensuring that the findings of an assessment are taken into account before any decision is made in respect of activities".

Furthermore, the EMA makes provision for the formation of the Sustainable Development Advisory Council (EMA No.7 of 2007: s6). According to the MET's guide (2008:16), the council has the following functions:

- promote coordination and cooperation on environmental issues amongst government institutions, NGOs, community-based organisations, the private sector and funding agencies;
- advise the minister on the development of policy and strategy for the management, protection and use of the environment;
- advise the minister on how to conserve biological diversity, on the sustainable use of environmental resources and access to genetic resources;
- advise the minister on the best ways to monitor compliance with the principles of environmental management;
- advise the minister on the need to change existing laws or make new laws on matters relating to the environment.

It is compulsory for anyone, whether a government institution or a private person who is planning to engage in activities that are expected to result in significant environmental effects to follow certain principles. Conducting environmental assessments for all projects that might affect the environment or the use of natural resources, and promoting public participation in decisions affecting the environment, are some of these major principles (Ministry of Environment and Tourism, Republic of Namibia, 2008:9).

Sections 27 to 48 of the EMA No.7 of 2007 specifically refer to the process of conducting environmental assessments. The Act stipulates that after the minister has consulted organs of state whose areas of responsibility might be affected, (s)he might list activities which cannot be commenced without an environmental clearance through the notice in a gazette EMA No.7 of 2007: s27). In addition to organs of the state, people who may be interested or affected by those activities may also be consulted. Section 27 of the EMA No.7 of 2007 has listed activities that require an environmental clearance certificate.

For administrative and compliance purposes, there must be competent authorities responsible for authorising listed activities. In most cases, these authorities are already in place, as they have been established by other laws. For instance, if one wants to construct a house or open a factory in a municipal area, they must get such an approval from the designated municipality or any other local authority in that area (Ministry of Environment and Tourism, Republic of Namibia, 2008:31). For

cases where there is no specific authority for a listed activity, the MET is responsible for identifying such an authority when listed activities are published in the Government Gazette (Ministry of Environment and Tourism, Republic of Namibia, 2008:31).

To enforce the law regarding conducting listing activities, the Act stipulates that any person who commences a listed activity without an environmental clearance commits an offence, and is liable to a fine of N$500 000 or the imprisonment of 25 years or both (EMA No.7 of 2007: s27). Sections 28 and 29 of the Act outline that the minister can make provisions for exemptions in respect of listed activities and can also amend the list by removing and adding activities; however, all these should be done through a notice.

4.7 Current status of the EIA process in Namibia

All government institutions and individuals involved in planning or undertaking of EIA activities comply with the laws and regulations for EIAs. Thus, these government institutions, companies, other organisations and individuals apply the principles of the EMA No.7 of 2007 (Ministry of Environment and Tourism, 2017).

Environmental assessment practitioners (EAPs) in Namibia are not required to be registered with a certification authority. The government is, however, interested in having an established system for EAPs to ensure the quality of the practitioners conducting EIAs (Walmsley & Patel, 2011:300). The consultants conducting EIAs are also not required by the EMA or any other legislation to be independent of the proponent.

Currently, the DEA in the MET is responsible for guiding and reviewing EIAs in Namibia. In addition to overseeing the EIAs, the DEA is also tasked with critical roles such as overseeing the country's compliance with UN conventions, entrusted with pollution control and waste management as well as general coordination of all the environmental issues in Namibia (Walmsley & Patel, 2011:291).

An environmental clearance certificate can only be granted after the DEA staff have evaluated the EIA report, and determined that the project being proposed is environmentally acceptable (Walmsley & Patel, 2011:301). In addition to public consultations, the DEA also consults relevant line ministries if the project proposed is under their jurisdiction, as there is another sector legislation relevant to the EIA.

Table 4.1: Sector legislation that relates to the EIA

SECTOR	PRIMARY AGENCY	RELEVANT POLICY	PURPOSE
Water resources	Ministry of Agriculture, Water, and Forestry	Water Resources Management Act No.24 of 2004	This Act provides for the management, development, protection and use of water resources.
Air pollution and noise	MET and others	Atmospheric Pollution Prevention Ordinance No 11 of 1976	It primarily controls and deals with air pollution as it affects occupational health and safety issues.
Waste management	MET and others	Pollution Control and Waste Management Bill	The purpose of this Bill is to regulate and prevent the discharge of pollutants to the air and water. Also aimed at enabling the country to fulfil its international obligations in this regard.
Health	Ministry of Health and Social Services	Public Health Act, No. 36 of 1919 with subsequent amendments	Relevant to the section of the EIA that requires that workers are protected from harm during construction and the duration of the project.
Planning and zoning	National Planning Commission		Although the National Planning Commission does not issue permits, it needs to be involved in the decision-making process as it coordinates most developmental capital projects in the country.
Mining and mineral resources	Ministry of Mines and Energy	Minerals Prospecting and Mining Act, 2003	This Act controls all mining activities in Namibia; hence companies or

			individuals are required to apply to the ministry for licences to explore and mine mineral deposits.
Marine pollution	Ministry of Works and Transportation	Prevention and Combating of the Sea by Oil Act, 1981, and the Amendment Act, No.24 of 1991	Provides a framework for the prevention and combating of pollution of the sea by oil and for determining liability in respect of loss or damage caused by the discharge of oil from ship tankers or offshore installations.
Agriculture and forestry	Ministry of Agriculture, Water, and Forestry	Forestry Act, 2001	This Act enables the state to declare forest reserves. It has reference to EIA requirements, especially for projects that are likely to result in deforestation or reforestation.

Source: Walmsley & Hussleman (2019:22)

Although proponents are not necessarily required by the EMA to have a developed EMP when they apply for the environmental clearance; the environmental commissioner can request it as a condition for the clearance (Walmsley & Patel, 2011:302). The environmental clearance certificate is only valid for a period of three years; hence the environmental management plan automatically needs to be updated every three years.

One of the crucial aspects of the EIA process that contributes to its effectiveness is monitoring. In Namibia, MET is empowered by the EMA to conduct inspections to monitor whether the project is complying with the conditions set out in the environmental clearance certificate. The EMA makes provision for consultants specifically hired for such purposes to assist MET when necessary (Walmsley & Patel, 2011:304). However, serious inspection only takes place on an ad-hoc basis or when there is controversy about a specific topic, and hardly any post-implementation monitoring is undertaken (Walmsley & Patel, 2011:304). This statement is supported by Husselmann (2016:80), who wrote that although the Namibian EIA policy makes provision for monitoring and impact

auditing in the EIA process, the EMA and EIA regulations do not have clear provisions of how impact monitoring can be implemented.

Besides, the EMA also empowers the environmental commissioner to suspend or even cancel the environmental clearance if the developer is not adhering to the conditions of the clearance certificate, or is contravening the EMA in any way (Walmsley & Patel, 2011:304). Contravention of the EMA can only be identified if continuous post-implementation monitoring is taken. If the developer rectifies the errors that led to the suspension, the environmental commissioner can reissue the clearance certificate.

4.8 EIA regulations

The Minister of Environment and Tourism in Namibia has the power to make regulations about anything covered by the EMA No.7 of 2007 to give more details about a particular section as mandated by section 56 of the Act. It is against this mandate that the Minister of Environment and Tourism promulgated the environmental assessment regulations on 18 January 2012.

The EIA regulations stipulate that it is the project proponent's responsibility to designate an EAP to manage the assessment process (Government Gazette of the Republic of Namibia, 2012: s3). The proponent must provide the EAP with all the information s/he has about the application, whether it is in their favour or not. The proponent must also ensure that the EAP appointed follows all the environmental assessment processes, as well as regulations and guidelines for the planned project (Government Gazette of the Republic of Namibia, 2012: s3).

On the other hand, the designated EAPs are required to have extensive knowledge of leading environmental assessments, as well as the Act, regulations and guidelines relevant to the planned project (Government Gazette of the Republic of Namibia, 2012: s4). The EAP should always be unbiased in performing work relating to the application, even in cases where their findings and results are not favourable to the applicant who appointed them. Moreover, it is required that the EAP make the proponent and environmental commissioner aware of all information in their possession that has the potential to influence decisions regarding the application and the objectivity of the report that will be prepared (Government Gazette of the Republic of Namibia, 2012: s4).

4.8.1 Application for environmental clearance

Figure 4.1 illustrates the application process for environmental clearance.

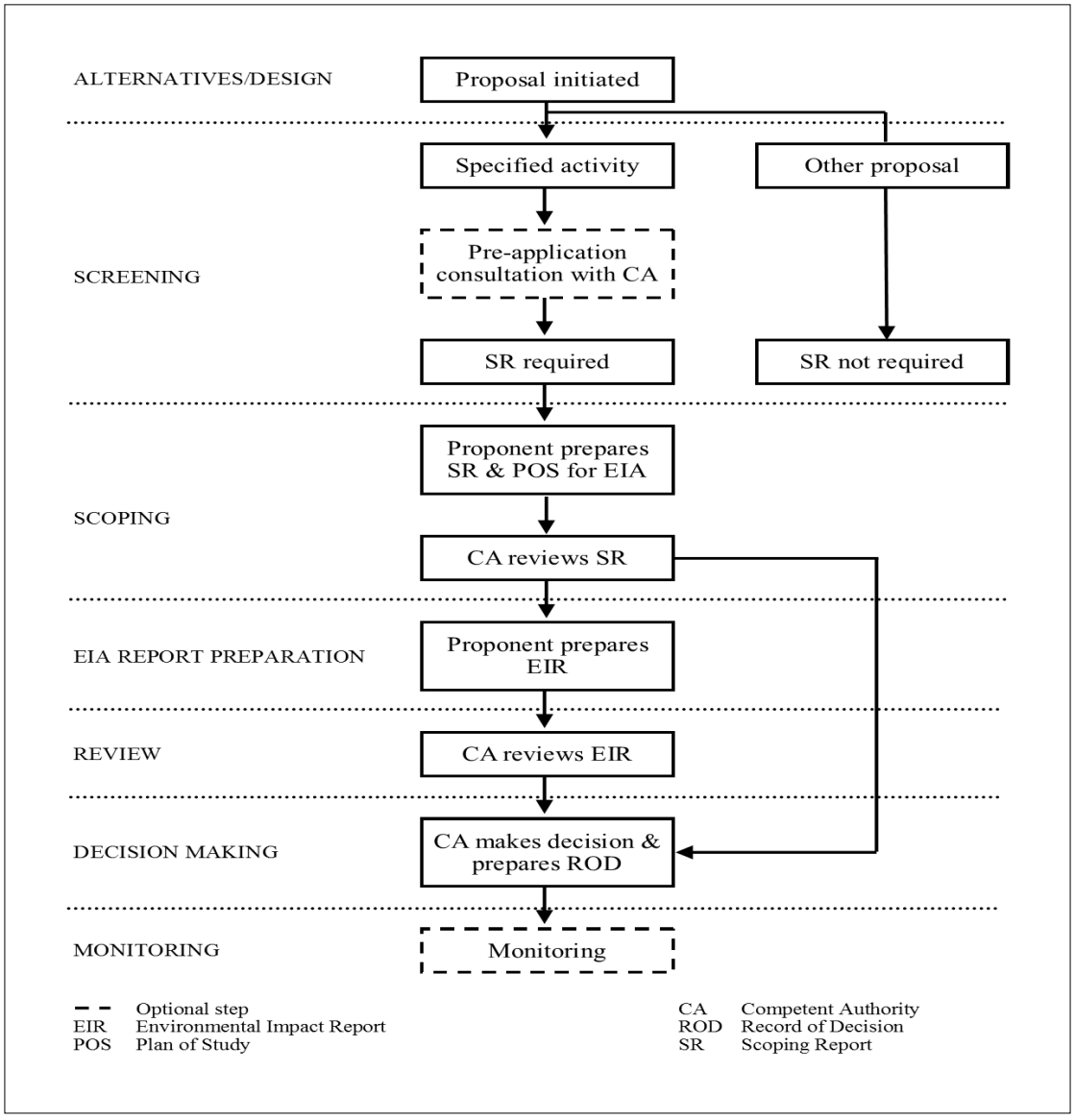

Figure 4.1: EIA Process flow for Namibia

Source: Walmsley & Hussleman (2019:15)

The proponent must apply to the competent authority, consult the public, register all affected and interested parties, consider all the objections received and complete a scoping report which must also be submitted to the competent authority (Government Gazette of the Republic of Namibia, 2012: s5). The scoping report is required to include the following information:

- the curriculum vitae of the EAP who prepared the report;
- a detailed description of the proposed activity;
- a description of the geographic location where the activity will be carried out;

- a description of the environment that may be affected by the proposed activity and details of how the geographic, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
- details of the public consultation process that was conducted;
- a description of the need and desirability of the proposed listed activity and any identified alternatives to the proposed activity that are feasible. All the advantages and disadvantages of the proposed activity should also be included;
- a description and assessment of the significance of any effects, including cumulative effects, that may occur as a result of undertaking the proposed activity;
- terms of reference for the detailed assessment;
- a draft management plan that includes information on proposed management, mitigation, protection or remedial measures that will be taken to address the effects that the project will have on the environment as well as rehabilitation plans.

4.9 The SEA for the Erongo Region

EIAs are primarily aimed at determining and evaluating the environmental implications likely to come with development, and guide decision-making at the project level. However, more strategic decisions may be required at the policy level to influence development (Department of Environmental Affairs and Tourism, South Africa, 2004:2). These strategic issues are addressed through SEAs, which are complementary to EIAs and aimed at defining implications that PPP might have on the environment. While the emphasis of EIAs is more on the negative and positive effect of a specific project, the SEA guides and allows decision-makers to determine a type of development that is more suitable for a particular area before the preparation of development applications (Department of Environmental Affairs and Tourism, South Africa, 2004:2).

The application of SEA is rapidly increasing as many countries are adopting the SEA approaches. The SEA for coastal management in Namibia was specifically developed based on the Namibian decision-making context.

For this study, the focus is on the SEA for the Erongo and Kunene regions that was developed in 2006 and specifically on the sections that refer to the Erongo Region, the study area. The main objective for developing the SEA for coastal areas was to "undertake a systematic and comprehensive process of evaluating the environmental effects of the NPCM and its alternatives" (NACOMA,

2012:35). Another goal of the SEA is to ensure that all environmental aspects of the coastal zones are reflected in the NPCM to ensure coastal sustainability concerning other policies and plans. Besides, the SEA was developed to provide guidelines for EIA and assessments of the sensitivity of sites targeted by development projects, as well as comprehensive environmental monitoring and management amongst other purposes. The EMA No. 7 of 2007 and the NPCM that was just being finalised by that time were the legislative basis for conducting this SEA (NACOMA, 2012:28).

Since the SEA is a crucial tool in coastal management, it was conducted to assist in the decision-making process regarding projects that are likely to affect biodiversity conservation and sustainable coastal development (Skov et al., 2010:3). Both environmental opportunities and limitations to social, physical and economic development in economic zones can easily be identified through the SEA. This useful tool can assist coastal managers to elevate the significance of coastal concerns to the same level as other aspects of development planning during the decision-making processes (Skov et al., 2010:3).

Furthermore, the SEA for the Erongo Region strives to identify conflicts that are likely to occur, constraints and opportunities that are presented by the NPCM about other PPP covering the coastal zones in the region (NACOMA, 2012:1). Developing the SEA was also aimed at ensuring that costly damages are minimised or completely avoided right from the beginning, when policies are being formulated and programmes are being implemented (NACOMA, 2012:2). Addressing these issues at early stages also ensures the sustainability of development proposals.

Although attempts have been made to link environmental, economic and social dimensions in coastal management, stakeholders still experienced challenges when resolving key issues (Skov et al., 2010:5). Finding common understanding and agreeing on shared strategic perspectives in the three dimensions mentioned above among stakeholders is among key challenges faced in coastal development. There are always interactions between the three dimensions as well as a need for adjusting and compromising that are all necessary to ensure better coastal planning and management (Skov et al., 2010:5).

It was also necessary to conduct the land-use suitability assessment by integrating all environmental data, current land uses, biodiversity hotspots as well as PPP data to determine sensitive areas of the region (NACOMA, 2012:41). From the assessment, priority areas such as the main habitat of Welwitschia, breeding colonies for fur seals, lion density above 0.004/km and wetlands of global interest, amongst many others, have been identified. Various factors like landscape characteristics

were considered when choosing priority areas and habitats for conservation as they are known to be environmental drivers behind the movement of prioritised species between different areas (NACOMA, 2012:41).

4.10 Summary

This chapter focused on vital legislative documents as well as other types of national and regional documents related to this study. Some of these documents will serve as a basis for answering some questions for this study as they indicate what baseline studies have already been done for the study area to inform the process of conducting EIAs.

CHAPTER 5: DATA COLLECTION AND FINDINGS

5. Introduction

This chapter presents the analysis of the effectiveness of EIA in the Erongo Region of Namibia, based on the qualitative data collected from reviewed EIA reports of various projects, as well as quantitative data collected through a survey. Information from the EIA reviews and the survey (questionnaire) were analysed using Microsoft Excel. Furthermore, the findings of the study are presented in tables and charts.

5.2 EIA reports

A total of 16 EIA and specialist reports with different thematic areas from the Erongo Region were reviewed as part of this study. All the projects have been registered by the environmental commissioner's office. The list of reports is indicated in the table 5.1 below:

Table 5.1: EIA report names and thematic areas from the Erongo Region, Namibia

EIA report no	EIA name	Theme
EIA report 1	Environmental Impact Assessment for the Kuiseb Delta and Dune Belt Area	Ecological area
EIA report 2	Environmental Impact Assessment Study For the Proposed Power Lines From Walmund Substation to Walvis Bay	Energy generation
EIA report 3	Environmental Impact Assessment for the Proposed Dredging of Phosphate Enriched Sediments from Marine Licence Area No. 170	Mining
EIA report 4	Proposed NamPort Strategic Expansion of the Container Terminal at the Port of Walvis Bay on Reclaimed Land: Socio-Economic Specialists Report	Infrastructure expansion
EIA report 5:	Final Environmental Impact Assessment Report of the Establishment of the Namibia International Convention and Exhibition Centre: Desert Rose	Recreational facilities
EIA report 6	Environmental Noise Impact Assessment for the Proposed Rössing Uranium Desalination Plant (RUDP)	Mining

	Near the Swakopmund Salt Works North of Swakopmund, Namibia.	
EIA report 7	Social and Environmental Impact Assessment for the Proposed Rössing Uranium Desalination Plant Near Swakopmund, Namibia	Mining
EIA report 8	Environmental Impact Assessment: Proposed New Fuel Station Retail Facility at Swakopmund, Erongo Region	Petroleum
EIA report 9	Non-Technical Summary Construction of a 1km long 66kv power line, through an Off-Take and Associated Infrastructure from the Existing NamPower Substation on Ml134, Erongo Region, Namibia	Energy
EIA report 10	Environmental Impact Assessment Report for the Proposed Cape Cross Salt Project	Salt mining
EIA report 11	Social and Environmental Impact Assessment: Proposed Expansion Project for Rössing Uranium Mine In Namibia: Phase 1 ~ Acid Plant, Ore Sorter And SK4 Pit	Mining
EIA report 12	Environmental Impact Assessment Report and Draft Proposed EMP For Elgin, Brown and Hamer's Grit Blasting Operation, Equipment and Material, Walvis Bay	Blasting
EIA report 13:	Non-Technical Summary: Proposed Exploration Activities on EPL 7368 For Nuclear Fuel Minerals	Mining
EIA report 14	Social and Environmental Impact Assessment: Proposed Mine: Expansion Project Phase 2a ~ Sulphur Handling Facility in the Port of Walvis Bay	Infrastructure expansion
EIA report 15	Strategic Environmental Assessment for the Central Namib Uranium Rush: Main Report	Mining
EIA report 16	Environmental Impact Assessment – Proposed Walvis Bay Waterfront Development, Namibia	Infrastructure development

5.2.1 EIA background information

This section briefly describes each of the reports. The description includes the background information of the aims for the EIA, the status of the report, the publication date and number, as well as details of what the report included.

5.2.1.1 Environmental Impact Assessment for the Kuiseb Delta and Dune Belt Area

The SEA for the Erongo Region recommended that an EIA be conducted for the Dune Belt Area between Swakopmund and Walvis Bay. It is against this background that NACOMA commissioned this study to conduct an EIA study and develop an EMP for reconfirming the carrying capacity of the Kuiseb Delta for community-based tourism, and the Dune Belt Area for various resource use activities. Environmental experts from various backgrounds conducted the study and compiled the report. A final scoping report was used for this project as it contains relevant information for the review and the researcher could not get access to the main report.

The output of the scoping exercise contained in the report includes: (a) Description of existing, proposed and potential activities; (b) A preliminary list of reasonable alternatives to be considered in the EIA; (c) Identification of laws and guidelines that have been considered in the preparation of the scoping report; (d) Description of the physical, the biological, cultural, social and economic environment that may be affected by proposed tourism activities in the study area; (e) Description of environmental issues and potential impacts, including cumulative impacts that have been identified; and (f) An inventory of stakeholders likely to be consulted.

5.2.1.2 Environmental Impact Assessment study for the proposed power lines from Walmund Substation to Walvis Bay

NamPower commissioned an EIA for the construction and operation of a new transmission line from the Walvis Bay substation to the Walmund substation. Enviro Dynamics CC was appointed to carry out the EIA on NamPower's behalf. The 95-page EIA report was released in November 2012. The report outlined: (a) Description of the proposed project; (b) Policy and legal framework; (c) Description of the receiving environment; (d) Socio-economic environment; (e) Public consultation and disclosure; and (f) Impact assessments (assessment of alternatives, identification of key issues and methodology employed for the impact assessment).

5.2.1.3 Environmental Impact Assessment for the proposed dredging of phosphate enriched sediments from Marine Licence Area No. 170

Lwandle Technologies (Pty) Ltd. (Lwandle) from South Africa was commissioned by Namibian Marine Phosphate (Pty) Ltd to assess potential impacts of dredging for phosphates on the continental shelf off the central Namibian coast (called the Sandpiper Phosphate Project). Namibian Marine

Phosphate appointed Jeremy Midgley of J. Midgley and Associates to coordinate the marine EIA for the project. Namibian Marine Phosphate also appointed the South African Council for Scientific and Industrial Research (CSIR) to independently review the overall EIA and specialist reports produced, and to verify the quality of the EIA inputs and ensure that complete due process was conducted to satisfy the requirements and standards of relevant legislation. Enviro Dynamics CC (S van Zyl) was appointed as the public process participation consultants to manage the required public processes for incorporation in the EIA-Environmental Management Plan Report (EMPR). The final report for the EIA marine component was released in March 2012, totalling 551 pages. The report included: Governance; The EIA process; Bio-geochemical impacts; Benthic impacts; Marine fauna – flora impacts; Cumulative impacts; Socio-economic impacts, and Project impacts. Furthermore, four specialist studies were undertaken to address the potential impacts of the proposed project, these were: (1) Fisheries, mammals and seabirds, five impacts evaluated; (2) Changes to marine water quality, eleven impacts evaluated; (3) Benthos, nine impacts evaluated; and (4) Jellyfish, four impacts evaluated.

5.2.1.4 Proposed NamPort Strategic Expansion of the container terminal at the port of Walvis Bay on reclaimed land: Socio-Economic Specialist Report

Council for Scientific and Industrial Research (CSIR) (South Africa) and Delta Marine Consultants (Netherlands) were appointed by NamPort to conduct an EIA. Enviro Dynamics CC (Namibia) was contracted to conduct the public participation for the EIA, as well as the Social Impact Assessment. The purpose of this specialist report is to predict the various ways in which the community and economic activities could be affected and to provide enhancement measures that will optimise positive impacts and mitigation measures to curb potential negative impacts. Specific issues investigated included education and employment opportunities, an influx of workers and associated pressure on resources, economic benefits, impacts on the existing industrial base, waste disposal and the compatibility of the project with current and future land planning. Furthermore, issues such as noise, traffic, bad odours and visual impacts were also given attention to. The final report after public review was released on 10 March 2010, consisting of 70 pages. The report included: (a) Description of the proposed project; (b) Legislation; (c) Baseline description; (d) Key issues identification; (e) Impact assessment: Methodology used for impact assessment, Socio-economic impact assessment and economic issues; (f) Monitoring table; and (g) The ‘no project’ alternative.

5.2.1.5 Final Environmental Impact Assessment Report of the establishment of the Namibia International Convention and Exhibition Centre: Desert Rose

The Desert Rose urban node is to be developed on approximately 418ha of virgin land located between Walvis Bay and Swakopmund, approximately 24km to the north of Walvis Bay and some 7km to the south of Swakopmund, along the B2 road connecting these two coastal towns. The project proponent, Sand Rose Investment (Pty) Ltd, appointed National Environmental Health Consultants (South Africa) as the independent consultant for this EIA process. The final EIA report was released in September 2015 and totalled 108 pages. The report included: (a) Description of the EIA process; (b) Terms and reference for the EIA; (c) Issues for consideration by the EIA; (d) Project description; (e) Description of the affected environment; (f) Summary of the issues for the EIA; and (g) Plan of study for the EIA.

5.2.1.6 Environmental Noise Impact Assessment for the Proposed Rössing Uranium Desalination Plant (RUDP) Near the Swakopmund Salt Works North of Swakopmund, Namibia

Airshed Planning Professionals (Pty) Ltd (Airshed) from South Africa was commissioned by SLR Environmental Consulting (Namibia) (Pty) Ltd (SLR) to undertake an environmental noise impact assessment for the proposed Rössing Uranium Desalination Plant (RUDP) near the Swakopmund Salt Works north of Swakopmund, Namibia. The report included: A short-term noise sampling campaign; A desktop study of the receiving (baseline) acoustic environment; A noise impact assessment, including: (a) A review of available detailed project information; (b) The establishment of a noise emissions inventory for proposed operations; (c) Noise propagation modelling to determine environmental noise levels; (d) The screening of simulated environmental noise levels against noise criteria; (e) The rating of impact significance; and (f) Management, mitigation and monitoring plans.

5.2.1.7 Social and Environmental Impact Assessment for the Proposed Rössing Uranium Desalination Plant, near Swakopmund, Namibia

SLR Environmental Consulting (Namibia) (Pty) Limited (SLR), in association with Aurecon Namibia (Pty) Ltd (Aurecon), were appointed to undertake the process by Rio Tinto Rössing Uranium Limited (Rössing Uranium) to assess potential impacts of the proposed new desalination plant, approximately 6km north of Swakopmund at the existing Swakopmund Salt Works, to supply the mine's water needs. The final 358-page project report was released in January 2015. The report included: Legal framework; Project description; Screening of project options; Description of the affected environment; Environmental assessment methodology; Impact assessment; Public participation; Opinions and recommendations.

5.2.1.8 Environmental Impact Assessment: Proposed New Fuel Station Retail Facility at Swakopmund, Erongo Region

Sky-Way Investment CC commissioned an EIA for the proposed construction and operation of Pit Stop Fuel Centre fuel retail facility at Swakopmund, in the Erongo Region. Matrix Consulting Services (Namibia) was appointed to undertake the EIA for the proposed fuel retail facility. The final EIA report was released in March 2019, consisting of 39 pages. The report included: Terms of references; Environmental study requirements; Description of alternatives; Scope; Methodology; Statutory requirements; Installations; General environment and of the study area; Stakeholder participation; Environmental impact evaluation; Cumulative impacts; and EMP.

5.2.1.9 Non-Technical Summary Construction of a 1km Long 66kv Power line, Through an Off-Take and Associated Infrastructure from the Existing NamPower Substation on Ml134, Erongo Region, Namibia

The Environmental Compliance Consultancy (ECC) (Namibia) was engaged by the proponent (AfriTin Mining Namibia) on behalf of NamPower to undertake an EIA and an EMP. The Uis Tin Mine currently has no constant power supply to its trial processing plant, therefore necessitating network strengthening, which involves the establishment of a power line, metering station and associated infrastructure. This is to ensure a continuous power supply to the trial processing plant. The purpose of this non-technical summary is to provide interested and affected parties (I&APs) with a background to the proposed project, and to invite I&APs to register as part of the EIA process. The eight-page non-technical summary was released in March 2019. The NTS included: Purpose of the documents; Description of the proposed project; Consideration of alternatives; and the Environmental assessment process.

5.2.1.10 Environmental Impact Assessment Report for the Proposed Cape Cross Salt Project

Gecko Salt intends to develop a new solar salt production facility at the Cape Cross Salt Pan, which is located on the coast at Cape Cross in Namibia, approximately 45km north of Henties Bay. The development would be within Exclusive Prospecting License (EPL) 4167 and three Mining Claims (numbered 68000/1/2), all held by Gecko Salt. The project involves the establishment of salt crystallisation pans for salt production by solar evaporation (including the mining of natural rock-salt). The EIA found that the majority of the project's potential negative impacts were of medium to low significance. SLR Environmental Consulting (Namibia) (Pty) Ltd (SLR Namibia), an independent firm of consultants, was appointed by Gecko Salt to undertake the scoping and EIA process. The public review was released in March 2010, consisting of 200 pages. The report included:

(a) Description of the proposed project; (b) Legal framework; (c) Project description; (d) Project alternatives; (e) Assessment approach and public consultation process; (f) Description of the current environment; (g) Assumptions, uncertainties and limitations; and (h) Impact statement.

5.2.1.11 Social and Environmental Impact Assessment: Proposed Expansion Project for Rössing Uranium Mine in Namibia: Phase 1 ~ Acid Plant, Ore Sorter and SK4 Pit

Several specialist studies were undertaken to properly understand the potentially most significant impacts of the proposed developments and to ensure an acceptable level of confidence in the assessment of such impacts. The main consultant was Ninham Shand Consulting Services (South Africa). The five sub-consultants were CSIR (South Africa), Airshed Planning Professionals (South Africa), RisCom (South Africa), Visual Resource Management Africa (South Africa), Environmental Evaluation Associates of Namibia (Namibia), Namibian Vibration Consultants and Quartenary Research Services (Namibia). The final social and environmental impact assessment report was released in February 2008, totalling 150 pages. The report included: Socio-economic; Air quality; Risk (human health); Visual; Radioactivity and public dose; Biodiversity; Archaeology (i.e. heritage); Water resources; Noise and vibration; and Energy use.

5.2.1.12 Environmental Impact Assessment Report and Draft Proposed EMP for Elgin, Brown and Hamer's Grit Blasting Operation, Equipment and Material, Walvis Bay

Elgin, Brown and Hamer Namibia (Pty) Ltd assessed the environmental impacts associated with grit blasting operations at their ship repair facility. Grit blasting is a process where abrasive material is propelled with compressed air at a surface at extremely high velocities to remove surface coatings and providing a smooth finish. Versatile Environmental Consulting CC (VERSACON) (Namibia) was responsible for the establishment of a baseline study and impact assessment on the marine, fisheries and coastal environments. Technologies Namibia collected geo-pollution data and provided an up-to-date picture of water quality conditions in the bay area. EnviroSolution CC provided a clear-cut historical perspective. The EIA report and draft proposed EMP were released in December 2014, consisting of 61 pages. The report included: Description of the proponent and project; Blast-cleaning: Introduction and international context; Legal, regulatory and institutional arrangements; Physical environment; Biological environment; Sensitive areas; EIA; and Conclusion and recommendation.

5.2.1.13 Non-Technical Summary: Proposed Exploration Activities on EPL 7368 For Nuclear Fuel Minerals

Environmental Compliance Consultancy (ECC) (Namibia) was engaged by the proponent Marenica Ventures (Pty) Ltd) to undertake an EIA and an EMP in terms of the EMA of 2007 and its regulations. The project involves exploration activities on the EPL 7368 for nuclear fuel minerals. The project is located approximately 35km west of the Dorob-National Park in the Erongo Region. The purpose of this non-technical summary is to provide I&APs a background to the proposed project and to invite I&APs to register as part of the EIA process. The non-technical summary was released in September 2019, totalling six pages. It included: The proposed project and location; The necessity of the project, benefits or adverse impacts anticipated; The alternatives to the project have been considered and assessed; How the EIA process works; The public participation process and how to become involved, and Next steps and the way forward.

5.2.1.14 Social and Environmental Impact Assessment: Proposed Mine Expansion Project Phase 2A ~ Sulphur Handling Facility in the Port of Walvis Bay

Rössing Uranium proposed the construction of a 20 kt sulphur storage shed inside the Port of Walvis Bay with associated facilities and handling equipment. Many site and technological alternatives were considered during the SEIA process and the preferred alternative described. The storage shed shall comprise a 3 000 m^2 mild steel frame and fibre-cement sheeting clad structure capable of stockpiling 20 000 t of sulphur. The main Consultant was Aurecon (Pty) Ltd (South Africa) and the three sub-consultants were Infotox (Pty) Ltd (South Africa), JH Consulting (South Africa) and Visual Resource Management Africa (South Africa). The draft social and EIA report, comprising of 155 pages, was released in November 2009. The report included Introduction and background; Project description and identification of alternatives and potential impacts; Public participation process; Assessment methodology; Assessment of potential impacts and possible mitigation measures; and Conclusions and recommendations.

5.2.1.15 Strategic Environmental Assessment for the central Namib Uranium Rush: Main Report

The Southern African Institute for Environmental Assessment (SAIEA) was contracted by the government of the Republic of Namibia, with funding provided by the German government through the German-Namibian Technical Cooperation Project of the German Federal Institute for Geosciences and Natural Resources (BGR) (Germany) and the Geological Survey of Namibia (GSN) (Namibia), to undertake a SEA for the so-called “central Namib Uranium Rush”. The SEA provides

a big picture overview and advice on how to avoid negative cumulative impacts, as well as how to enhance opportunities and benefits within the uranium sector and between mining and other industries. It provides practical, outcomes-based tools for achieving best practice – some of these based on what is already being done in the Namib by current operators. Through this SEA and the implementation of the SEMP, it is hoped that the 'Namib Uranium Province' will be a living example of how mining can contribute significantly to the achievement of sustainable development. The final main SEA report was released in 2010, comprising of 427 pages. The report terms of reference required the SEA to deliver the following:

- Develop and assess viable scenarios of mining and associated developments as a basis for subsequent decision-making and formal planning.
- Provide recommendations on accepted strategic approaches for sustainable mining development in the Erongo Region.
- Guide overall solutions on crucial (cumulative) impacts and challenges stemming from the mining operations.
- Outline a SEMP.

5.2.1.16 Environmental Impact Assessment – Proposed Walvis Bay Waterfront Development, Namibia

The Environmental Compliance Consultancy (ECC) (Namibia) was engaged by Walvis Bay Waterfront Development Pty Ltd to undertake the EIA for the proposed Walvis Bay Waterfront development. The Walvis Bay Waterfront Development Pty Ltd intended to develop land portions 4941 and 4939 which were private open space to businesses for the proposed Walvis Bay Waterfront. The project includes developing a marina for the proposed waterfront. The proposed plans incorporate light industrial, residential, public open space, retail and various other activities in waterfront development in Walvis Bay, Namibia. The background information document was released in June 2017, totalling six pages. It included the following: (1) How the EIA process works; (2) Public participation process and how to become involved; (3) What is proposed and where; (4) Why the project is needed and what benefits or impacts are anticipated; (5) Alternatives being considered, and (6) Next steps and way forward.

5.2.2 EIA evaluation criteria results

All the EIA reports were reviewed using the EIA evaluation criteria adapted from Ahmad and Wood (2002:216) in evaluating the effectiveness of the coastal EIAs in Namibia.

5.2.2.1 Category A: Systematic measures

A1. EIA legislation

A1.1 Legal provision for EIA

The EMA No.7 of 2007 outlines the following as activities that may not commence without an environmental clearance certificate, and depending on their magnitude, may require an EIA. The list is as follows:

- Energy generation, transmission and storage activities
- Waste management, treatment, handling and disposal activities
- Mining and quarrying activities
- Forestry activities
- Land-use and development activities
- Tourism development activities
- Agriculture and aquaculture activities
- Water resource developments
- Hazardous substance treatment, handling and storage
- Infrastructure
- Other activities (construction of military demonstration and testing sites, cemeteries, camping, leisure and recreational sites).

Furthermore, the EMA states the conditions for conducting an EIA, when it is necessary to conduct an EIA, how long the process should take, terms of reference on what is to be included in the report and who to consult during the EIA process. Also, the duties of the proponent, as well as general requirements for environmental practitioners are specified.

A1.2 Legal or procedural specifications of time limits

There are several time limits specified in the EMA of 2007 to be adhered to before an EIA can take place, during the process and after the EIA is completed. Upon receiving an environmental clearance application, the environmental commissioner must acknowledge receiving the application, and register the application in the assessment register within three days. The received application should be accepted or rejected within 14 days, and if accepted, whether it requires a detailed EIA.

When it is decided that the project includes listed activities in the EMA, is of a certain magnitude and an EIA should be conducted, the proponent must, within 21 days after receiving such a notification from the environmental commissioner, instruct the EAP to prepare an assessment report. After receiving the assessment report, the environmental commissioner must acknowledge receiving the report within three days. The environmental commissioner must notify the proponent and competent authority in writing within seven days of the decision to accept the activity or reject it after viewing the environmental assessment report.

A1.3 Provision for the appeal by the developer or the public against decisions

If the proposed activity is rejected after reviewing its EIA report, there is provision for an appeal in the EMA. According to the EMA, an appeal in terms of section 50 of the EMA must be made within 14 days from the date of receipt of notification of the decision. The appeal must be made on a form which corresponds with Form 3 of Annex 1 to the regulations. This form is available at the MET, and upon completion, it must be submitted to the secretary of the appeal panel. The minister may designate staff members within the MET to perform administrative functions relating to the appeal, then can decide on the appeal personally. Alternatively, the minister can appoint an appeal panel consisting of experts in that particular field to advise on the decision when necessary. When the minister decides on the appeal in terms of section 50 of the EMA, the appellant, all respondents and the competent authority are notified in writing.

A1.4 Formal provision for SEA

The EMA No.7 of 2007 makes provision for a SEA to be conducted before a policy or programme is implemented. However, conducting a SEA is not yet a legal mandate in Namibia. The SEA follows a similar process to the EIA, where there are conditions to be adhered to during the process and it is to be conducted by experts.

A2. EIA administration

A2.1 The competent authority for EIA and determination of environmental acceptability

The minister of the MET appoints an environmental commissioner within the ministry, who is responsible for some activities, including:

- determining whether a particular activity requires an EIA;
- reviewing EIA reports and issuing environmental clearance certificates;
- keeping a register of all EIAs reviewed and environmental clearance certificates issued.

The minister also appoints environmental officers in the ministry to closely work with and support the environmental commissioner.

A2.2 Review body for EIA

The review body for EIAs in Namibia is found within the MET under the DEA. The appointed environmental commissioner is the head of this department and environmental officers within the department work with them and assist in matters relating to issuing environmental clearance certificates, as well as reviewing EIA reports. The officers in this department are appointed by the minister in the public service to help in implementing the EMA No.7 of 2007.

A2.3 Specification of sectoral authority's responsibilities in the EIA process

In the majority of the reviewed EIAs, several sectoral authorities were acknowledged, such as the Ministry of Agriculture, Water and Forestry, the Ministry for Mines and Energy, the Ministry of Fisheries and Marine Resources, the Ministry of Industrialisation, the Ministry of Works and Transport, the Ministry of Health and Social Services, and the Ministry of Labour, to mention but a few. Only a few EIAs did not mention sectoral authorities considered during the process.

A2.4 Level of coordination with other planning and pollution control bodies

Half of the reviewed EIAs indicated coordination with other planning and pollution control bodies, such as NamWater, NamPower, NamPort, municipalities, local authorities and environmental groups, to mention a few. These statistics are worrying, as all EIAs are expected to coordinate with planning and pollution control bodies for the collective conservation of Namibia's environment towards sustainable development.

A3 EIA process

A3.1 Screening, scoping, report review, public participation, decision-making approach and requirements for EMPs

The EIA process is stipulated in the EMA No. 7 of 2007, under the MET as the competent authority. All 16 reviewed EIA reports complied with the prescribed EIA process.

They took into account specific screening categories, with mining EIAs taking into account weather as an important category. In terms of the systematic screening approach, the environmental commissioner records applications in an environmental assessment register for reference and record-keeping. Under the systematic scoping approach, the environmental commissioner decides on the scope, procedure and time frame, depending on the nature and magnitude of the project. Additionally, the EIA process requires that projects consider alternatives, specified EIA content, systematic EIA

report review approach, public participation in the EIA process, systematic decision-making approach and requirement for EMPs. These are important steps to consider, as they will ensure the participation of affected parties in the process, and that negative impacts that may be posed by the project are minimised.

A3.2 Requirements for mitigating impacts

Most (88%) of the EIAs reviewed met the requirement for mitigation of impacts, with additional information stated. Only two EIAs did not clearly indicate mitigation measures that would be taken. Some of the additional information stated in the EIAs indicated that the required mitigation measures to be taken are:

- The NamPower power line construction from Walmund to Walvis Bay EIA indicated the following: “Impact on bird species: It is recommended that the two mentioned sections be marked with a combination of double-loop bird flight diverters and "flight diverter flags”. More details regarding the monitoring method and the frequency thereof are provided in the EMP. Should NamPower in future require additional lines within the servitude, an EIA, focusing specifically on a comprehensive radiation assessment and public consultation process, must be undertaken. Should NamPower foresee the need to increase the load on the proposed lines, thus increasing the electromagnetic radiation output, a radiation assessment must be undertaken to assess the potential impact of this on the neighbouring residents”.
- The EIA for proposed phosphate mining indicated that there were no particular/practical mitigation measures that could be implemented for the impact of phosphate mining on the ecologically important demersal and pelagic fish species, the impact of phosphate dredging on the recruitment of key commercial fish stocks and for the impact of phosphate dredging on species diversity. There are also no mitigation measures possible for when sulphuric sediment pore-water entrained in the dredged sediment is discharged with the over-spill water that could affect organisms in the water column. The significance of this impact is considered to be very low. There were, however, some indications of mitigation measures for the following: A bridge watch for large mammal species will be maintained for the impact of phosphate dredging on seabirds and marine mammals. It was also indicated that it will be ensured that vessel discharge/retention systems and procedures are in good working order and do not malfunction to reduce potential deterioration in water quality from discharges to the sea of wastes such as oily water, sewage, food and greywater from the dredge.

A3.3 The requirement for impact monitoring

Close to 70% of the EIAs reviewed indicated that they have impact monitoring measures put in place, with 31.5% not mentioning if they do. A few also had additional information which includes the following:

- the SEA for the Central Namib Uranium Rush indicated that there will be long-term monitoring of aquifers, tailings and dam maintenance;
- the EIA report and EMP draft on the proposed Elgin, Brown and Hamer's grit blasting operation indicated that the monitoring of water quality will be done bi-annually as well as monitoring of sediment and water quality when dredging is undertaken.

A3.4 Experience of SEA

The majority (81%) of the reviewed EIAs did not indicate whether the studies were conducted as a result of the SEA recommendations. Only three EIA reports indicated that the SEA strongly recommended for EIA studies, hence they were done.

5.2.2.2 *Category B: Foundation measures*

B1.1 Existence of general and/or specific guidelines including any sectoral authority procedures

From all the EIAs reviewed, 88% indicated that they have existing general and/or specific guidelines (including any sectoral authority procedures) in place, with only two not mentioning this (Establishment of the Namibia International Convention and Exhibition Centre: Desert Rose; and Construction of a 1km Long 66kv Power line through an Off-Take and Associated Infrastructure from the Existing NamPower Substation on Ml134). Some of the additional information provided by the EIAs reviewed include:

- The SEA for the central Namibia uranium rush indicated that they have guidelines on health and safety, water quality guidelines during operations, air quality guidelines, guidelines on radiation safety as well as rehabilitation guidelines after mining.
- The EIA for the Kuiseb Delta and Dune Belt Area highlighted that the project conforms to the following regulations: Environmental Assessment Policy for Sustainable, Development and Environmental Conservation (1995), and the Draft Procedures and guidelines for EIA & EMP of 2008.

B 1.2 EIA system implementation monitoring

From all the EIAs reviewed, 75% indicated that they have an EIA system implementation monitoring in place, while four did not mention whether they have this in place. These four are: (1) Proposed NamPort Strategic Expansion of the Container Terminal at the Port of Walvis Bay on reclaimed land; (2) Construction of a 1km Long 66kv Power line through an Off-Take and Associated Infrastructure from the Existing NamPower Substation on Ml134; (3) Proposed Cape Cross Salt Project; and (4) Proposed Walvis Bay Waterfront Development.

For EIA system implementation monitoring, the EIAs reviewed included:

- Monitoring boreholes for leak detection should be drilled at fuel stations; sewage treatment plant and evaporations ponds (if any) - EIA Report on the Establishment of the Namibia International Convention and Exhibition Centre: Desert Rose.
- Monitoring should be conducted in accordance with the procedures specified by the IFC (2007) and SANS 10103 (2008) - EIA report on the Proposed Rössing Uranium Desalination Plant near the Swakopmund Salt Works North of Swakopmund.
- The EIA report of the proposed power lines from Walmund Substation to Walvis Bay stated: "It is important that the measures in NamPower's generic EMP and the specific EMP compiled by this consultant are implemented and monitored, otherwise the impacts identified will remain unacceptable."

B1.3 Expertise in conducting EIA

Only 50% of the reviewed EIAs were conducted by local EAPs, about 30% by international/foreign EAPs, with 20% by both local and international experts.

The Namibian environmental consultants who participated in the assessments are: Enviro Dynamics; Aurecon Namibia; SLR Environmental Consulting; EnviroSolution; Environmental Evaluation Associates of Namibia; Namibian Vibration Consultants & Quartenary Research Services; Versatile Environmental Consulting, and Geological Survey of Namibia. The international companies are Delta Marine Consultants – Netherlands; German Federal Institute for Geosciences and Natural Resources – Germany; and the South African companies CSIR, National Environmental Health Consultants, Airshed Planning Professionals, Lwandle Technologies, Ninham Shand Consulting Services, RisCom, Visual Resource Management Africa, Infotox, and JH Consulting.

What was notable in the category for both local and international experts' jointly conducted EIAs is that local EAPs were awarded the tenders to conduct the EIAs, but mostly only assessed the social/socio-economic section of the assessment, while shying away from the technical part of the assessment, and outsourcing it to international practitioners. This is a worrying trend, as it indicates the lack of technical expertise in the country. However, this trend could also be attributed to meeting requirements of the projects that are internationally funded, like requiring extensive experience.

B1.4 Training and capacity-building

A total of 10 EIA reports did not mention the training and capacity-building needed for the EIA process or the EMPs. The six that mention training and capacity-building are:

- EIA report 1: Environmental awareness, training and capacity-building have to be outlined in the scoping report.
- EIA report 5: The practical experience and industry knowledge of Sand Rose Investments management is also essential in the process of training and skills transfer, a very important management responsibility. The most successful operational model for a convention centre is one with a well-defined limited number of supervisory and executive duties at the top level. This keeps the organisation lean and costs effective.
- EIA report 10: A variety of actions should be implemented, including defining recruitment priorities, skills training, fair working conditions and wage packages.
- EIA report 12: Environmental awareness training. As part of social responsibility, Elgin Brown and Hamer Namibia has made significant impacts on the communities' education and skills development through financial support to less privileged citizens. Together with other companies, Elgin Brown and Hamer Namibia reached an agreement to provide apprenticeship programmes to students from vocational training centres for in-service training that can sharpen their skills. Community development through sport funding projects has been ongoing for about a year since its inception.
- EIA report 15: The construction of new primary and secondary schools as well as the training. Expand institutions such as the Namibian Institute of Mining and Technology and extend the University of Namibia and the Namibia University of Science and Technology's mining and engineering faculties. The mining companies to invest in and develop ongoing skills development programmes, e.g. bursaries, courses, on-the-job training and mentoring programmes.
- EIA report 16: A variety of actions should be implemented including defining recruitment priorities, skills training, fair working conditions and wage packages.

B1.5. Legislation and policy

The table below shows the different legal frameworks such as national, regional and international legislation recorded in the EIAs that were reviewed.

Table 5.2: Legal framework and policies that were recorded in the EIA reports

EIA Report	Legal framework and policies
EIA Report 1 Environmental Impact Assessment For The Kuiseb Delta And Dune Belt Area	Water Resources Management Act, 2004 The Nature Conservation Ordinance Ordinance 4 of 1975, Amendment Act, Act 5 of 1996 Draft Parks and Wildlife Management Bill of 2006 National Waste Management Policy, 2010
EIA Report 2 Environmental Impact Assessment Study for the proposed power lines from Walmund Substation to Walvis Bay	Convention on Biological Diversity EMA 7 of 2007 EMA Regulations GN 28-30 (GG 4878) (February 2012) Electricity Act 4 of 2007 Labour Act 11 of 2007 The Atomic Energy and Radiation Protection Act, Act 5 of 2005 "Guidelines for Limiting Exposure to Time-Varying Electric, Magnetic, and Electromagnetic Fields (up to 300GHz The Nature Conservation Ordinance (1975) as amended through the Nature Conservation Amendment Act of 1996. Forestry Act 27 of 2004 National Heritage Act 27 of 2004
EIA Report 3 Environmental Impact Assessment for the proposed dredging of phosphate enriched sediments from marine licence area No. 170	The EMA No.7 of 2007 & Draft Regulations Minerals (Prospecting and Mining) Act, Act 33 of 1992 The Marine Resources Act 27 of 2000 The Diamond Act of 1991 The Merchant Shipping Act 73 of 1991 Prevention and Combating of Pollution of Sea by Oil Amendment Act 24 of 1991 Water Act 54 of 1956. National Monuments Act 28 of 1969. Namibian Ports Authority Act 2 of 1994

	Maritime Notice 4 of 1994 Petroleum Products and Energy Amendment Act of 2000 Hazardous Substance Ordinance 14 of 1974 as amended The Territorial Sea and Exclusive Economic Zone of Namibia Act 3 of 1990 Policies and Protocols of Relevance Namibian Vision 2030: NDP: 2006/7-2011/12 General Biophysical Impacts SADAC Protocol: Fisheries International Conventions Convention for the Prevention of Pollution from Ships (MARPOL) United Nations Law of the Sea Convention (UNCLOS) 1982 Convention on the Control of Transboundary Movements of hazardous Wastes and their Disposal 1994 (Basel Convention) Convention of Biological Diversity Rio de Janeiro (1992) United Nations Framework Convention on Climate Change (UNFCCC).
EIA Report 4 Proposed NamPort Strategic Expansion of the Container Terminal at the Port of Walvis Bay on reclaimed land: Socio-Economic Specialists Report	Township and Division of Land Ordinance; Ordinance 11 Of 1963 Town Planning Ordinance of 1954 Environmental Assessment Policy (1995) EMA 7 of 2007 Health and Safety Regulations (Of The Labour Act Of 1992)
EIA Report 5 Final Environmental Impact Assessment Report of the Establishment of the Namibia International Convention and	The Constitution of the Republic of Namibia (1990) Vision 2030: NDP3 of Namibia, 2006/7 – 20011/12 Environmental Assessment Policy, 1995 Green Paper: Coastal Policy for Namibia (Feb 2009) Draft Wetland Policy of 2003 The National Environmental Health Policy EMA 7 of 2007 The Water Resources Management Act 24 of 2004

Exhibition Centre: Desert Rose	The Marine Resources Act 27 of 2000 Labour Act of 1992: Regulations for the Health and Safety of Employees at Work Atmospheric Pollution Prevention Ordinance 11 of 1976 Petroleum Products and Energy Amendment Act of 2000 Legislation related to soil conservation Legislation related to effluent and waste water disposal Legislation related to water quality and resources Hazardous Substances Ordinance 14 of 1974, and amendments Draft Pollution Control and Waste Management Bill (1999) The Stockholm Declaration on the Human Environment, Stockholm 1972 Convention on Biological Diversity, Rio de Janeiro, 1992 Ramsar Convention (1971) Convention on the Conservation of Migratory Species of Wild Animals Agenda 21 International Finance Corporation Environmental, Health, and Safety Guidelines Rio Declaration of 1992 on Environment and Development Nature Conservation legislation National Policy on Tourism for Namibia, 2008 National Heritage Act
EIA Report 6 Environmental Noise Impact Assessment for the Proposed Rössing Uranium Desalination Plant (RUDP) Near the Swakopmund Salt Works North of Swakopmund, Namibia.	IFC General EHS Guidelines Noise Level Guidelines (IFC, 2007) South African Bureau of Standards (SABS) (SANS 10103, 2008)

EIA Report 7 Social and Environmental Impact Assessment For The Proposed Rössing Uranium Desalination Plant Near Swakopmund, Namibia	The Constitution of the Republic of Namibia (Act 1 of 1990) EMA 7 of 2007 Water Resources Management Act (Act 24 of 2004) The National Heritage Act (Act 27 of 2004) The Soil Conservation Act (Act 76 of 1969) The NPCM for Namibia (2013) The Marine Resources Act (2000) The Aquaculture Act (2002) The Integrated Coastal Management Bill (2014) The National Policy on Human-Wildlife Conflict Management (2009) Proposed Climate Change Strategy and Action Plan (2009) The Namibia Vision 2030 Coastal SEAs Water Quality Guidelines Rio Tinto Environmental and Sustainability Policies Rössing Uranium Limited Policies The MET Policy on HIV and AIDS
EIA Report 8 Environmental Impact Assessment: Proposed New Fuel Station Retail Facility at Swakopmund, Erongo Region	Namibian Constitution EMA 7 of 2007 The Water Act (1956) Water Resources Management Act of Namibia (2004) Environmental Assessment Policy of Namibia (1995) Petroleum Products and Energy Act of Namibia (Act No. 13 of 1990) Draft Pollution Control and Waste Management Pollution Bill Hazardous Substances of Ordinance No. 14 of 1974
EIA Report 9 Non-Technical Summary Construction of a 1km Long 66kv Power line, Through an Off-Take and Associated Infrastructure from the Existing	EMA 7 of 2007 and its regulations. International Finance Corporation, 2017 Namibian Draft Procedures and Guidance for EIA EMP (Republic of Namibia, 2008) including international and national best practice with over 25 years of combined EIA experience.

NamPower Substation on Ml134, Erongo Region, Namibia	
EIA Report 10 Environmental Impact Assessment Report for the Proposed Cape Cross Salt Project	2015 Draft Dorob National Park Tourism Development Plan 1990 The Constitution of the Republic of Namibia of 1990 1997 Namibian Water Corporation Act, 12 of 1997 2001 The Forestry Act 12 of 2001 2009 Management and Development Plan for the for the Central Coast Park of the Namib-Skeleton Coast National Park 2013 Water Resources Management Act 11 of 2013 2012 Strategic Environmental Assessment (SEA) for the Erongo and Kunene coastal regions 2004 National Heritage Act 27 of 2004 Environmental Management, Act 7 of 2007 2012 Regulations promulgated in terms of the Environmental Management, Act 7 of 2007 1995 Nature Conservation Amendment Act 5 1990 Nature Conservation General Amendment Act 1990 1975 Nature Conservation Ordinance 14 of 1975 1976 Atmospheric Pollution Prevention Ordinance 11 of 1976 1993 Convention on International Trade in Endangered Species 1992 United Nations Convention on Biological Diversity 1995 Namibia's Environmental Assessment Policy for Sustainable Development and Environmental Conservation
EIA Report 11 Social and Environmental Impact Assessment: Proposed Expansion Project For Rössing Uranium Mine In Namibia: Phase 1 ~	EMA 7 of 2007 RU Sustainability Assessment Namibia’s Environmental Assessment Policy of 1994 Namibia’s Minerals Act of 1992 RU/Rio Tinto’s Internal Standards National Heritage Act (2004) Labour Act (1992), in particular the Regulations Relating to Health and Safety of Employees at Work

Acid Plant, Ore Sorter And SK4 Pit	Primary Health Care Policy (1990) National Code on HIV/AIDS and Employment (1996) Marriage Equality Act (2002) Combating of Rape Act (2002) National Employment Policy (1997) Decentralisation Policy (1998) Pending Minerals Safety Bill Pending Atomic Energy Board and Radiation Protection Authority Bill International Atomic Energy Agency Non-proliferation Treaty (1970) National Environmental Health Policy (2002) EMA 7 of 2007 RU Sustainability Assessment Namibia's Environmental Assessment Policy of 1994 Namibia's Minerals Act of 1992 RU/Rio Tinto's Internal Standards National Heritage Act (2004) Labour Act (1992), in particular the Regulations Relating to Health and Safety of Employees at Work Primary Health Care Policy (1990) National Code on HIV/AIDS and Employment (1996) Marriage Equality Act (2002) Combating of Rape Act (2002) National Employment Policy (1997) Decentralisation Policy (1998) Pending Minerals Safety Bill Pending Atomic Energy Board and Radiation Protection Authority Bill International Atomic Energy Agency Non-proliferation Treaty (1970) National Environmental Health Policy (2002)
EIA Report 12 Environmental Impact Assessment Report and Draft Proposed EMP For	EMA 7 of 2007 Environmental Assessment Policy for Sustainable Development and Environmental Conservation (1995) NamPort EIA and EMP of 2006 Integrated Coastal Zone Bill

Elgin, Brown and Hamer's Grit Blasting Operation, Equipment And Material, Walvis Bay	Benguela Current Commission (BCC) Convention on Biological Diversity The Convention on Wetlands of International Importance especially as Waterfowl Habitat (referred to as the Ramsar Convention) UN Convention for the Prevention of Marine Pollution from Land-based Sources ISO 9001:2008: Quality Management Systems
EIA Report 13 Non-Technical Summary: Proposed Exploration Activities on EPL 7368 For Nuclear Fuel Minerals	EMA 7 of 2007 and its Regulations
EIA Report 14 Social and Environmental Impact Assessment: Proposed Mine: Expansion Project Phase 2a ~ Sulphur Handling Facility in The Port Of Walvis Bay	EMA 7 of 2007 RU Sustainability Assessment Namibia's Environmental Assessment Policy of 1994 Combating of Rape Act (2002) Decentralisation Policy (1998) Labour Act (1992), in particular, the Regulations relating to the health and safety of employees at work Government Notice 156 of 1997 Marriage Equality Act (2002) National Code on HIV/AIDS and Employment (1996) National Employment Policy (1997) National Environmental Health Policy (2002) National Heritage Act (2004) • Primary Health Care Policy (1990) Air Quality Act (2004) Atmospheric Pollution Prevention Act (1965) Atmospheric Pollution Prevention Ordinance (1976) Convention on Biological Diversity (2000) EMA No.7 of 2007

	Namibian Water Corporation Act (1947) Pollution and Waste Management Bill (Draft) Ramsar Convention (1975) United Nations Framework Convention on Climate Change (1992) Water Act (1956) and yet to be enabled Water Act (2004) Water Resources Management Act (2004)
EIA Report 15 Strategic Environmental Assessment for the central Namib Uranium Rush: Main Report	Vision 2030' 2001/02 Water Act, 54 of 1956 Water Resources Management Act, 24 of 2004 Namibia Water Corporation Act, 12 of 1997 Minerals Act, 33 of 1992 EIA Policy (1995) EMA 7 of 2007 Parks and Wildlife Management Bill of 2009 Environmental Investment Fund of Namibia Act, 13 of 2001 Forest Act, 12 of 2001 National Heritage Act, 27 of 2004 Townships and Division of Land Ordinance of 1963 Town Planning Ordinance, 18 of 1954. Decentralization Enabling Act, 33 of 2000 Regional Councils Act, 22 of 1992 Local Authorities Act, 23 of 1992 Atomic Energy and Radiation Protection Act (Act 5 of 2005
EIA Report 16 Environmental Impact Assessment – Proposed Walvis Bay Waterfront Development, Namibia	EMA 7 of 2007 and its Regulations

5.2.2.3 EIA evaluation criteria reports summary

The graph (Figure 5.1) and (Table 5.3) below show the number of EIA reports that were reviewed. These EIA reports have been reviewed in line with evaluation criteria that were developed to assess the effectiveness of EIAs.

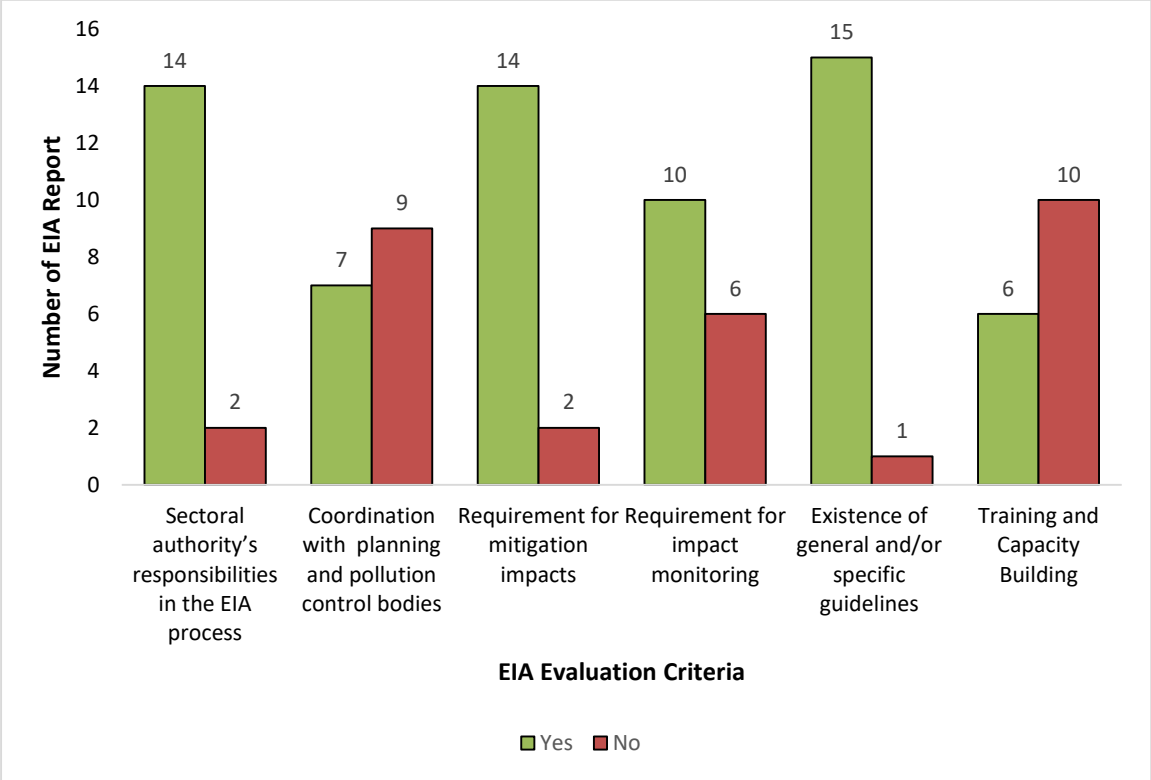

Figure 5.1: Number of EIA reports complying with the various EIA evaluation criteria, November 2019.

The graph indicates that about 14 EIA reports comply with the various sectoral authorities' responsibilities in the EIA process criteria. This suggests that the MET as a competent authority works with different sectoral authorities in the EIA process to ensure its effectiveness. Additionally, the graph depicts that most EIA reports reviewed have considered requirements for mitigation and monitoring impacts. However, the graph also reveals that there is a lack of coordination with planning and pollution control bodies, and most of the reviewed EIA reports did not consider the training and capacity-building component. This can be attributed to the fact that such arrangements are not mandatory for all EIAs. This is an important aspect of the EIA process, as it implies knowledge transfer to local consultants, given that about 90% of the EIAs reviewed were done by foreign consultants.

Table 5.3: EIA evaluation criteria reports summary

#	EIA Name	Specification of sectoral authority's responsibilities in the EIA process	Coordination with other planning and pollution control bodies	The requirement for mitigation impacts	The requirement for impact monitoring	Existence of general and/or specific guidelines	Training and capacity-building
1	Environmental Impact Assessment for The Kuiseb Delta and Dune Belt Area	Yes	Yes	Yes	Yes	Yes	Yes
2	Environmental Impact Assessment Study for the proposed power lines from Walmund Substation to Walvis Bay	Yes	No	Yes	No	Yes	No
3	Environmental Impact Assessment for the proposed dredging of phosphate enriched sediments from marine licence area No. 170	Yes	No	Yes	Yes	Yes	No
4	Proposed NamPort Strategic Expansion of the Container Terminal at the Port of Walvis Bay on reclaimed land Socio-Economic Specialists Report	No	No	Yes	No	Yes	No

5	Final Environmental Impact Assessment Report of the Establishment of the Namibia International Convention and Exhibition Centre: Desert Rose	Yes	Yes	Yes	No	Yes	Yes
6	Environmental Noise Impact Assessment for the proposed Rössing Uranium Desalination Plant (RUDP) near the Swakopmund Salt Works North of Swakopmund, Namibia.	No	No	Yes	Yes	Yes	No
7	Social and Environmental Impact Assessment for The Proposed Rössing Uranium Desalination Plant Near Swakopmund, Namibia	Yes	Yes	Yes	Yes	Yes	No
8	Environmental Impact Assessment: Proposed New Fuel Station Retail Facility at Swakopmund, Erongo Region	Yes	Yes	Yes	Yes	Yes	No
9	Non-Technical Summary Construction of a 1km Long 66kv Power line, Through an Off-Take and Associated Infrastructure from the	Yes	No	No	No	No	No

	Existing NamPower Substation on Ml134, Erongo Region, Namibia						
10	Environmental Impact Assessment Report for the Proposed Cape Cross Salt Project	Yes	No	Yes	No	Yes	Yes
11	Social and Environmental Impact Assessment: Proposed Expansion Project for Rössing Uranium Mine in Namibia: Phase 1 ~ Acid Plant, Ore Sorter And SK4 Pit	Yes	No	Yes	Yes	Yes	No
12	Environmental Impact Assessment Report and Draft Proposed EMP for Elgin, Brown and Hamer's Grit Blasting Operation, Equipment and Material, Walvis Bay.	Yes	Yes	Yes	Yes	Yes	Yes
13	Non-Technical Summary: Proposed Exploration Activities on EPL 7368 For Nuclear Fuel Minerals	Yes	Yes	Yes	Yes	Yes	No
14	Social and Environmental Impact Assessment: Proposed Mine: Expansion	Yes	Yes	Yes	Yes	Yes	No

	Project Phase 2a ~ Sulphur Handling Facility in The Port of Walvis Bay						
15	Strategic Environmental Assessment for the central Namib Uranium Rush: Main Report	Yes	Yes	Yes	Yes	Yes	Yes
16	Environmental Impact Assessment (EIA) – Proposed Walvis Bay Waterfront Development, Namibia	Yes	No	No	No	Yes	Yes

5.3 Survey

A questionnaire was administered by the researcher at the MET's DEA. The survey was carried out to determine the capacity of the MET in terms of staffing, rules complied with as well as processes and procedures put in place to process EIA applications. Additionally, the survey also aimed to find out whether officers responsible for EIA applications consider the promotion of sustainable development as a fundamental part of the EIA process. The administration and processing of EIA application are carried out by the Division of Environmental Assessment, Waste Management, Pollution Control and Inspection, which is under the DEA. Hence, the questionnaires were specifically handed out to the staff working under this division. Although the division is made up of 11 staff members, five out of this study population completed the survey. The response rate to the survey was therefore 45%, which limits any generalising of the responses to the study population (all 11 staff members). But they do represent a critical mass within the administration.

5.3.1 EIA applications

The results below are from the self-administered questionnaire that was distributed to the MET's DEA officials who are specifically dealing with EIA applications.

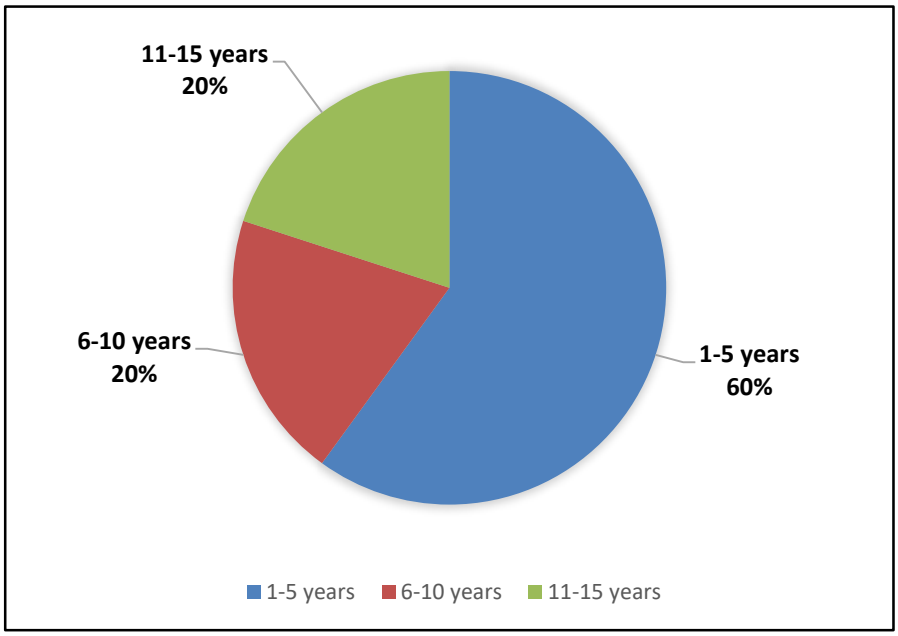

Figure 5.2: Number of years worked in the MET's DEA by respondents, November 2019

Source: Own analysis

In order to assess whether the information provided by respondents is credible, they were first requested to indicate how long they have been doing this work. Out of the five respondents who work

in this department, the majority of them (60%) have been working there for less than six years, while 20% has working for there for less than 10 years and another (20%) for less than 16 years.

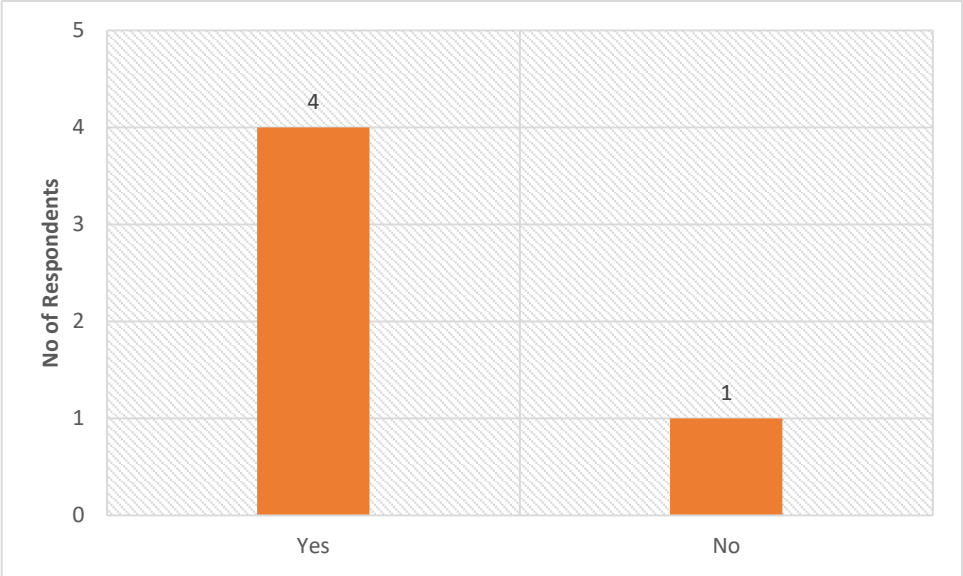

Figure 5.3: Number of respondents who directly work with and process EIA applications, November 2019

Source: Own analysis

As depicted in Figure 5.3, the majority (four of five) of the respondents indicated that they work directly with processing EIA applications. The respondents also stated that they deal with EIA reviews as well as policy and legislation information.

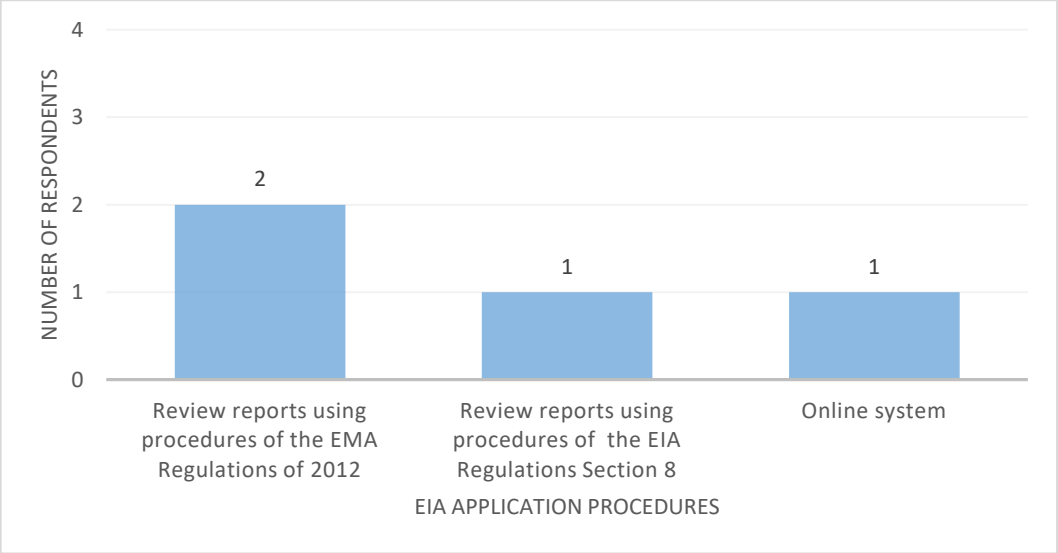

Figure 5.4: EIA application procedures used by the respondents, November 2019

Source: Own analysis

Figure 5.4 illustrates EIA procedures from various legislative frameworks that guide environmental management in Namibia which staff of the Environmental Affairs department use to review EIA applications. Out of the four respondents who process EIA applications, 50% indicated that they use the procedures of the EMA regulations of 2012, while the other remaining indicated that they use the procedures of the EIA regulations section 8 and the online system that was recently introduced.

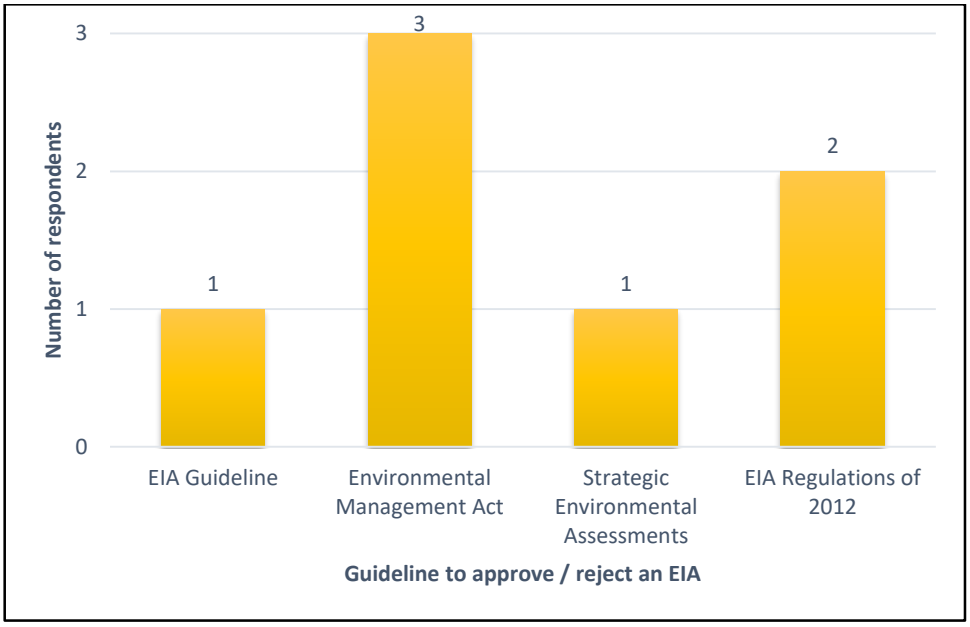

Figure 5.5: Legislation and guidelines used by the respondents to approve or reject EIA applications, November 2019

Source: Own analysis

The results depicted in Figure 5.5 indicate that most of the respondents use the guidelines of the EMA No.7 of 2007 to approve and reject EIA applications while others indicated they use the EIA regulations of 2012. The results further highlight that general EIA guidelines from all EIA legislation and those from the SEA are the least used in these activities.

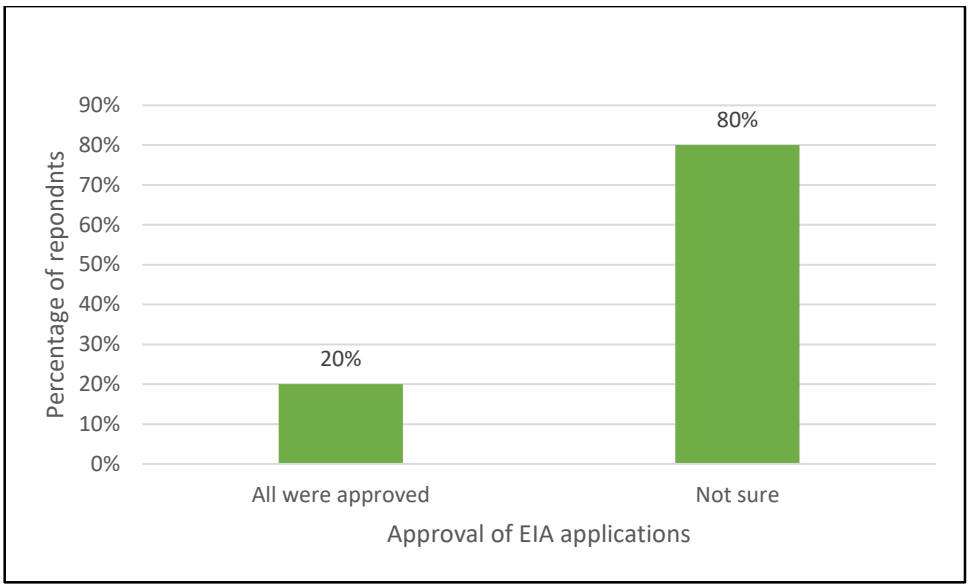

Figure 5.6: Number of EIAs approved between 2010 and 2016 for the Erongo Region, November 2019

Source: Own analysis

Figure 5.6 demonstrates that 20% of the respondents indicated that all EIA applications the ministry received for projects in the Erongo Region between 2010 and 2016 were approved. However, the majority of the respondents (80%) are not sure of how many applications were approved as they could not recall, and finding the records for verification is a challenge due to the way the storeroom is arranged as well as the lack of digital records.

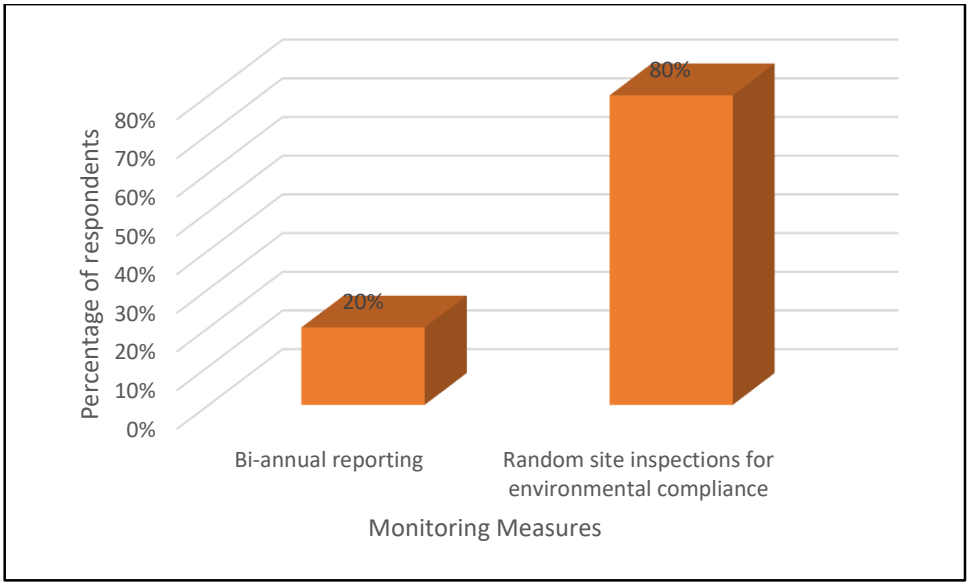

Figure 5.7: Monitoring measures in place to ensure that approved projects are adhering to environmental legislation, November 2019

Source: Own analysis

Since monitoring is one of the crucial aspects that contribute towards the effectiveness of the EIA system, respondents were asked to indicate the monitoring measures Namibia has in place. Figure 5.7 shows that bi-annual reporting, as stated by 20% of the respondents, is one of the monitoring measures. Besides this, 80% of the respondents stated that random site inspections for environmental compliance are the most used monitoring measure in Namibia. Namibia mostly relies on these monitoring measures to ensure that approved developmental projects are adhering to environmental legislation.

5.3.2 EIA and natural resources management/environmental protection

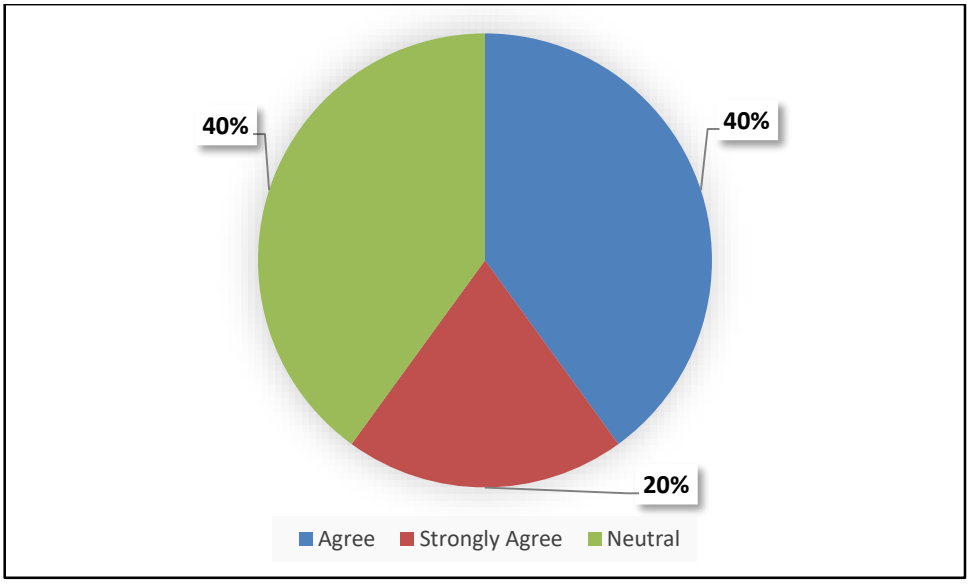

Figure 5.8: EIA process is aimed and protection of natural resources, November 2019

Source: Own analysis

As depicted by Figure 5.8 above, the results show that 20% of the respondents strongly agree that the EIA process is aimed at protecting natural resources, while the remaining 80% of respondents are equally split between those who agree and those who are neutral.

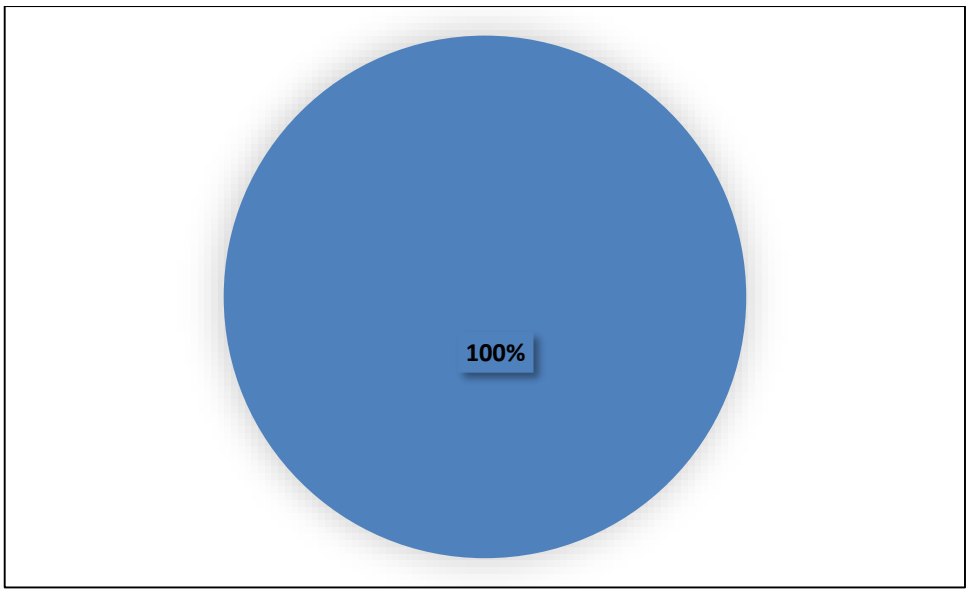

Figure 5.9: EIA as a tool for minimising environmental risks, November 2019

Source: Own analysis

Even if the EIA process cannot prevent all types and various magnitudes of environmental damage, it should at least minimise such risks. Figure 5.9 illustrates that all the respondents agree with the notion that the EIA process should minimise environmental risks.

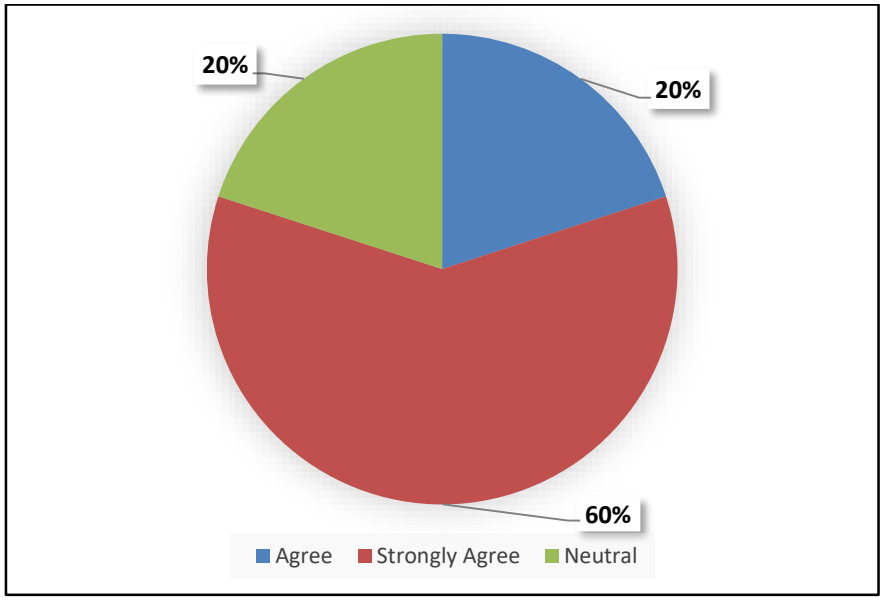

Figure 5.10: Conditions for approving EIA applications, November 2019

Source: Own analysis

Environmental restoration can only be ensured if developers agree and commit to taking responsibility for all environmental damage that results from their projects before the projects can be approved. Most of the respondents (60%) strongly agree that EIA applications should only be approved on condition that developers will be held accountable for future environmental damage caused by the project, while 20% agree and the rest (20%) are neutral, which is a concern since they are expected to be custodians of the environment for future generations.

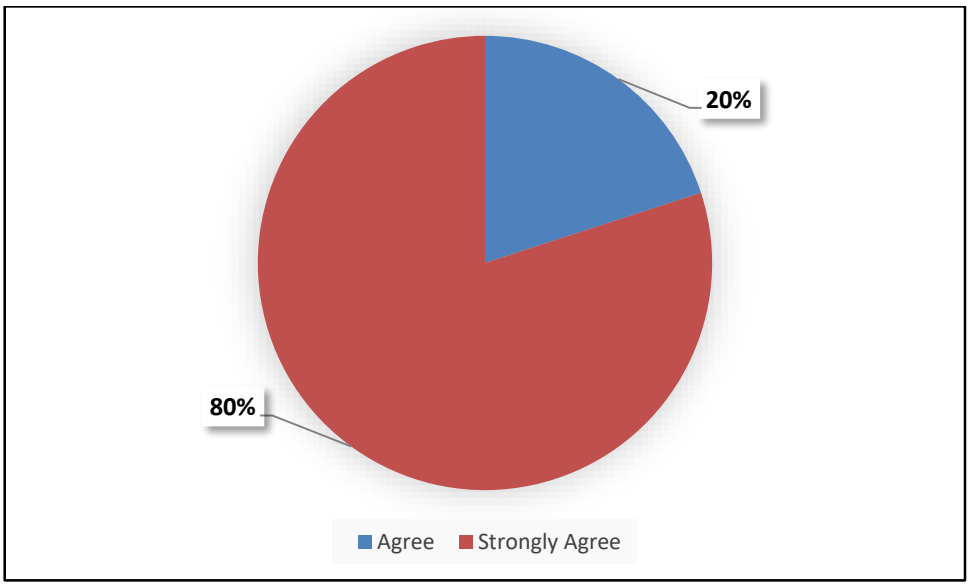

Figure 5.11: The importance of economic and social impacts, November 2019

Source: Own analysis

Although environmental impacts were the main focus of EIAs in the early years, economic and social impacts were included afterwards. Figure 5.11 illustrates that all the respondents are in support of economic and social impacts being treated as critical aspects of the EIA process, with 80% of the respondents strongly agreeing and 20% agreeing.

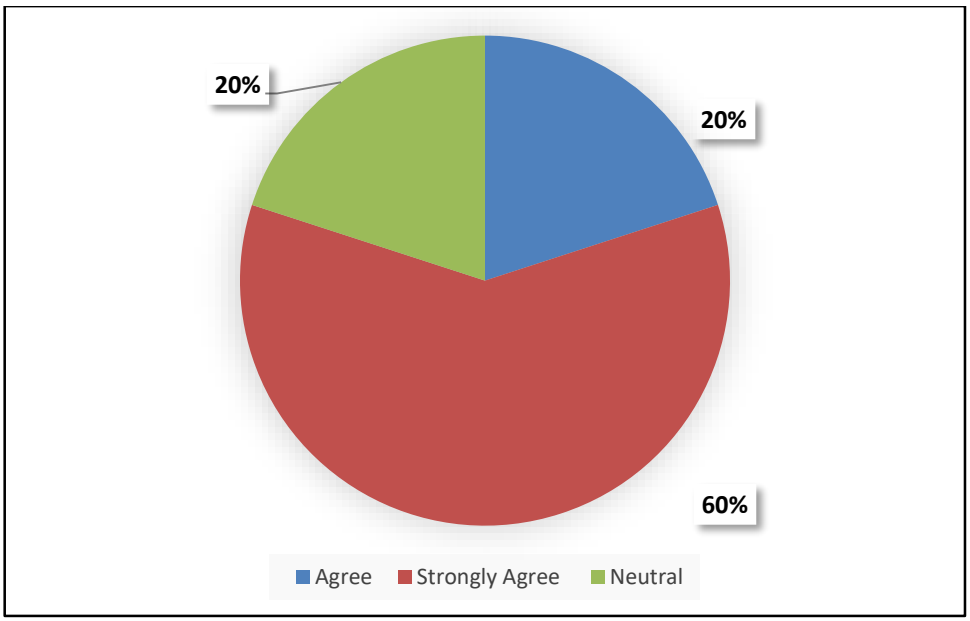

Figure 5.12: The importance of involving all stakeholder groups before the scoping stage of the EIA process, November 2019

Source: Own analysis

As depicted in Figure 5.12, 60% of the respondents indicated that they strongly support the involvement of all stakeholder groups before the scoping stage of the EIA process. The remaining 40% equally represents respondents who agree and who are neutral.

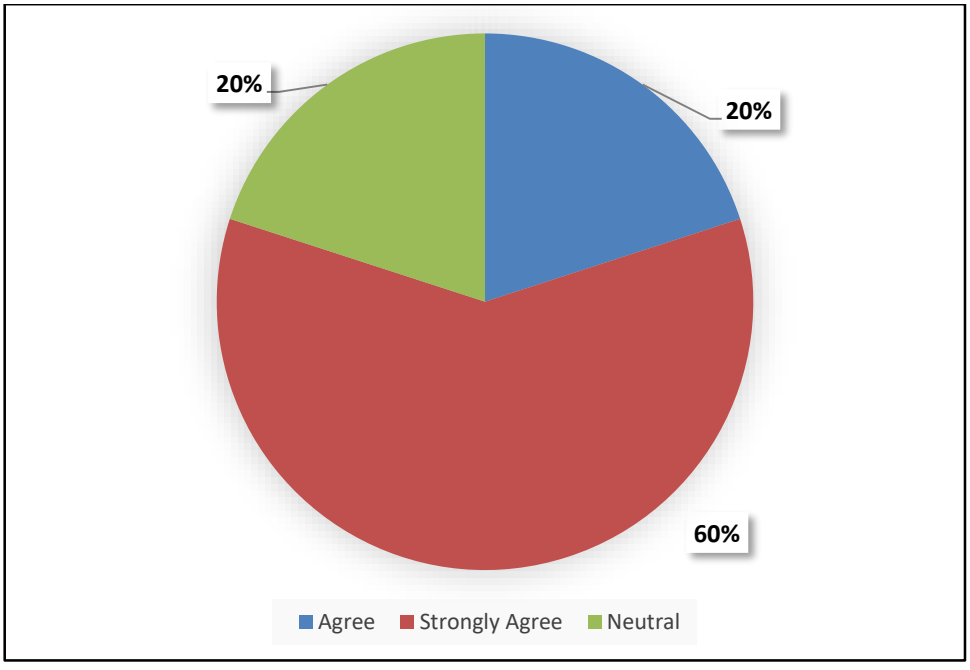

Figure 5.13: Uncertainties regarding future impacts of the development, November 2019

Source: Own analysis

Some developmental projects, especially ones conducted in sensitive ecosystems where insufficient studies have been done, come with uncertainties regarding environmental impacts that might emanate from them in the future. Figure 5.13 above shows that the majority of the respondents strongly agree that if there are uncertainties regarding future impacts, they should also be included in the EIA. Twenty percent (20%) agree with this inclusion, while the other 20% is neutral.

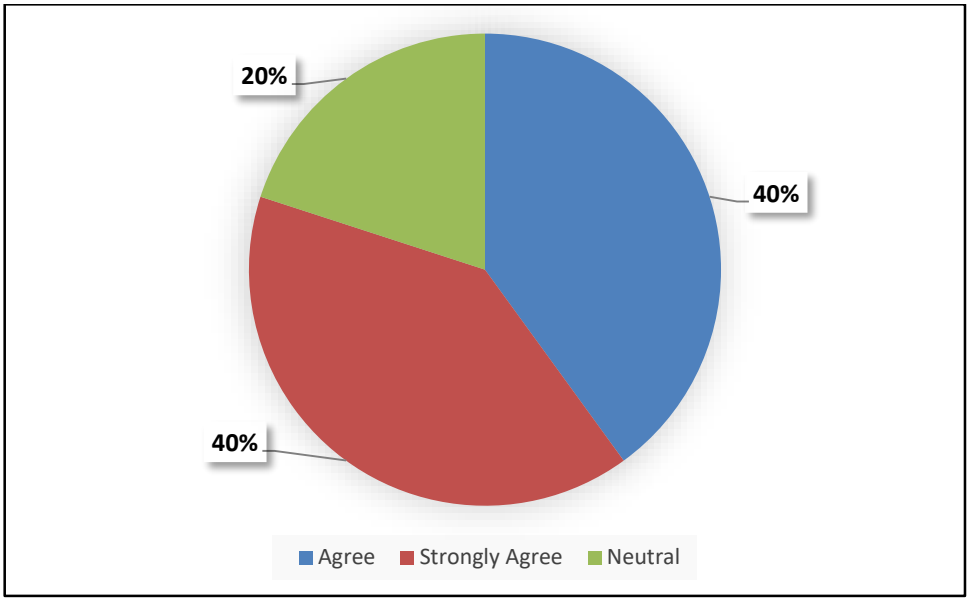

Figure 5.14: Consideration of long-term, cumulative and indirect impacts, November 2019

Source: Own analysis

Negative environmental impacts of some projects may not be visible or experienced right away after the implementation of the project, but their effects might only be felt years later. Some projects might also indirectly affect environments that are not directly linked to the project. Forty percent (40%) of the respondents strongly agree, while another 40% agree and 20% are neutral (Figure 5.14).

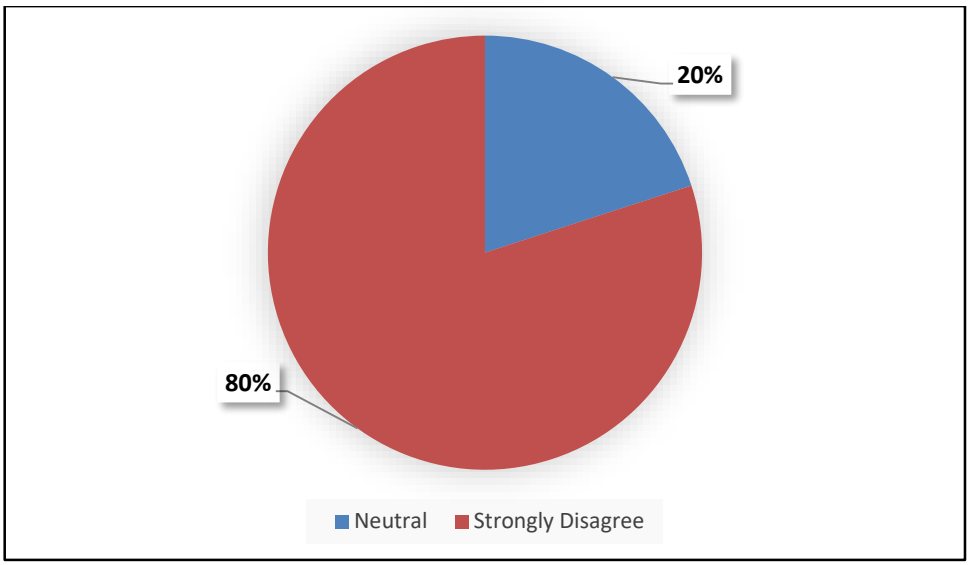

Figure 5.15: Effective participatory principle, November 2019

Source: Own analysis

According to Figure 5.15 above, the majority (80%) of the respondents strongly disagree that the participatory principle of the EIA can only be effective if all the groups involved reaching a consensus, while the remaining 20% is neutral.

5.3.3 Factors that contribute to the effectiveness of EIA in coastal management

The respondents were further asked to indicate factors that contribute to the effectiveness of EIA in coastal management in the Erongo Region, and they listed the following: (1) Compliance with provision of the law; (2) Implementation monitoring and reporting; (3) Project monitoring and enforcement of EMPs. The proponents through the environmental practitioners must come up with an EMP which can be implemented on-site without problems; and (4) Coordination among ICZM stakeholders. Open and thorough participation by I&APs. Strong and coordinated enforcement by relevant authorities, e.g. the MET and MFMR.

5.3.4 EIA and sustainable development

The respondents were asked whether the current EIA process for developmental projects in coastal areas contributes to sustainable development in Namibia. Unfortunately, only 60% of the respondents answered this question. The majority of those who answered (80%) indicated that the EIA process contributes to sustainable development as it helps with the protection of environmental and human health. The remaining 20% stated that the EIA process does not contribute to sustainable development because projects are approved before it can be determined whether they are sustainable. After follow-

up questions were asked for clarity, it was concluded that the respondents (20%) were referring to business sustainability in this case, and not environmental sustainability.

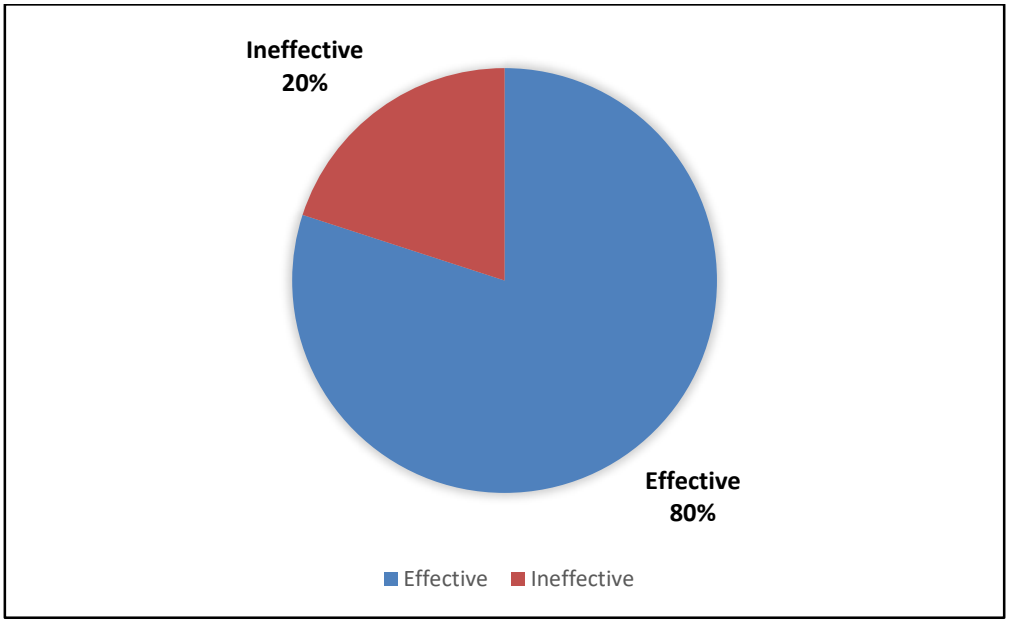

Figure 5.16: Considering and opting for alternative developmental projects, November 2019

Source: Own analysis

Respondents were also asked to indicate whether the consideration of alternative projects that are more sustainable is effectively addressed in the Namibian EIA practice. Figure 5.16 above illustrates that most of the respondents (80%) indicated that this issue is effectively addressed, while 20% of the respondents find it not well addressed,

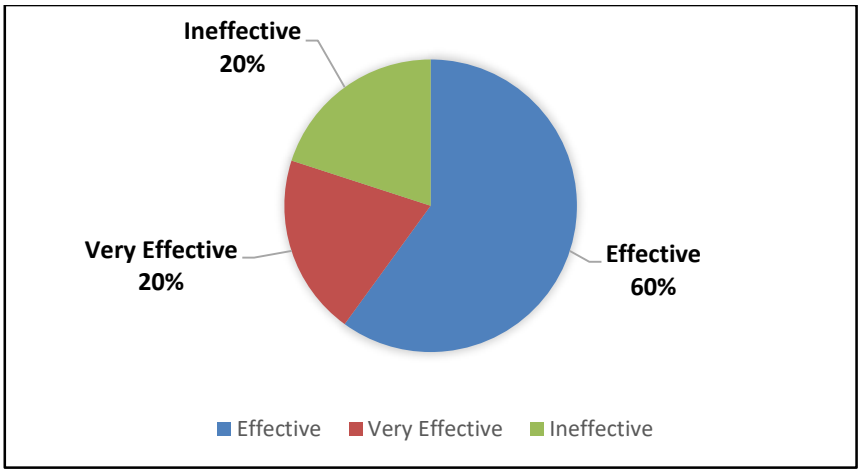

Figure 5.17: Mitigating measures put in place, November 2019

Source: Own analysis

Mitigating measures aimed towards minimising environmental damage are factors that contribute towards sustainable development. Most of the respondents (60%) indicated that this is very effectively addressed in the Namibian EIA practice, while 20% perceived them to be effectively addressed, and the remaining 20% indicated that they are not addressed at all (Figure 5.17).

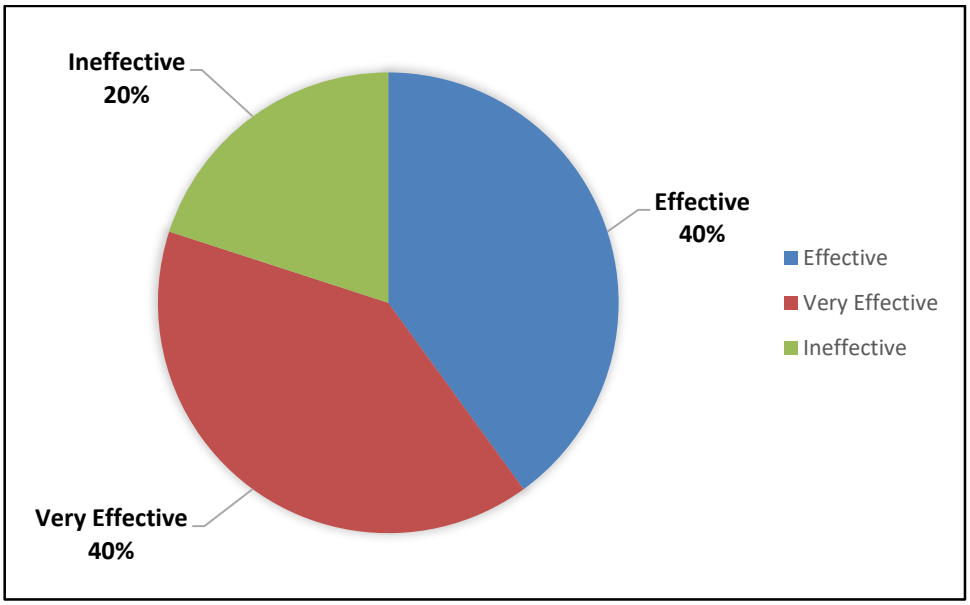

Figure 5.18: Namibian EIA regulations on regulating long-term, indirect and cumulative impacts, November 2019

Source: Own analysis

Furthermore, the respondents were also asked to assess how effectively the Namibian EIA practice addresses the Namibian EIA regulations in predicting and minimising long-term, indirect and cumulative impacts to promote sustainable development. The analysis (Figure 5.18) shows that the respondents perceived such effectiveness as follows: Very effective (40%), effective (40%) and ineffective (20%).

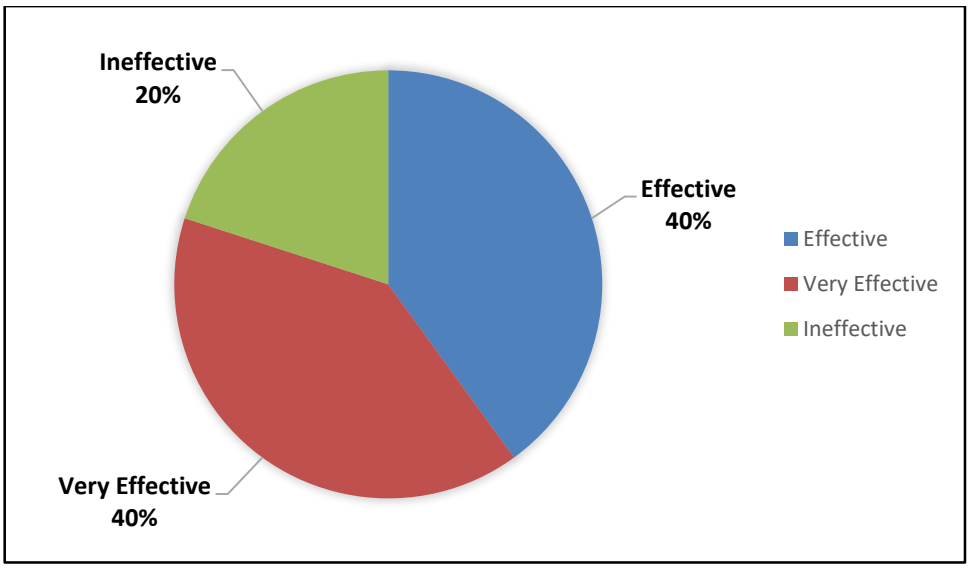

Figure 5.19: Namibian EIA regulations on the inclusion of socio-economic impacts, November 2019

Source: Own analysis

The consideration of social-economic impacts in the Namibian EIA practice is perceived as follows by the respondents: Very effective (40%), effective (40%) and ineffective (20%) (Figure 5.19).

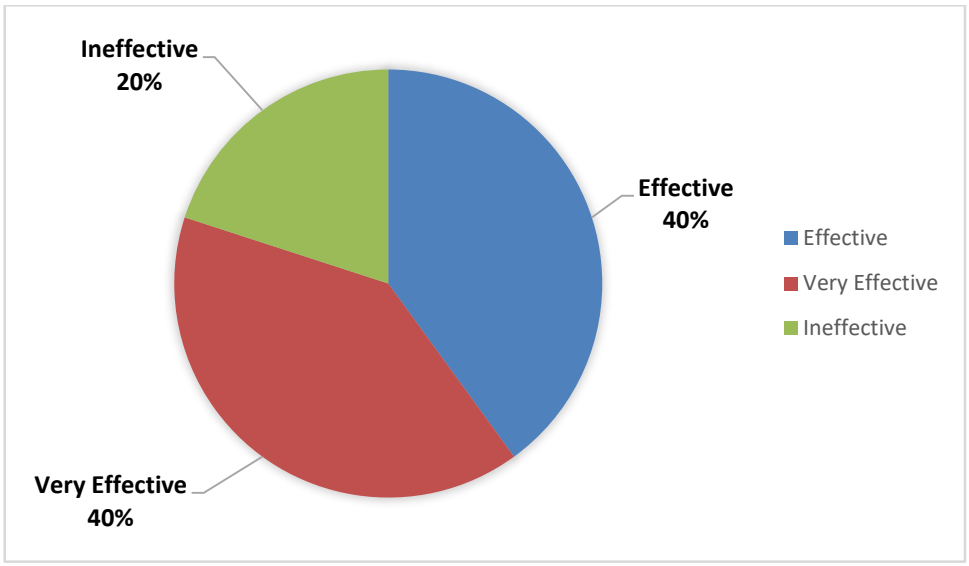

Figure 5.20: Monitoring procedures stipulated by the Namibian EIA regulations

Source: Own analysis

To assess whether developmental projects are being monitored to determine their sustainability, the respondents were asked to indicate how well monitoring is being addressed in the Namibian EIA practice. Figure 5.20 illustrates that 40% of the respondents find it to be well addressed, 40% find it addressed and the remaining 20% find that it is not addressed at all.

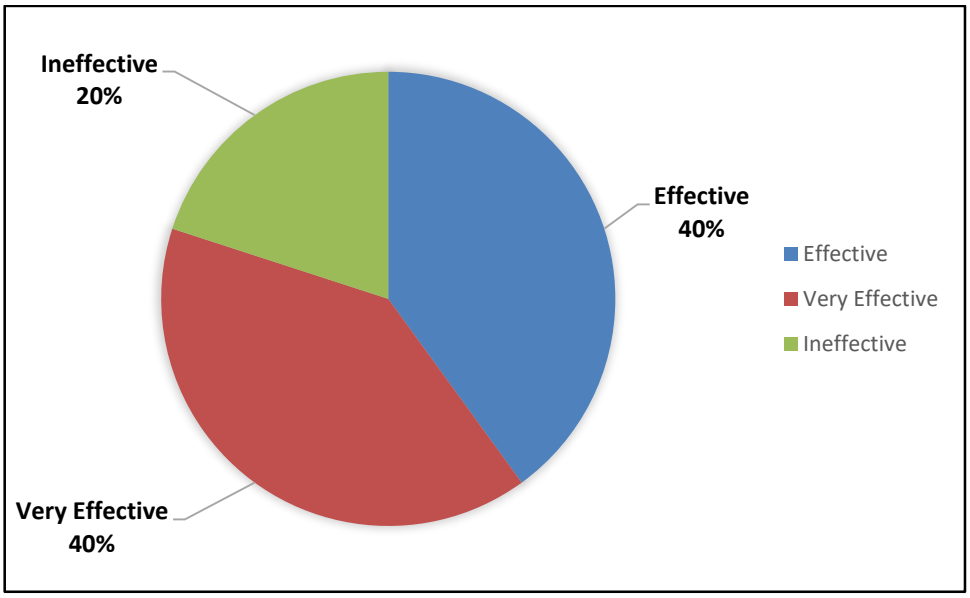

Figure 5.21: Involvement of stakeholders and the public in the EIA process, November 2019

Source: Own analysis

The analysis shows that 40% of the respondents find the stakeholder and public engagement component of the EIA process to be addressed very effectively, while 40% find it addressed effectively, while the remaining 20% indicated that it is not addressed at all (Figure 5.21).

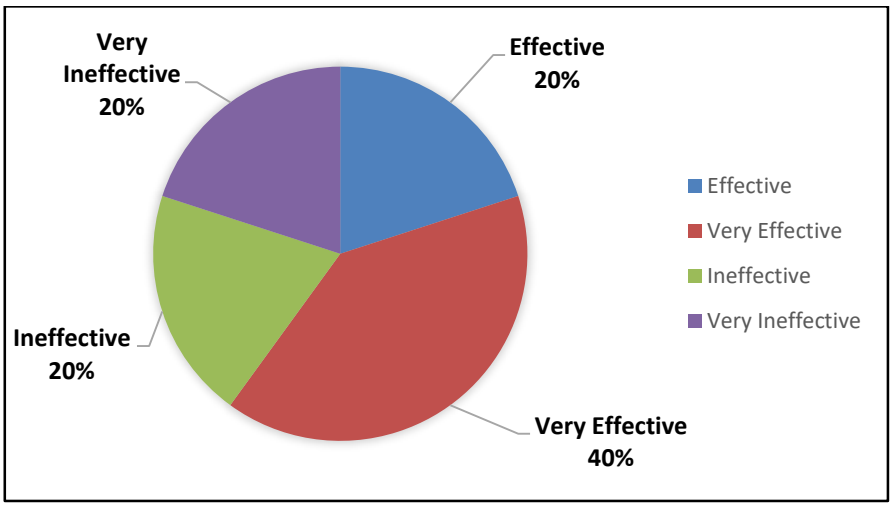

Figure 5.22: Transparency in decision-making, November 2109

Source: Own analysis

According to figure 5.22 above, the majority of the respondents (40%) indicated that EIA practice in Namibia addresses transparency in decision-making very well, while 20% indicated that it is

effectively addressed, 20% indicated that it is ineffectively addressed while the rest (20%) indicated that it is not addressed at all.

5.4 Summary

As a developing country with increasing demands for services, Namibia is currently at a stage where many developmental projects are taking place to meet this demand. Projects conducted in the Erongo Region provide insights into the effectiveness of EIA in coastal management. The increased number of developmental projects in the country places a huge responsibility on the MET, specifically the division tasked with the processing of EIA applications as their operations greatly contribute towards the effectiveness of EIA in Namibia.

This chapter was informed by the literature review, and data was collected through a self-administered questionnaire survey that was completed by 45% of the target sample for the study. Sixteen (16) EIA reports that were reviewed provided an overview of how factors such as public consultation, the involvement of relevant sectors as well as monitoring and reporting, amongst others, are considered in the Namibian EIA system. The collected information was analysed and presented with graphics from Microsoft Excel.

This information was gathered to assess the effectiveness of the Namibian EIA system. As per the evaluation criteria developed from the literature, Namibia has a good legislative framework on EIA in place and met most of the criteria. However, the survey results indicated that more still needs to be done to ensure efficiency, especially with the administrative and implementation parts of the process. Notwithstanding that the DEA considers sustainable development as an important part of the EIA process, and efforts are made to ensure that all approved projects have minimal negative impacts on the environment, a few respondents indicated that there are still essential factors like mitigation that are not completely considered to ensure sustainable development.

CHAPTER 6: DISCUSSION

6.1 Review of EIA reports

Sixteen (16) EIA reports were reviewed for the study, representing various themes. Mining is the most represented sector, followed by infrastructure development or expansion as depicted in Table 5.1. The majority of projects being from the mining sector demonstrates that the coastal region is a hub for economic activities that are likely to have impacts on an environment with sensitive ocean and desert ecosystems, hence the need to avoid or minimise the impacts through an effective EIA process.

Projects aimed at constructing new infrastructure or expanding the existing infrastructure highlighted the need to increase and diversify economic activities in the region that create jobs and improve livelihoods. The other reports considered are for EIAs from other sectors, such as tourism (recreation facilities), energy generation and petroleum.

It is worth noting that although the majority of EIAs conducted are for mining, the presence of projects from other sectors is an indication that the MET is ensuring environmental protection through enforcing EIAs for all the listed activities.

In the previous chapter, the Namibian EIA system was evaluated based on the EIA evaluation criteria of Ahmad and Wood (2002:216), which outlined the following systematic and foundation measures as the most crucial aspects:

- EIA legislation;
- EIA administration;
- EIA process;
- Existence of general and/or specific guidelines including any sectoral authority procedures;
- EIA system implementation monitoring;
- Expertise in conducting EIA;
- Training and capacity-building;
- Legislation and policy.

6.1.1 EIA legislation

The Namibian EIA system, specifically EIAs for coastal areas, currently meet the criteria of compliance with environmental legislation. The Namibian Constitution (Government of Namibia, 1990) laid the foundation for environmental management. Namibia is one of the few countries in the world to have included environmental protection in its constitution. Subsequently, the EMA No.7 of 2007 was enacted and it has clear outlines for all the activities that can be undertaken only with an environmental clearance certificate. Time limits to EIA phases, critical information that must never be left out as well as responsibilities of all parties participating in the process have all been stated in both the EMA and the EIA regulations.

Although it could not be established from the reviewed reports whether any of the projects were rejected after submitting the first EIA report and only got approval after an appeal, EMA No.7 of 2007 makes provision for an appeal. Section 50 of the EMA stipulates that if the environmental clearance is not granted after the first application, the proponent can use a designated form to submit an appeal. The decision regarding the appeal will then be made by the minister based on the review work by internal environmental staff or the recommendations made by an external appeal panel appointed by the minister.

The phosphate mining project is an exception to this as it was initially approved, but the environmental clearance was later withdrawn due to some concerns that were raised by key stakeholders in the fishing industry and environmentalists. At the moment it is not clear whether an appeal has been submitted and what the way forward is, as the aim of this study was not to focus on details of one project as a case study.

6.1.2 EIA administration

Formal institutions have been established to ensure that EIA administration takes place in an organised manner. The DEA within the MET is headed by the environmental commissioner and has various environmental officers tasked with the administration of all the EIAs in the country, including the ones for coastal projects. Namibia continues to make efforts aimed at improving EIA administration and ensuring coordination among all key sectors. Extending the MET to include the forestry division, which was previously housed within the Ministry of Agriculture, is one of these efforts.

6.1.3 EIA process

As the competent authority, the MET coordinates and lead the EIA process for all the projects and is entrusted with the responsibility of authorising activities. The ministry ensures that the application and all the required documents meet with the requirements as contemplated in the EMA and EIA regulations.

In addition to the MET, other competent authorities are already established by law in various industries that might work together with the ministry at some stage of the EIA process. Some of the notable examples of these authorities are municipalities and other local authorities, as one needs approval from them if a project is within their jurisdiction. The Ministry of Mines and Energy is also a good example of a competent authority that works in collaboration with the MET, as it is responsible for issuing mining and prospecting for minerals licences.

All the applications for the reviewed EIAs have gone through and complied with the EIA process as stipulated by the EMA, under the guidance of the MET and other competent authorities where applicable.

Reviewing several EIA reports also revealed that other environmental assessment tools are being consulted to guide or complement the EIA process. One good example of this is the EIA for the Kuiseb Delta and Dune Belt Area that was conducted as a result of recommendations from the regional SEA for the Erongo Region. The SEA concluded that although the area is suitable for community-based tourism, other conflicting activities may use the same resources, hence there was a need for an EIA to develop a detailed EMP for the area. Consideration of other environmental management tools is key to effective environmental protection as they provide baseline information and guidelines for the EIA process.

Based on the EIA reports that were reviewed, proponents follow EIA procedures that have been put in place. However, there are a few isolated instances where some key stages of the process were not duly completed. For instance, the EIA for the Project: Proposed Dredging of Phosphate Enriched Sediments from Marine Licence Area No. 170 was the centre of controversy in the country. The MET approved the project to dredge for phosphate enriched sediments off the Namibian coast in October 2016, but there were public objections and a legal suit from the fishing industry after an environmental clearance was granted. Subsequently, the environmental clearance was suspended in November 2016. Such public objections are a clear indication that sufficient public consultation and stakeholder

engagement were not ensured during the EIA process. Objections made during the EIA process might also not have been considered.

One of the identified weaknesses of the EIA process is the issue of the public not having access to digital copies of EIA reports and other EIA-related documents during the process. Interested members of the public who might not make it to consultation sessions are expected to view the hard copy documents at the MET's head office in Windhoek. This discourages those who might have vital contributions to make and subsequently limit the number of people who can provide input. It is currently a challenge to access EIA reports of most past projects as they are not available at the MET in digital copies. Although environmental practitioners have digital copies of some reports, they cannot share them with the public or researchers, as only their clients have rights to share the reports. However, not all firms (clients) are willing to share their reports.
The phosphate mining case and many others that took place in other regions highlight that although Namibia has good environmental management legislative frameworks that guide the EIA, there are still challenges to an effective EIA process.

Although the Namibian EIA system has met most of the evaluation criteria and is very effective in areas like the legal provisions for EIA, there are still various weaknesses that need to be addressed with the EIA administration and process criteria. Aspects such as mitigating impacts and monitoring measures are very crucial, yet not all EIAs outline such in their reports. Since these are critical, they should be integral parts of the EIA process, hence their inclusion in all the EIAs must be enforced by the MET.

Furthermore, it could not be established from the reviewed reports whether the EIAs conducted for projects in coastal areas contribute to the achievement of sustainable development, due to the lack of a sustainable development checklist. The MET does not have a sustainable development checklist that can be used to evaluate each EIA and determine whether the process is helping Namibia to achieve SDGs. Since the EIA process does not include a checklist that can specifically assess the contribution it is making towards sustainable development, the process cannot be directly linked to the achievement of the SDG targets, although it might be helping Namibia to achieve those.

The EIA system serves as the platform that allows developers equal and fair opportunities to demonstrate how the economic and social pillars of sustainable development are being incorporated in their projects without neglecting the environmental pillar, but the reports do not provide sufficient evidence that SDGs are being achieved. Through the EIA process, the MET can also ensure that

developers have included mitigation measures in their plans to minimise negative environmental impacts that will emanate from their activities.

6.1.4 Existence of general and/or specific guidelines including any sectoral authority procedures

An indication in 88% of the reviewed reports that there are existing guidelines they had to follow is evidence that the Namibian EIA system also meets this criterion. Some of the specific sector guidelines that EIAs must adhere to are health and safety, water and air quality, and radiation. For some activities like mining, there are also rehabilitation guidelines that must be taken into consideration when mining activities in a particular area come to an end.

6.1.5 EIA system implementation monitoring

This category is partially met, as only some of the reviewed EIAs have indicated that they have an EIA implementation monitoring system in place. Lack of monitoring plans and procedures from some reports is an indication that this is not enforced and might result in many projects being approved without substantive implementation and monitoring systems in place.

6.1.6 Expertise in conducting EIA

The purpose of this category is to assess whether the country has sufficient experts in environmental and other crucial fields that are conducting EIAs. In terms of education and skills, the Namibian EIA system fully met the conditions of this category as all the reviewed EIAs were conducted by environmental practitioners who are qualified in the relevant fields and have vast experience in conducting environmental assessments.

Notwithstanding that 30% of the reviewed EIAs were conducted by foreign environmental practitioners, it is noteworthy to mention that the number of Namibian environmental practitioners has been increasing over the years. Evidence from the reviewed reports also indicates that Namibian environmental practitioners mostly concentrate on the social/socio-economic sections of the assessments and outsource the technical sections to their international/foreign counterparts.

6.1.7 Training and capacity-building

The training and capacity-building component might be overlooked in many projects, but it is very important. It is through this component that local communities can be empowered through skills

transfer. The socio-economic sustainability of developmental projects also depends on this component sometimes.

According to the reviewed reports, projects in coastal zones of Namibia do not take training and capacity-building into consideration, as only 37.5% of these reports outlined training and capacity development plans.

6.1.8 Other legislation and policy

Although there is no evidence that the reviewed EIAs have complied with all other relevant legislation apart from the EMA and EIA regulations, several policies and other legal frameworks that were considered have been outlined.

Amongst many other sectoral policies that have been outlined, the Water Resources Management Act 24 of 2004, Minerals Act 33 of 1992 and the Marine Resources Act of 2000 were highlighted in most of the reports. This emphasises the importance of ensuring that the amount of water that will be used by the project will not affect other projects, as well as day-to-day water consumption by local communities. The Erongo Region is a hub of mining and fishing activities; hence the Minerals Act and Marine Resources Act are also highlighted by many of the reports.

6.2 Results of the survey

6.2.1 Institutional arrangements and people

As indicated in previous chapters, the MET, recently renamed to the Ministry of Environment, Tourism and Forestry, is the institution tasked with the EIA process amongst many other environmental-related activities. Although the ministry works in collaboration with many other institutions representing various sectors, it is at the forefront of environmental governance in the country.

The results of the survey further highlighted this commitment, as they indicated that the ministry has a specific department dedicated to environmental affairs with subdivisions on environmental assessments, waste management as well as pollution control and inspections. The division dealing with EIA applications is equipped with staff who are experienced in this field, the survey revealing that some of them have worked there for 11 to 15 years.

Although the findings indicate that there is a ministry responsible for environmental governance equipped with the relevant staff, it does not mean that the EIA process is always effective in coastal management or other areas. The fact that the department dealing with environmental affairs is centralised and staff are based at the head office in Windhoek could be a challenge, as they need to travel extensively to be able to attend to environmental issues and monitor whether projects are adhering to the regulations throughout implementation. Regions like Erongo can have multiple developmental projects taking place simultaneously due to various types of activities that can take place there. Therefore, decentralisation of such a department to some regions could speed up the EIA process and improve its effectiveness in the end.

6.2.2 Legislation

In addition to the Constitution that serves as a starting point for environmental protection in Namibia, several legislative frameworks govern the EIA process. As indicated by the respondents, the EMA No.7 of 2007 and the EIA regulations of 2012 are used as the legal frameworks for approving or rejecting EIA applications for the Erongo Region as well as other parts of the country. The EIA guideline that was specifically compiled for handling EIA applications and SEA for areas that have SEA are also being used to guide the EIA process.

The use of all the above legal documents as guidance for the EIA process is an indication that environmental legislative frameworks are being implemented and not just appearing on paper. The implementation of legislative frameworks is an essential component of environmental governance as it promotes transparency and accountability. Clearly defined regulatory frameworks and accounting for most of the established elements of the EIA process is one of the strengths of the Namibian EIA system.

Notwithstanding the great achievement of enacting and implementing environmental management legislation, there are still challenges facing the EIA system regarding this aspect. Although the EMA No.7 of 2007 was enacted in 2007 and subsequently the EIA regulations in 2012, there are still members of society who are not aware of these laws and the implications that come with not adhering to them. This has resulted in listed activities commencing without obtaining environmental clearances from the Ministry of Environment, Tourism and Forestry first. In most cases, such activities are only reported to the ministry when environmental damage has already taken place and the adverse impacts are visible. Even after interventions from the ministry, some continue with such activities without the ministry's knowledge. For instance, illegal sand mining in the northern parts of Namibia has been taking place for some years before the ministry could intervene.

Commencing with listed activities without obtaining an environmental clearance is an indication that some people are not aware of environmental management laws that govern such activities, hence there is a need to create awareness of such laws and educate the general public about them. There are still conceptions that people should be allowed to use natural resources to support their economic activities, without taking responsibility for environmental damage that might result from such activities.

6.2.3 EIA administration

Like for many other sectors, the governing aspect is very important in environmental governance. The ministry, as government's representative in environmental governance, is expected to have put in place arrangements that will ensure the effectiveness of the EIA administration and the whole process. The respondents in this study were asked to indicate the number of projects that were approved as well as the number of projects that were rejected for the Erongo Region during the reference period, as well as to state the reasons behind such decisions. Such information was required to make comparisons and identify factors that result in the rejection of EIA applications as opposed to meeting requirements.

However, the majority of the respondents stated that they were not sure, hence they could not give a clear indication of approved and rejected projects. On the other hand, the few respondents who could provide the information indicated that all the projects during the reference period were approved. In this case, the results highlight that keeping proper records that are easily accessible to all staff is one of the weaknesses of the Namibian EIA process. Although these records are available somewhere, it is very difficult to find them as the storeroom where all these records are kept is currently being rearranged, which makes it difficult to find the files of projects conducted a few years ago.

It is good to note that this weakness is already being addressed, as the MET recently launched an online EIA application system. The online system was launched on 24 October 2019 to enable the ministry to attend to the increasing demand for environmental clearance certificates more efficiently and effectively (Ministry of Environment, Tourism and Forestry, 2019). According to the Ministry of Environment, Tourism and Forestry (2019), the system is a big achievement for the administration of EIAs in Namibia, as it will be more user-friendly and transparent than the current manual application system.

Furthermore, the online system addresses the challenge of the whole EIA application process being centralised in Windhoek by allowing applicants to submit their applications as well as track the

progress online from anywhere, instead of travelling to Windhoek for submissions and inquiries. As one of the current weaknesses of the Namibian EIA system, the aspect of public engagement throughout the process will also be strengthened. Interested and affected parties are now able to provide their comments on EIAs and any other related documents (Ministry of Environment, Tourism and Forestry, 2019) on this system. Members of the general public also have an opportunity to raise their concerns as well as report cases of non-compliance with the environmental governance laws online (Ministry of Environment, Tourism and Forestry, 2019).

6.2.4 Impact mitigation and monitoring

As already revealed by the reviewed EIA reports, the results of the survey also support that most projects the ministry approves have included mitigation measures in their EIA reports. Mitigation measures give details of how the proponent will avoid or minimise negative environmental impacts that are likely to result from their projects. Stating the mitigating measures in the EIA report is not sufficient, hence the need to have an effective monitoring system to ensure that such measures are really being practiced on the ground and not just on paper.

Ministry officials conduct random site inspections to assess whether proponents are complying with the regulations. The proponents are also required to report at least twice a year to update the ministry on the progress regarding mitigation of impacts.

6.2.5 EIA and sustainable development

To achieve objective four of this study, which is to determine whether EIAs are contributing towards the achievement of sustainable development, findings from both the reviewed EIA reports and the survey were considered. The extent to which sustainable development has been included in the Namibian Environmental Management legal frameworks has also been considered.

Inclusion and adequate coverage of sustainable development in EMA No.7 of 2007 is another good demonstration of how the achievement of sustainable development is high on the Namibian developmental agenda. The EMA stipulates that a Sustainable Development Advisory Council should be established to promote co-ordination among various organisations on environmental issues relating to sustainable development. Members of the current Sustainable Development Advisory Council were appointed in December 2019 to advise the Minister of Environment on issues relating to compliance of the EMA and sustainable management of natural resources.

In addition to the EMA No.7 of 2007 and legal frameworks governing environmental management and sustainable use of natural resources, Namibia has been developing operational frameworks as a means to achieve sustainable development. Vision 2030 is one these major frameworks developed to take Namibia from the present into the future of improved quality of life for its citizens through a system based on plans for promoting sustainable socio-economic development. There are also NDPs which were formulated to serve as short-term developmental goals that will enable the achievement of the long-term goals outlined in Vision 2030. Namibia is currently implementing NDP5, which is the fifth in the series of these goals. The NDP5 as discussed in previous chapters extensively covers the three pillars of sustainable development and outlines a sustainable environment as one of its goals. Namibia has also integrated the current SDGs into the national developmental documents like the NDP5.

As mentioned earlier, it is important to have good and clear legal as well as operational environmental frameworks to guide us in the activities aimed at environmental protection. However, it serves no purpose when all these good policies are not implemented effectively, hence it is even more important to ensure that the institutions, systems and procedures put in place are governed in such a way that they contribute towards the achievement of national development goals and sustainable development.

EIAs are among many environmental management tools that the Namibian government uses to contribute towards the achievement of sustainable development. Although sustainable development is expected by many to be the principal aims of the EIA, the tool is not always successful in achieving the SDGs (Nieslony, 2004:14). Studies have been conducted on general issues regarding the effectiveness of EIA, however, little has been researched on the direct relationship between EIA and sustainable development (Nieslony, 2004:14).

The respondents were asked to indicate whether conducting EIAs for projects in the Erongo Region, which is a developmental hub for activities from various sectors, is contributing towards the achievement of sustainable development in Namibia. The majority of the respondents are confident that EIA is contributing towards the achievement of sustainable development and support Nieslony (2004:14), who stated that EIA serves as the balancing tool in resolving conflicts between economic development and environmental protection. Aiming for such a balance highlights that the EIA aids in achieving the purpose of sustainable development through platforms where consensus decisions are made and all major projects are scrutinised by a wide range of stakeholders. They further indicated that the EIA process ensures that environmental factors are integrated into project planning and

decision-making, hence this contributes towards the achievement of ecological sustainability and sustainable development.

Furthermore, findings from the survey also indicate that EIA is an integral part of sustainable development. The EIA process ensures that alternative projects that might be more sustainable than the proposed one are considered. Consideration of alternative projects plays a key role in the EIA process as it strives for a balance between environmental and socio-economic factors by giving a chance to the proponents to commence with the developmental projects while avoiding environmental damage.

Development can only be sustainable if there are clear plans of how adverse environmental impacts will be avoided or minimised. Proponents are also required to include mitigating measures in their EIA applications. The inclusion of mitigation measures demonstrates whether the proponent is committed to minimising environmental impacts that will result from the project. Mitigation also includes environmental restoration in cases where the project results in environmental damage that can only be mitigated after the project has come to an end.

The respondents also indicated that including stakeholder engagement and public consultation in the EIA process is a good example of how it promotes sustainable development. Public consultation serves as a platform that provides opportunities for various affected groups to discuss issues until consensus decisions are made. Other stakeholders and affected parties might be able to submit comments on EIA documents through other means, however, public consultation might be the only option for the minority groups and affected communities to raise their concerns.

Despite an extensive inclusion of sustainable development in the environmental legislation and positive feedback from the majority of the respondents, there are still a few challenges that are hindering the EIA process from contributing towards sustainable development much more effectively than its currently doing.

Notwithstanding that Namibia has good environmental legislation that covers all the necessary aspects, there is a still a weakness of some these aspects not being covered in detail to provide clear guidance on the EIA process. For example, the list of activities that require an environmental clearance does not explicitly give details of some of the activities and this might result in activities that have adverse impacts on the environment being conducted without going through the EIA

process. This defeats the goal of achieving sustainable development as there is no way of ensuring a balance between environmental and socio-economic factors without assessing the impacts.

Although proponents include mitigation measures and monitoring aspects in their EIA reports, implementation and impact monitoring are not legally required. Lack of clear legal requirements regarding the implementation and impact monitoring creates a loophole when it comes to proponents taking full responsibility and accountability of impacts resulting from their projects. Therefore, legally enforced and consistent monitoring is one of the weaknesses of the EIA process that limits its potential to effectively contribute to the achievement of sustainable development.

A few (20%) of the respondents feel that the EIA process is not effective in promoting the achievement of sustainable development. Although there was no further information provided to elaborate on why they feel that way, it's an indication that there are still challenges that need to be addressed.

As indicated in the previous section, the results of the survey are not sufficient to determine whether the EIA is helping Namibia to achieve sustainable development. Despite the strength of some EIA stages that were discussed above when it comes to promoting sustainable development, in the absence of the checklist, the EIA process still cannot be directly linked to the achievement of SDG indicators in Namibia. It is also notable to mention that although there is a Sustainable Development Advisory Council that is appointed by the minister, it does not play any role in the EIA process.

However, other sources that were not the focus of this study, but consulted, provide some insights in terms of the progress Namibia has made in achieving SDG indicators. The EIA process might have contributed to this progress directly or indirectly, despite the lack of the sustainable development checklist to link it to such progress.

According to the Sustainable Development Goals Baseline Report for Namibia, published by the Namibia Statistics Agency (NSA) in 2019, Namibia can report on the state of the country regarding some SDG indicators. Except for some indicators that are under-reported, most indicators under Goals 1, 3, 11, 14 and 15 show positive trends regarding the progress made in achieving them, while most indicators under Goals 8 and 13 show negative trends (NSA, 2019:39).

6.2 Summary

This chapter concentrated on discussing details of the results from the reviewed EIA reports and the survey conducted at the MET. The discussion intensifies the findings of this study regarding the coverage of EIA by environmental legislation, institutional arrangements and people behind the EIA process, administration of the EIA process, impact mitigation and monitoring aspects as well as the contribution EIA makes towards the achievement of sustainable development in the coastal zone.

Based on the effectiveness criteria that was used, the EIA process for coastal zone projects was rated to be high for compliance to environmental legislation, EIA administration and requirements for mitigating impacts, but low on coordination among relevant sectors, the requirement for monitoring, public consultation as well as training and capacity-building.

Table 6.1: Evaluation results summary

No	Criterion	Evaluation results
1.	Are there legal provisions for EIA?	Criteria met
2.	Are there provisions for appeal by the developer or the public against decisions	Criteria met
3.	Are there legal or procedural specification of time limits?	Criteria met
4.	Is the consideration for SEA mandatory for some activities?	Criteria not met
5.	Is there a competent authority for EIA and determination of environmental acceptability	Criteria met
6.	Are there specifications of sectoral authority's responsibilities in the EIA process?	Criteria met
7.	Is there coordination with other planning and pollution control bodies?	Criteria partially met
8.	Does the EIA process include specific screening categories?	Criteria met
9.	Does the EIA process follow a systematic screening approach?	Criteria met
10.	Does the EIA process follow a systematic scoping approach?	Criteria met
11.	Is the consideration of alternatives compulsory?	Criteria not met

12.	Is there a provision for public participation in the EIA process?	Criteria partially met
13.	Are there requirements for mitigation of impacts in the EIA?	Criteria met
14.	Are the requirements for impact monitoring in the EIA?	Criteria partially met
15.	Are there general and/or specific guidelines including any sectoral authority procedures?	Criteria met
16.	Does the EIA system make provision for the training and capacity-building component?	Criteria not met

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1 Conclusion

This study aimed to evaluate how EIAs comply with Namibian laws and guidelines, and whether they are effective as an environmental management tool in coastal management based on the review of EIA reports of several projects conducted in one of the Namibian coastal regions.

The Namibian Constitution (Government of Namibia, 1990) the EMA No.7 of 2007, the EIA regulations of 2012 and the NPCM for Namibia 2012 were identified as the major legal frameworks for coastal EIAs in Namibia.

Moreover, evaluation criteria were adapted from Ahmad and Wood (2002) and customised to evaluate the effectiveness of EIAs of projects conducted in the Erongo Region for the period 2010 to 2019. The adapted criteria focused on aspects such as EIA legislation, EIA administration and EIA process which are grouped as systematic measures of the EIA as well as several aspects under foundation measures.

Subsequently, the adopted evaluation criteria were used to assess 16 EIA reports of the projects from various themes conducted in the Erongo Region to determine if the EIA process contributes towards the achievement of national development goals and SDGs in the country.

Based on the review of EIA reports as per the criteria developed from literature and results of the survey, it was concluded that compliance with the legal framework relating to EIAs is satisfactory for projects conducted in the coastal zones of Namibia.

The findings have also shown that although monitoring is listed as a requirement, it is not enforced of the ground, hence cases of environmental damage might not always be identified in time. Moreover, the findings demonstrated that despite the EIA system meeting the criteria for having institutional arrangements in place, many challenges are lowering the quality of some administrative activities. Effective public consultation has also been identified as one of the weaknesses of the Namibian EIA system. However, an online EIA application system that recently started operating will hopefully be a solution to these challenges.

Furthermore, the EIA process could not be directly linked to sustainable development indicators, hence there is no substantive evidence to highlight the contribution that EIA is making to sustainable development. As a result, the fourth objective of the study is not fully achieved. It will serve as a baseline for further detailed research on the link between EIA and sustainable development in Namibia.

The combination of development potential and environmental sensitivity characteristics in the coastal zones of the Erongo Region and other parts of Namibia has placed coastal management high on the conservation agenda. Establishment of the NACOMA project to strengthen conservation and sustainable use of biodiversity in coastal ecosystems, as well as the enactment of the NPCM in 2013, are some of key actions that have been taken to demonstrate commitment towards coastal management. SEAs that were developed for coastal regions in Namibia help to ensure that development does not negatively affect the environment by describing current land uses, impacts and threats along coastal zones as well as recommended mitigation measures in relation to PPP for certain areas.

7.2 Recommendations

The following recommendations are made, based on the findings of the study:

- There is a need to create awareness about the EMA No.7 of 2007 and other environmental management legal frameworks.
- Decentralising some of the EIA administrative activities to the regions with a lot of developmental projects like Erongo will assist the ministry with processing the applications faster and subsequently improve the effectiveness of the EIA system.
- Increasing the number of local environmental practitioners that are involved in conducting EIAs will strengthen the training and capacity criterion, which is currently weak.
- Further detailed research on the effectiveness of the Namibian EIA system that will look at cases studies of major projects from all 14 regions of the country as well as different thematic areas is highly recommended. It will be ideal for this study to be conducted two to three years from now to allow the online system to operate for some time and gain momentum. This will ensure that all the necessary EIA records will be easy to retrieve and access, giving the researcher a wide range of case studies to choose from. If possible, efforts should also be made to add records of the old projects that were conducted before 2019 to the online system.

- Objective criteria based on the SDGs must be developed and provided as a guideline for evaluation of EIAs. This will make it evident how each project is helping the country achieve its targets for the SDGs.

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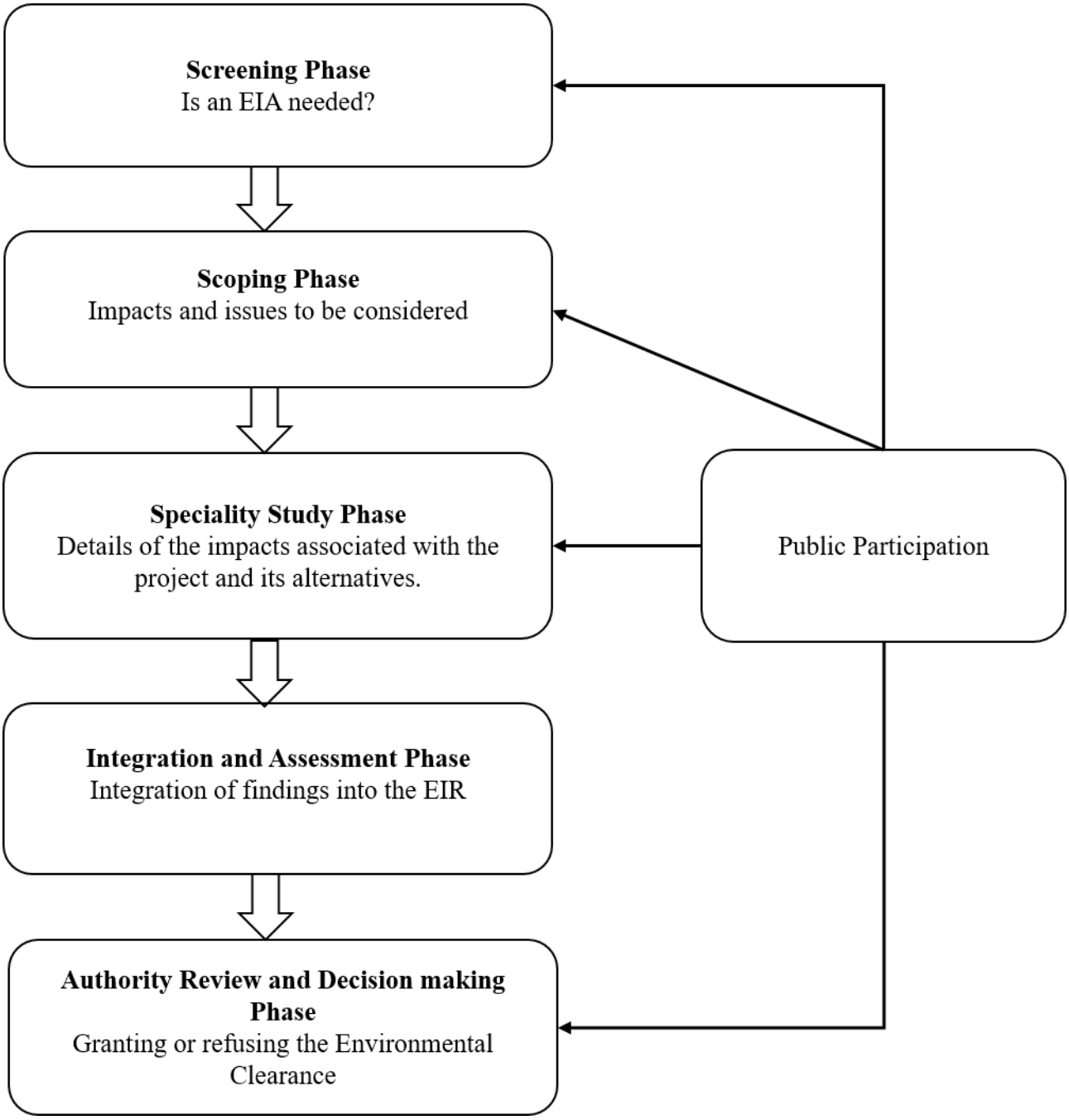
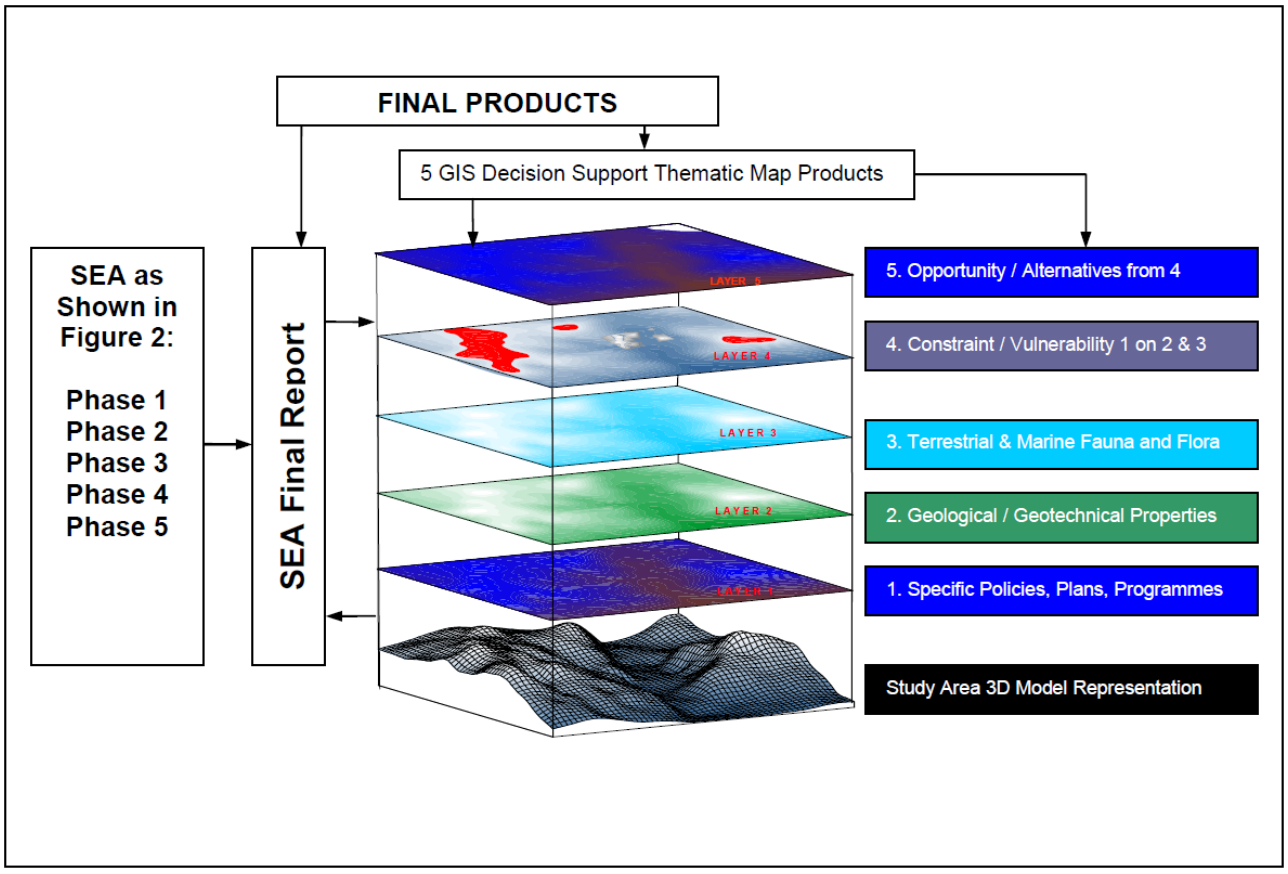
APPENDICES

Appendix 1: Phases of the EIA Process



Stages of the EIA Process. Source: Own compilation.

Appendix 2: Stages of the SEA



Phases of SEA in Namibia. Source: Directorate of Environmental Affairs 2008:25.

Appendix 3: Permission to conduct a research study at the Ministry of Environment and Tourism

REPUBLIC OF NAMIBIA

MINISTRY OF ENVIRONMENT AND TOURISM

Tel: (00 26461) 284 2111
Fax: (00 26461) 232 097

E-mail: damian.nchindo@met.gov.na

Enquiries: Mr. Damian Nchindo

Cnr Robert Mugabe &
Dr Kenneth Kaunda Street
Private Bag 13306
Windhoek
Namibia

07 March 2019

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

Lovisa R. Nangombe
P.O. Box 1644
Windhoek
Namibia

Dear Madam

SUBJECT: PERMISSION TO ACCESS ENVIRONMENTAL IMPACT ASSESSMENT REPORTS AND CONDUCT A RESEARCH STUDY

I acknowledge receipt of your request concerning the above subject matter.

Kindly be informed that, the permission to access Environmental Impact Assessment reports and conduct a research study is hereby granted. As such, the Environmental Impact Assessment reports will be availed upon making prior appointment with our office.

You are therefore, required to make an appointment with the Office of Environmental Commissioner during the official working hours in order for the documents to be availed to you. The appointment can be done by contacting Mr. Damian Nchindo at 061-2842717 or via email: damian.nchindo@met.gov.na

Yours sincerely,

Fredrick Mupoti Sikabongo
DEPUTY ENVIRONMENTAL COMMISSIONER

"Stop the poaching of our rhinos"

All official correspondence must be addressed to the Permanent Secretary

Appendix 4: Questionnaire

UNIVERSITEIT STELLENBOSCH UNIVERSITY

SPL SKOOL VIR PUBLIEKE LEIERSKAP SCHOOL OF PUBLIC LEADERSHIP

Evaluation of Environmental Impact Assessments (EIAs) in Coastal Management: A Case of Erongo Region in Namibia

QUESTIONNAIRE

My name is Lovisa Nangombe, I am pursuing a Master of Philosophy in Environmental Management at the University of Stellenbosch, School of Public Leadership. This questionnaire is part of my thesis study. I am collecting data on the effectiveness of Environmental Impact Assessments (EIAs) as an environmental management tool for coastal management.

This questionnaire will ask you about your experience with processing of EIA applications, and should not take too much of your time. The information obtained from this questionnaire will be treated as confidential, and participants will not be linked to the information in the report.

Please tick the most appropriate box where applicable.

Questionnaire Code ----------

1. For how long have you been working in this department?

- Less than 1 year ☐
- 1-5 years ☐
- 5-10 years ☐
- 10-15 years ☐

2. Do you directly work with processing EIA applications?

- Yes ☐
- No ☐

3. If your answer to no. two (2) is NO, which of your duties relate to EIAs?

4. If your answer is YES, what procedures do you follow when processing EIA applications?

5. Which of these guidelines do you use for approving/ rejecting EIA applications?

- Environmental Management Act ☐
- EIA guidelines ☐
- Strategic Environmental Assessment (SEA) ☐
- Others ☐

6. If you have ticked OTHERS, please provide more details:

7. Of all the EIA applications received between 2010 and 2016, to your knowledge how many were for the coastal areas in Erongo region?

8. Of those for the coastal areas, how many of those applications were approved?

9. What monitoring measures are in place to ensure that approved projects are adhering to environmental legislation?

10. Of those for the coastal areas, how many applications were rejected?

11. What were the reasons for rejecting such applications?

12. To what degree do you agree/ disagree with the following statements?

a) The EIA process is aimed at protecting natural resources

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

b) The EIA should be a tool for minimising environmental risks

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

c) The EIA applications should only be approved on condition that the developers will be responsible and held accountable for future environmental damages caused by the project

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

d) Economic and Social impacts should also be considered as crucial aspects just like the environmental impacts

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

e) It is crucial to involve all the stakeholder groups before the scoping stage of the EIA process

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

f) Uncertainties regarding future impacts of the development should also be included in the EIA process

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

g) The EIA process should not only concentrate on short term impacts, but should also consider long term, cumulative and indirect impacts

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

h) For the participatory principle to be effective, all stakeholder groups involved should reach a consensus

Strongly agree ☐ Agree ☐ Neutral ☐ Disagree ☐ Strongly disagree ☐

13. What, in your opinion, are the factors that will contribute to the effectiveness of EIA in coastal management?

14. Is the current EIA process for developmental projects in coastal areas contributing to sustainable development? Please motivate your answer with examples.

15. How effectively are the following issues addressed in the Namibian EIA practice to promote sustainable development?

a) Considering and opting for alternative developmental projects that are more sustainable

Very effective ☐ Effective ☐ Ineffective ☐ Very ineffective ☐

b) Mitigating measures put in place

Very effective ☐ Effective ☐ Ineffective ☐ Very ineffective ☐

c) Paying attention to long term, indirect and cumulative impacts of the development project

Very effective ☐ Effective ☐ Ineffective ☐ Very ineffective ☐

d) Paying attention to socio- economic impacts

Very effective ☐ Effective ☐ Ineffective ☐ Very ineffective ☐

e) Monitoring procedures put in place

Very effective ☐ Effective ☐ Ineffective ☐ Very ineffective ☐

f) The involvement of stakeholders and the public at large

Very effective ☐ Effective ☐ Ineffective ☐ Very ineffective ☐

g) Transparency in decision making

Very effective ☐ Effective ☐ Ineffective ☐ Very ineffective ☐

16. Is there anything else that you would like to say about the EIA process in coastal management that was not covered by the questions above?

_____

_____

_____

_____

_____

17. Is there anything else that you would like to say about EIAs and the promotion of sustainable development that was not covered by the questions above?

_____

_____

Thank you for your time and efforts.

Please complete the questionnaire and return it on or before 16 October 2019.