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Social impact assessments in the kingdom of Eswatini

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SOCIAL IMPACT ASSESSMENTS IN THE KINGDOM OF ESWATINI

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A research report submitted to the Faculty of Science, University of the Witwatersrand, in partial fulfilment of the requirements of the degree of Master of Science

Johannesburg, 2020

Declaration

I declare that this research report is my own, unaided work. It is being submitted for the Degree of Master of Science at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.



Signature **Date**

14 September 2020

Abstract

Social Impact Assessment (SIA) is a tool used to identify the social impacts associated with a particular planned intervention. It is also effective in identifying the mitigation and monitoring measures to be taken in minimizing the negative social impacts, whilst enhancing the positive benefits brought by planned interventions. SIAs are therefore, an integral part of social development as well as Integrated Environmental Management (IEM). The aim of this study was to identify the challenges faced by the Eswatini Environment Authority and the Ministry of Tourism and Environmental Affairs (MoTEA) in implementing SIAs in the Kingdom of Eswatini. Review of scholarly articles and Eswatini environmental legislation provided broad understanding of SIA within the framework of the Environmental Impact Assessment (EIA) and environmental management processes. Two questionnaire surveys were then conducted to explore SIA practise in the country through the perspectives of environmental practitioners and community members where development projects have occurred. The content of Environmental and Social Impact Assessment (ESIA) reports was also scrutinized by the researcher to further gain insights into SIA practice locally. The study revealed that the SIA are poorly implemented mostly due to the weak legal framework governing SIA in the Kingdom of Eswatini. The legislation is outdated and it does not provide guidelines for implementation of SIA. Therefore, proper implementation of SIAs is highly dependent on the practitioner's experience and understanding of social impacts. The study also revealed a number of weaknesses in the public participation process, often due to the lack of community awareness on social issues related to a particular development project. Mitigation and monitoring of social impacts are poorly implemented due to lack of enforcement of the Polluter Pays Principle (PPP) and inadequate clear guidelines in the way affected communities are compensated. Despite the weaknesses in the SIA implementation and practise in the Kingdom of Eswatini, the study revealed that environmental practitioners are attentive to the role SIAs play in social development and Integrated Environmental Management (IEM) as well as the challenges that hinder enhancement of these. The study provides specific recommendations for strengthening the legal framework and public participation within the ESIA processes in the Kingdom of Eswatini.

Key words: Social Impact Assessment (SIA), Environmental Impact Assessment (EIA), Integrated Environmental Management (IEM).

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Acronyms

CEO Chief Executive Officer
CMP Comprehensive Mitigation Plan
EEA Eswatini Environment Authority
EIA Environmental Impact Assessment
EIR Environmental Impact Report
EMA Environment Management Act
ESIA Environmental and Social Impact Assessment
HRM Human Resources Manager
HOD Head of Department
IAIA International
IIA Integrated Impact Assessment
IEM Integrated Environmental Management
MoTEA Ministry of Tourism and Environmental Affairs
NEPA National Environment Policy Act
PPP Polluter Pays Principle
PRO Public Relations Officer
SIA Social Impact Assessment
SDGs Sustainable Development Goals
UN United Nations

CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1 Introduction

The primary development challenge for the Kingdom of Eswatini is to address the high rate of poverty and inequality in the country. An estimated 63 per cent of the population lives below the poverty line. Poverty is strongly correlated with unemployment, which is about 28.5 percent overall and 52.4 percent among the youth. Poverty is also associated with the high burden of communicable diseases. The HIV/AIDS prevalence of 31 per cent of the population is the highest in the world and life expectancy has fallen to approximately 49 years. In terms of water and sanitation, approximately 280,000 people lack access to potable water supply, while 430,000 – nearly 40 percent of the population – lack access to basic sanitation (World Bank Group 2014: v). Addressing these developmental challenges is clearly a priority for the country while ensuring an appropriate and equitable balance between social and economic development and environmental protection. This concern in ensuring that the notion of development transcends the economic dimension to include also the social and the environment is at the core of the United Nations 2030 Agenda for Sustainable Development adopted in September 2015. This is an ambitious plan of action aimed at ending all forms of poverty, fighting inequality, and tackling climate change, while ensuring that no one is left behind. The 2030 Agenda includes a set of 17 Sustainable Development Goals (SDGs) with 169 targets, to be achieved by the year 2030. Building on the Millennium Development Goals (2000-2015), the SDGs balance the three dimensions of sustainable development: economic, social and environmental. Therefore, the process of identifying and managing the social impacts of development projects (Social Impact Assessment - SIA) is a prerequisite for achieving the SDGs in the Kingdom of Eswatini.

SIAs are the processes used in identifying, mitigating, controlling and monitoring social consequences arising from proposed development projects and any other planned interventions which have potential to alter the human environment (Vanclay, 2003, pp. 5-12). SIAs therefore, are an integral part of the Environmental Impact Assessment (EIA) as they focus on the intended and unintended social, economic, cultural and other aspects of the human environment impacts which can be altered due to a change in the biophysical environment. They are an essential tool in analysing and managing the balance that should exist between the human and biophysical environments that become vulnerable to proposed interventions of any kind. To achieve the purpose of SIAs, Vanclay (2003) argues that SIAs should not be seen as a mere

tool for identifying and mitigating, rather be treated as a continuous field of *"research and practise"* in social work, economic growth and environmental management to promote sustainability (Vanclay, 2003, pp. 5-12). To better understand the concept of SIAs, in his journal article published in 2003 "*International Principles for Social Impact Assessment",* Vanclay recommended the following features of the SIAs;

> *Should be conducted in a sustainable manner to promote ecology, socio-economic growth and socio-cultural diversity and inclusion. Therefore, SIAs should encourage development and empowerment at community level. When thought of in this way, SIAs go beyond managing social impacts, however, provide a platform of continuous improvement to affected communities;*
>
> *SIAs practise should "accept that social, economic and biophysical impacts are inherently and inextricably interconnected"* (Vanclay, 2003, p. 6). *A change in any of these dimensions eventually leads to a change in the other, leading to an increase of issues in achieving; social, economic, and sustainable development, integrated environmental management and poor practise of Environmental and Social Impact Assessment (ESIA) implementation;*
>
> *Promote inclusion and participation of affected parties throughout the project lifecycle.*

SIAs emerged as a component of the EIA around the 1970s under the National Environmental Policy Act (NEPA) in the United States of America (USA) which governs EIA processes (Esteves, *et al*.2012, pp.34-42).Over the years in developed countries where SIAs have been fully adopted, continuous research has proven that SIAs are no longer treated as a subfield of EIAs. Acknowledging that SIAs play a vital role in IEM and human rights with regards to inclusion of affected parties during proposed planned interventions, has created an increase in the widespread of SIAs (Esteves, et al., 2012, pp. 34-42). This led to SIAs being *"developed into a distinct discipline in the impact assessment field"* (Arce-Gomez, et al., 2015, pp. 85-94) facilitated by experienced scholars and practitioners involved in the establishment of knowledge, instruments and principles for the well implementation of SIAs (Esteves, et al., 2012, pp. 85-94). However, this is not to say SIAs have become a separate entity which should no longer be included in the EIA, rather SIA practise should be developed to play a dynamic role in all spheres of sustainable development.

When well executed in proposed interventions SIAs contribute immensely to social development at national/regional level, community empowerment, sustainable development

and IEM. This is supported by Vanclay (2003) and Esteves *et al* (2012) in their argument that SIAs, just like the EIA act as the glue to maintaining a balance between the socio-economic, human and biophysical environments to benefit all humans. Despite their importance and value in the project lifecycle and other dimensions, SIAs have not been widely adopted in developing countries which continue to face challenges in environmental management and social development (Burge, 2003, pp. 225-229). In developing countries such as the Kingdom of Eswatini, formerly known as Swaziland until 2018, SIAs are conducted according to what is stipulated in the environmental legislations which govern the EIA processes. Such practise often leads to environmental impacts gaining more attention as compared to social impacts (Burge, 2003, pp. 225-229). Furthermore, in the case of Eswatini, it is common practise to find guidelines of environmental management in accordance to the Environmental Management Act (EMA) of 2002 and the Environmental audits, assessments and review regulations of 2000. This practise often insinuates that when there are limited environmental impacts identified during EIA scoping a proposed project should go ahead, even though identified social impacts outweigh those that are environmental. In addition, limited literature and guidelines in environmental legislations jeopardize the well implementation of SIAs.

The Kingdom of Eswatini is facing many socio-economic challenges and numerous weaknesses in environmental management (Fadiran, et al., 2014, pp. 164-173). Scholars from diverse fields of study such as; Impact Assessment field, Environmental Management and from those making continuous contributions in sustainable development have produced numerous articles proving the value of SIAs and why they should be included in all aspects of socio-economic development and integrated environmental management. Although there currently exists rich knowledge of SIA internationally, it appears however, that developing countries are faced with many challenges in the adaptation and implementation of SIAs. One can argue that SIA is a relatively new concept in developing countries, however given that countries like Eswatini have adopted the concepts of EIA in environmental management (which originally is inclusive of SIA), it is worth investigating the reason why the social aspect of the EIA remains an “orphan” in assessment reviews. This study therefore, does not necessarily investigate the role of SIAs, but rather, seeks to investigate the challenges and the key issues in the implementation of SIAs in the developing Kingdom of Eswatini.

1.2 Problem Formulation

The Kingdom of Eswatini, like any other developing country is experiencing slow economic growth and social development, which inevitably increase poverty, unemployment, inequality and inadequate access to social services for those in the rural communities. With a population of approximately 1.3 million, 63 percent of the people live below the poverty line. Youth unemployment sits at 52.4 percent, while the overall unemployment rate in the country is at 28.5 percent (World Bank Group 2014: v). Furthermore, there are gaps in environmental management. Fay and Toman (2010) suggests that infrastructural development projects are essential in increasing socio-economic progress which has potential to reduce poverty and unemployment, promote sustainable communities and increase rural access to education and health care (Fay and Toman, 2010). According to The Economic Intelligence report of 2016, infrastructural development can deliver the three pillars of sustainable development (The Economist, 2016);

Infrastructural development projects offer people with job opportunities during construction, operating and in maintenance (The Economist, 2010). These activities generate economic growth. In addition, with more infrastructural development projects investment, unemployment and poverty rates decrease, whistle encouraging community development and empowerment. The major contributor to climate change is the rapid extraction of natural resource for energy. With a growing population and increase in energy consumption, dependency on fossil fuels increase. Infrastructural development becomes vital in addressing sustainability concerns (The Economist, 2019). Infrastructure in the form of clean generation power plants reduce dependency on fossil fuels, and therefore enhance environmental protection .Social development also improve as infrastructural development delivers social services increasing accessibility to health, education, well-fare, clean water and sanitation, energy and telecommunication. Furthermore, increase in development projects facilitates inequality reduction (The Economist, 2019).

To combat socio-economic and environmental challenges, many developing countries are forced to increase socio-economic growth through introduction of development projects. To increase investments in infrastructure, many developing countries view ESIA as a hindrance to economic growth (Li, 2008). Particularly in Africa, overwhelmed with inadequate budgets, insufficient EIA practitioners and weak regulations ESIA is often seen as a delay in economic development (Kakonge, 1999). Developing countries are then pressured into speeding up the ESIA process and ignoring environmental and social impacts to give a way forward for

development projects. While this may be seen as an easier way to economic growth, it does so in the short term (Li, 2008). Poor implementation of ESIA eventually leads weak sustainable development as the benefits of effective ESIA process outweigh the costs of conducting ESIA (Oosterhuis, 2006). Therefore, ESIA practise shouldn't be viewed as an obstacle to economic growth, rather be seen as a tool for achieving environmental management and social development.

Aucamp (2015) argues that SIAs are to a very large extent an efficient tool in identifying and solving socio-economic development issues (Aucamp, 2015). When well executed in proposed planned interventions (development projects, amending and drafting of new policies, or introduction of social programmes), SIAs present a clear picture of how proposed interventions can either negatively or positively impact the human environment and socio-economic development as well as the biophysical environment. This is because SIAs are not only concerned with identification and mitigation of social impacts during development. They are also useful in recognizing challenges in social development and integrated environmental management. Furthermore, SIAs should not be seen as the "other" component of the EIA, but be regarded as a tool crucial for maintaining a balance in *"social, economic and biophysical dimensions that are inherently and inextricably interconnected"* (Vanclay, 2003, pp. 5-12).

Aucamp's (2015) study of "*Social Impact Assessments as a tool for Social Development"* points out that the lack of social experts during EIA scoping in South Africa is one of the key issues in the successful implementation of SIAs (Aucamp, 2015, p. 5). This trend is the same in the practise of SIAs in Eswatini. Inadequate input of social scientists in ESIA processes can limit the identification of social impacts which can be potentially caused by development. In addition, the lack of social experts in ESIA scoping can delay the establishment of legislations or guidelines that could govern the way SIAs are conducted. In ensuring that social development and integrated environmental management is achieved, it calls for the integration of information among different government agencies and practitioners of other fields of study. If expertise is drawn from different government sectors and public stakeholders in ESIA scoping and implementation, there is a chance for improvement in SIAs practise.

1.3 Relevance of Study

Results yielded from the study are valuable to various stakeholder groups which include; environmental and social practitioners, decision makers as well as the civil society. The study

highlights the challenges encountered by the Eswatini Environment Authority (EEA) and government (MoTEA) in proper implementation of ESIAs. This will help environmental practitioners and decision makers in ensuring that best practice of ESIAs are applied to improve integrated environmental management in the country. Furthermore, by comparing ESIA theory through analysis of environmental laws and EIA reports versus ESIA practise through analysis of selected public society's perspectives and those of environmental practitioners, will be useful in identifying gaps of poor implementation throughout the project life cycle and all phases of the ESIAs in the Kingdom of Eswatini. Moreover, the results of this study makes emphasis of the valuable role of SIAs in the drive for social development as well as its role in Integrated Environmental Management. For the general public, parts of this study showcase the importance of public participation and information sharing to contribute to improved environmental management systems.

1.4 Research Questions

The following research question guided the study;

- What challenges are faced by the Government and Competent Authority in the implementation of SIAs?

For the effectiveness of the study in determining the challenges in SIA practise in the Kingdom of Eswatini, the researcher used the following sub-research questions to support the main research question;

- How often does the Competent Authority enforce the "*Polluter Pays Principle*" to mitigate impacts?
- How effective are polices that govern ESIA in both environmental management and social development?
- What role do ESIAs play in social development and integrated environmental management?

1.5 Aim and Objectives

The primary aim of the study was to investigate key challenges in implementation of SIAs in promoting social development and integrated environmental management. The aim was achieved through exploring concepts of social development, integrated environmental management and reviewing the policies that govern ESIA processes in Eswatini.

The objectives of the study were:

- To scrutinize the effectiveness of the Environmental and Social Impact Assessment policy framework in regulating development projects in the Kingdom of Eswatini.
- To examine the level of public participation in the environmental management processes (Environmental and Social Impact Assessment) in the Kingdom of Eswatini based on the case study of the Sikhuphe Village.
- To present and discuss recommendations improving the Environmental and Social Impact Assessment policy framework of the Kingdom of Eswatini.

1.6 Research Methodology

This study utilised mixed methods for data collection and analysis which allowed a flexible approach to tackling of the problem addressed by the problem statement. The researcher focused on applied and qualitative data collection approach, hence the use of questionnaires, review of EIA reports and reliance on literature review which set the scene on the standing of SIAs in social development and integrated environmental management.

Two different questionnaires were designed by the researcher; (1) a questionnaire for EIA consultants/environmental practitioners (2) questionnaire for community members around Sikhuphe where a major development project has recently occurred. EIA reports kept at the EEA offices were reviewed to analyse trends in EIA reporting and documentation as well as to analyse if EIA procedures complied with what is stated in EIA regulations, respectively the EMA of 2002 and Environmental audits, assessment review regulations of 2000. For this, the researcher adopted the Lee and Colley Review Checklist and the EU EIS Checklist. The research also made use of published literature review relevant to the study. The literature review referenced in the study was also essential in mapping out gaps in knowledge and the development of the theoretical framework of the study.

In selecting the population and sampling procedure, the researcher first acknowledged two distinct groups of stakeholders; (1) environmental specialists from both government and consulting agencies (2) Community members from around Sikhuphe community. In selecting the relevant environmental specialists, the researcher relied on the organizations' Public Relations Officer/Human Resources Manager/Head of Department who then referred the

researcher to the specialists. For the community members the researcher personally approached those who were resettled during the development of the King Mswati III international Airport. Full details of the research methodology are provided in chapter 3 of this report.

1.7 Structure of report

This research report is made up of the following chapters:

Chapter 1 introduces the study by first exploring the concept of Social Impact Assessment and its role in social development and integrated environmental management. The problem statement is mentioned after. The research question, sub-research questions, aims and objectives of the study are revealed. Brief statement of the research methodology followed in the study is presented in this chapter.

Chapter 2 presents literature as to analyse analysing similar and to identify gaps in the existing practise and knowledge. The theoretical framework of the study is also presented in this chapter.

Chapter 3 details the research methodology used for the successful completion of the study. It includes the research approach and design, areas of study, study population and sampling, data collection tools, ethical considerations that were taken into account during the data collection phase of the study.

Chapter 4 provides an analysis of SIA practice in Eswatini based on data collected in the study. It explored the policies governing SIAs processes and the key issues in implementation and mitigation through data analysis of the data collected.

Chapter 5 concludes the study by providing recommendations on promoting improved ESIA practise in the Kingdom of Eswatini as well as provide solutions to the key challenges in SIAs practise. Limitations of the study conclude this chapter.

CHAPTER 2: LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Literature Review

For the purpose of understanding key concepts that are significant in the development of the study, the researcher did a preliminary literature review to gain insights of the relationship between social development, environmental management and ESIA that have been published by other researchers. Literature review in research is useful to see what studies have been done before so that that one can identify gaps in knowledge (USC Research Guide, 2019). For the purpose of this study, the following literature review was examined;

2.1.1 Environmental Management

Humans are continuously altering the natural environment by extracting more natural resources, producing more waste and other anthropogenic activities that disrupt natural environment interactions. Environmental management is a concept that brings together evolving science, socio-economic applications planning, and policies (UNDP, 2011). Environmental management should therefore, not be thought as a system used for maintain the well-being of the environment rather a response to the trade-offs of human benefit from the environment and in turn humans managing the natural environment in a manner that ensures environmental protection. Environmental management is considered an integral tool that facilitates social development, economic growth and environmental protection while ensuring the management of natural resources (Aucamp, 2015). This is possible to achieve when environmental management is done recognizing and keeping up with environmental legislations (Aucamp, 2015).

2.1.2 Integrated Environmental Management

Environmental management is a very complex concept which features many dimensions and incorporative of different environmental management tools. In the drive for good practise of environmental management and sustainable development, a range of tools are applied and integrated to recognize the relationship between preservation of ecology, sustainable living of all humans, economic growth and infusion of innovative technology to enhance these as they are dependent on the natural environment through Integrated Environmental Management (IEM) (Margerum, 1999). (Margerum, 1999, pp. 151-166) , describe IEM as *"is a holistic and goal-oriented approach to environmental management that addresses interconnections through a strategic approach".* The concept of IEM is essential in sustainable development as

it allows diverse groups of people to share information, understand different perspectives and gain knowledge of environmental management (Margerum, 1999). In the SADC region, particularly in the South Africa context, IEM has evolved from authorization of EIAs for proposed development projects to a broader approach of *"viewing IEM as underlying philosophy and suite of tools that can be infused into decision making by all sectors of society; government/public sectors and civil society* (Department of Environmental Affairs, 2004). Though IEM promises better environmental management and sustainable development, it still has challenges in implementation. Margerum and Born (1996) argue that lack of IEM models make it a difficult complex to follow and implement (Margerum, 1999). Furthermore, there are no precise steps which guide the implementation of IEM.

2.1.3 Social development

Social development is a broad term with varying definitions across different academic fields and often context specific (Aucamp, 2015). At community level in developing countries, social development is used to describe income generating micro-projects that bring social change to poor communities (Midgley, 2013). Such projects may include selling hand-made products from natural resources, clean water and electricity schemes and saving cooperatives. At national level, social development is often guided by government policies and international standards such as the UN Millennium Development Goals which view social development in terms of provision of social services for people which include; increased access to health care, eradication of poverty and malnutrition, promotion of basic education and the overall improvement of the standard of living in vulnerable groups. Furthermore, social development as promoted by the UN broadens social development to cover social justice and integration including public participation in planned interventions that are likely to socially impact the lives of people where development projects occur (Midgley, 2013, pp. 4-19). Many scholars, particularly those in social sciences present social development as a process that cuts across many dimensions compromising of *"social well-being, cultural and heritage preservation, gender diversity, political inclusion, economic growth as well as environmental protection and fair distribution and management of natural resources*" (Midgley, 2013, pp. 4-19) especially among vulnerable groups.

Different aspects of social development globally are measured using the Gini coefficient index (Farris, 2015). It is defined as "*a summery in statistics that measures how equitable a resource is distributed in a population*" (Farris, 2015, pp. 1-15). It can be used as a tool to analyse

economic and social development data to examine how well a social service, for example, is accessible to the population of any country. The Gini index can be used to evaluate disparities in wealth distribution, access to education and employment opportunities, health care affordability and other social development variables. In 2009 the Kingdom of Eswatini, ranked number nine of the countries with the most income inequality in the world (World Bank, 2019), thus the high poverty, illiteracy rates and low rates of public participation in sustainable development. The Gini Index has been criticised that it cannot be used as a single tool in measuring how well a resource is evenly distributed amongst a given population it is efficient in mapping out social development issues that are of great concern (Farris, 2015, pp. 1-15).

2.1.4 Environmental Impact Assessment

The need for EIA as an environmental management tool used to identify and manage environmental impacts associated with a development project originated in the USA around the 1970s (Morgan, 2012). The National Environmental Policy Act (NEPA) of 1970 established an environmental policy which is a statutory requirement that for every proposed project a detailed EIA be conducted to reduce adverse environmental and social impacts in an effort to preserve the natural environment and improve the well-being of communities (Morgan, 2012). As such, the introduction of EIAs was to deal with the rapid growth of development and industrialization which had negative impacts on the environment. Under NEPA, environmental agencies responsible for carrying out EIAs are legally required to produce a comprehensive report describing how a proposed project could; alter the natural environment, socially impact the lives of people living near the proposed development site as well as describe how those impacts would be mitigated and further allow public participation in all phases of the EIA process (Morgan, 2012). This phenomenon has been widely adopted in many countries to seek a balance between development and environmental protection. EIA therefore, is a broad process used to assess how proposed projects, plans and programs are likely to cause adverse effects in all aspects of the environment including the biophysical environment, social well-being and the overall negative and positive contribution to economic growth and social development (Morgan, 2012). In addition, an EIA should be comprehensive of a mitigation plan, public participation procedure, monitoring measures and EIA follow up which should all be guided by the environmental legal framework.

In an effort to combat environmental degradation and climate change globally, EIAs have increasingly become a legal requirement in many countries. In Eswatini EIA takes place within

the legal and institutional framework of the Environment Management Act of 2002 which aims to *"provide and promote the enhancement, protection and conservation of the Environment, sustainable management of natural resources and matters incidental to"* (Swaziland Environment Authority , 2005, pp. 53-60). EIAs in the country are also governed by the Environmental Audit, Assessment and Review Regulations of 2000, which according to the Compendium of Environmental Laws of Swaziland (2005) EIA should be inclusive of the following;

- Categorization of projects;
- Initial environmental evaluation report ;
- A detailed EIA;
- Environmental audit report;
- Comprehensive mitigation plan;
- Project Compliance report

Being a party to several global environmental treaties and protocols, the Kingdom of Eswatini is from time to time compelled to conduct EIAs in accordance to international standards which are joint efforts of achieving sustainability. According to Morgan (2012) internationally EIA is recognized by the following conventions and protocols especially when the development project is being internationally funded;

The Convention on the Trans-boundary Environmental Impact Assessment;

Rio Declaration;

The Convention on Access to Information, Public Participation in Decision Making and access to Justice in Environmental Matters;

The Protocol on Environmental Protection to the Antarctic Treaty;

The United Nations Framework Convention on Climate Change;

The World Bank development standards

Though EIA phenomenon has existed for quite some time now, it has not been appropriately adopted in developing countries (Alshuwaikat, 2004). Despite well written EIA environmental legislations, EIA implementation in many developing countries is often ineffective. (Alshuwaikat, 2004, pp. 307-311), states that "*poor organizational capacity, training, environmental information sharing and participation, donor policy and political will*" are the major reasons there are still gaps in EIA implementation. In addition, unclear laws on the

enforcement of the Polluter Pays Principle (PPP) and political engagements in many countries has made it difficult for many governments to hold project proponents responsible for mitigating impacts (Alshuwaikat, 2004). Alshuwaikat (2004) writes that amending existing PPP requirements is essential to ensure mitigation of impacts is properly implemented.

2.1.5 Social Impact Assessments

Social Impacts Assessments are part of the EIA, used to predict, evaluate, and plan mitigation strategies of social impacts during planned interventions and development projects. Scholars however, argue that focus of SIAs should go beyond prediction of social impacts and mitigating them, rather should be thought as tool that recognizes the continuous human interaction with the biophysical environment (Vanclay, 2003) . Therefore, SIAs should be conducted in a manner that will *"promote a more ecologically, socio-culturally, economically, sustainable and equitable environment which instigates community development and empowerment"* (Vanclay, 2003, pp. 5-12). This way of implementing SIAs promotes sustainable development. In an international context, the International Association for Impact Assessment (IAIA) defines SIAs as the *"processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programmes, plans and projects) and any other social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment"* (Vanclay, 2003, pp. 5-12). When properly implemented SIAs contribute towards Integrated Environmental Management.

Like the EIA, conduction and implementation of SIAs has many challenges, hence social impacts are not properly mitigated. Some of the SIAs challenges include; According to Tur and Gomez (2016), many SIAs are conducted by environmental specialist who have experience in the natural science and little knowledge or working experience in the social sciences, therefore, having little understanding of social change and needs. As a relatively new concept developing countries still struggle in the implementation of SIAs and often SIA guidelines are those provided by international organizations in developed countries (Aucamp, 2003). Inadequate domestication of SIAs principles in developing countries may be a key challenge as social problems in developed countries are different from social development challenges experienced in developing countries, therefore, there will always be gaps in SIAs successful implementation.

2.1.6 "*Impact*" in the process of development

Defining impact in the process of development cannot be simply defined due to the lack of a broader scope of what an impact is. The Oxford dictionary defines impact as an action that directly or indirectly causes a negative or positive effect on someone or something (Lexico , 2019). Development projects always have an impact whether positive or negative on the environment, economy, heritage and social development. During EIA, environmental specialists are required to determine the impacts associated with a particular development project, giving details of significant impacts. (Lawrence, 2007, pp. 755-769), describes impact significance determination as *"an aim to take into account of all of the important environmental and social impacts and interactions, making sure that indirect, direct and cumulative effects, which may be potentially significant, are not inadvertently omitted".* Scholars argue that impact significance determination should be applied at all phases of the EIA to identify even those key unforeseen issues that may arise at later stages of the development project (Lawrence, 2007). Furthermore, significance of impacts should be defined in relation to and be unique to each development project and the environment surrounding it (Marttunen, et al., 2013). Impact Significance Determination hasn't been widely adopted and poorly understood yet remains a critical criteria in an EIA. According to Lawrence (2007) inadequate acknowledgment of social and economic impacts as well as failure to differentiate between socio-economic and bio-physical impacts is one of the cause for poor impact significance determination (Lawrence, 2007).

2.1.7 Polluter pays Principle

During all phases of a development project, intended and unintended social and environmental impacts are likely to occur which must be identified during the ESIA scoping. The Competent Authority must ensure that the project proponent takes responsibility in avoiding, eliminating, enhancing, compensating and mitigating all impacts anticipated during the development of the project as well as accumulative impacts occurring after the project has been completed (Madlome, 2016). The project proponent mitigates impacts in accordance to the Polluter Pays Principle (PPP) which according to (Khan, 2015, pp. 638-653) *is " a principle used in allocating costs of pollution prevention and control measures to encourage rational use of scarce environmental resources"*. This principle urges project proponents to cover expenses incurred for mitigating impacts. PPP should not only be seen as a strategic move to make developers responsible for cleaning up damage that has been caused to the environment, however, it should also be understood that it extends as far as encouraging project proponents

to compensate those who have been socially impacted, and that developers should take responsibility for paying for monitoring and other compliance formalities (Madlome, 2016).

2.1.8 Public Participation

The involvement of local and indigenous people in efforts to gain understanding of the biophysical environment and socio-economic challenges of an area is an integral component of the EIA process (Kakonge, 2012). This is referred to as Public Participation, a process that links all stakeholders during the development project lifecycle. Its main objective is to encourage engagement of affected parties in discussing ways in which a proposed development project could positively and negatively influence the well-being of locals. In addition, public participation facilitates strategic measures of how local communities are compensated and impacts on the natural environment mitigated to promote sustainable living. Furthermore, when well-managed, public participation promotes transparency and legitimacy to ensure project proponents effectively implement approved decisions regarding the proposed project lifecycle (Stern & Dietz, n.d.). In most countries public participation is guided by the legal framework stipulated in the policies and regulations governing EIAs and other environmental laws. In Eswatini public participation requirements are cited under the Environmental Management Act of 2002 (Swaziland Environment Authority , 2005) and the following principles are expected to be implemented during the public participation period;

- *Register of environmental information*- this allows the competent authority to create, maintain and timely update all environmental information discussed during public participation meetings. Furthermore, the competent authority is expected to provide copies of the EMA, Environmental Management Strategy, and other policies relevant in environmental management (Swaziland Environment Authority , 2005);
- *Request for environmental information*- allows interested parties to request information regarding the development project lifecycle from the competent authority;
- *Public Review*- competent authority is required to distribute copies of all findings during EIA scoping. The competent authority is also required to inform the public where copies of EIAs and other documentation are kept;
- *Public hearings*- during the public hearings, affected parties are given an opportunity to express their concerns regarding the project. In addition, a report of the compiled complaints needs to be made available within 60 days, which after personnel from the competent authority are required to conduct inspections and address complaints.

As most components of EIAs, the successful completion of public participation procedures is often hindered. Kakonge (2012) argues that the most common mistake in public participation implementation is that project documents are always written in scientific language which illiterate locals will not comprehend (Kakonge, 2012). This creates an unfair advantage for project proponents who wish to reduce costs and avoid delays. Kakonge further states that governments and project proponents often lack capacity and expertise to maintain communication amongst all stakeholders, rather they *"often exhibit a superiority that sets them apart from local and often illiterate people"* (Kakonge, 2012, pp. 309-320)

2.1.9 Mitigation

Within the EIA, a comprehensive mitigation plan is required to state how effects of identified impacts will be lessened. Mitigation is a continuous process that ensures proper implementation of measures that need to be taken to lessen adverse identified impacts (Ayers & Huq, 2007). According to Tinker *et al*, the role of mitigation and its essentiality was first recognized in a research report conducted in the UK Department of Environment in 1997 (Tinker, et al., 2005). The study recommended that good practise of mitigation measures be enforced to ensure that practical actions are taken to offset major impacts of a proposed development (Tinker, et al., 2005). This led to development of the mitigation hierarchy which needs to be implemented throughout the EIA process and compromised of mitigation types complied in the Tinker *et al* report;

- *Avoid*- completely abandoning initial proposed development site and seeking alternatives where project can be developed;
- *Minimize*- reducing the effects of the impact;
- *Rectify*- repairing a negative impact on the natural environment or heritages sites degraded during construction of development project;
- *Compensate*- paying for the costs of mitigating impacts that have occurred;
- *Offset*- enhancing the degraded environment

2.1.10 Monitoring

EIA follow up is essential to identify accumulative impacts and making sure EIA implementation remains as it was planned in its initial stages. In cases where unforeseen changes occur, EIA follow up prepares project proponents to amend mitigation measures. EIA follow up compromises of monitoring; which is tracking effectiveness of EIA implementation

(Ahhamed, 2007). Monitoring in EIA follow up involves *"data collection, impact monitoring, compliance monitoring and analysis of the state of the environment"* (Morrison-Saunders, 2007, pp. 1-9). These processes of monitoring are inclusive of evaluating the project outcomes, management of the environment actions taken in EIA conduction, and communicating to all stakeholders during monitoring phase (Morrison-Saunders, 2007). Though monitoring is included in the EIA follow up, it is essential that monitoring is included in all phases of the EIA to limit chances of failures of the overall EIA process.

Morrison-Saunders (2007) findings in a study titled "Exploring Dimensions of EIA follow up" reveal that monitoring and EIA follow up can be conceptualized at three levels which are shown in the chart below;

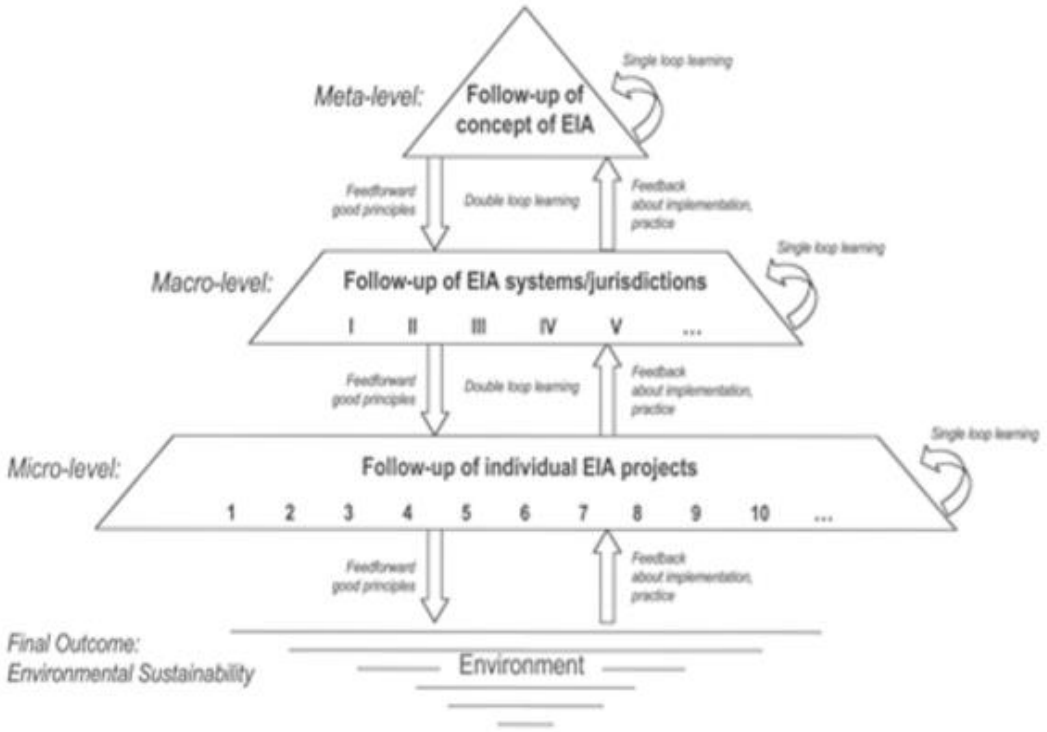


Figure 1: Monitoring in EIA follow-up

Source: *EIA follow-up at different levels and their relationships* (Morrison-Saunders, 2007, pp. 1-9)

Based on this chart and Morrison-Saunders findings, at Micro level project proponents, competent authority, government and all other stakeholders' attention should be on individual projects. At this level focus is "*impact prediction, impact monitoring, compliance auditing and implementation of mitigation measures"* (Morrison-Saunders, 2007, pp. 1-9) in order to

analyse whether EIA expectations were met and that all impacts were mitigated in a sound manner. At Macro level the legislations and regulations influencing EIA are examined to determine their effectiveness and efficiency as well as the role they play in the drive for sustainability (Morrison-Saunders, 2007). The final stage of monitoring an EIA follow up is the Meta level which monitors overall EIA function.

For monitoring and EIA follow up to be effective stakeholders according to Morrison-Saunders (2007) should consider the legal framework of EIAs, modifying approaches and techniques utilized during monitoring phase as this ensures that methods of EIA follow up remain efficient. Furthermore, competent personnel as well as enough resources should be provided for monitoring. Moreover, monitoring should be done taking into consideration the activities that were done during the EIA implementation and phases of the development project.

2.2 National Legal Framework

2.2.1 Environmental Management Act (2002)

Environmental management and protection regulations in Eswatini are governed by the Environment Management Act of 2002. In the Compendium of Environmental laws of Swaziland (2005) it is stipulated that the EMA *"provides and promotes the enhancement, protection and conservation of the Environment, sustainable management of natural resources and matters incidental there to"* (Swaziland Environment Authority , 2005). According to the Compendium of Environment Laws of Swaziland (2005), the EMA is achieved by following the principles outlined in Figure 2;

PART II - FUNDAMENTAL PURPOSE AND PRINCIPLES

Purpose

4. The purpose of this Act is to provide for and promote the enhancement, protection and conservation of the environment and where appropriate, the sustainable management of natural resources.

Environmental Principles

5. In achieving the purpose of this Act, the following principles shall be applied-
(a) the environment is the common heritage of present and future generations;
(b) adverse effects should be prevented and minimised through long term integrated planning and the co-ordination, integration and co-operation of efforts, which consider the entire environment as a whole entity;
(c) the precautionary principle, which requires that where there is a risk of serious or irreversible adverse effects occurring, a lack of scientific certainty should not prevent or impair the taking of precautionary measures to protect the environment;
(d) the polluter pays principle, which requires that those causing adverse effects shall be required to pay the full social and environmental costs of avoiding, mitigating, and/or remedying those adverse effects;
(e) the generation of waste should be minimised wherever practicable;
(f) waste should, in order of priority, be re-used, recycled, recovered and disposed of safely in a manner that avoids creating adverse effects or if this is not practicable, is least likely to cause adverse effects;
(g) non-renewable natural resources should only be used prudently, taking into account the consequences for the present and future generations; and
(h) renewable resources and ecosystems should only be used in a manner that is sustainable and does not prejudice their viability and integrity.

Figure 2: Principles of the EMA 2002

Source: The Compendium of Environmental Laws of Swaziland (2005), p. 7

2.2.2 The Environmental audit, assessment and review regulation (2000)

This regulation gives the competent authority power to ensure that project proponents comply to environmental standards before a proposed project is approved. The following is observed;

- *Assigning Project Categories*- proposed projects must be assigned into one of three categories to determine if a proposed project requires an EIA. Category 1 projects are those that are estimated to cause minor to no negative impacts on the environment, therefore, do not require an EIA. Category 2 projects are those that are likely to cause impacts, however very limited impacts that are easy to manage and mitigate. An Initial Environmental Evaluation (IEE) report is essential for these projects. Category 3 projects require a detailed environmental study, hence a full EIA is essential. These projects are likely to cause adverse impacts to the environment therefore, strategic mitigation measures need to be implemented;
- *Preparing scoping report*- a project proponent employs an environment specialist or consultant who puts together a scoping report. The report provides a framework of the Terms of Reference and should demonstrate how an EIA for a specific project would be carried out. In addition, the scoping report should be prepared during the early planning stages of the report to allow stakeholders to identify key issues associated with the proposed project as well as identify alternative designs of the project;

- *Initial environmental evaluations*- is a restricted environmental study which describes the nature of the proposed project and impacts that are likely to occur. The IEE should be complemented with a Comprehensive Mitigation Plan (CMP) which explains how mitigation of impacts would be implemented;
- *The EIA report*- project proponents are required to submit an EIA to the competent authority inclusive of all necessary information guided by the legal framework that governs EIA implementation. The EIA report should also be inclusive of a CMP. The EIA should also be made available to all stakeholders and parties affected by a project before of approval of the project;
- *The comprehensive mitigation plan*- the CMP should describe impacts likely to occur because of the development of a proposed project. It should be inclusive of environmental management, compensation plan, and demonstrate that resources are available to mitigate all impacts including social ones.
- *The environmental audit report*- to provide an objective analysis of the environmental impacts arising from a project or process and provide the information required to draw up a CMP;
- *Consultation and public participation (CCP)* - should be pragmatic to project assigned under category 1 and 2. CPP is integral to allow affected parties to engage with project proponents and consultants to share environmental and social public concerns over the proposed project.

2.2.3 Swazi National Land

In Eswatini, land tenure is divided into two parts; Swazi National Land (SNL) which takes up 54 per cent of land area in the country, and Title Deed Land (TDL) which takes the remaining 46 percent of land area (IFAD, GLTN, n.d.). The main difference between the two is that SNL is acquired through Swazi customs and local community political systems. A person seeking to occupy SNL must approach the chief of that community, who acts on behalf of the ruling King. The chief is granted powers to allocate land according to the requirements of land acquisition specified in the Swazi Land Settlement Act of 1946. (Swaziland Environment Authority , 2005). Person given permission to occupy SNL does not have full ownership of the land and in cases where a proposed development needs to be constructed on occupied SNL, the occupier can be relocated to other piece of SNL. According to the Swazi Land Settlement Act, *"The Principle Secretary may at any time, without payment of compensation, permit or cause*

to be constructed any road, path, drain, furrow or railway across any allotment, but if such construction absorbs a material portion of the allotment the occupier may be granted another allotment, or if land is available near or adjacent to the allotment, an additional area equivalent to the material loss he may sustain on the original allotment" (Swaziland Environment Authority , 2005, pp. 567-575). If an occupier on SNL is relocated due to development projects, it is common that the only form of compensation is relocation to another land because occupiers on SNL do not have ownership rights. However, in cases where occupiers on SNL land practise agriculture, they are compensated only for loss of income and not necessarily the land as would be expected on TDL.

2.2.4 Resettlement Act

Resettlement is very common during project developments, however there is currently no clear published resettlement act in Eswatini that states the scope of how the resettlement should be carried out or provides details of how compensation is to be carried out. Resettlement in Eswatini is dependant of; the EMA of 2002, the Human Settlement Act under the Ministry of Housing which advises project proponents on development projects that require the relocation of affected parties (Swaziland Environment Authority , 2005). Furthermore, the Ministry of Works and Transport may be consulted in infrastructural development projects and for development project affecting agricultural practise the Ministry of Agriculture may be consulted in compensation of affected parties (Swaziland Environment Authority , 2005).

2.3 Theoretical Framework

The theoretical framework of this study is embedded on sustainable development which underpins six SDGs;

- Goal 1: Eradicate poverty;
- Goal 2: Zero hunger;
- Goal 3: Good health and well-being;
- Goal 10: Reduce inequality
- Goal 11: Sustainable cities and communities
- Goal 13: Climate action

The SDGs are looked at in the context of social development and environmental management which when combined, are fundamental components of integrated environmental management in ESIA practise. Furthermore, within the focus of the study, the theoretical framework outlines

concepts of ESIA implementation from a perspective of; full consideration of impacts, public participation, mitigation and monitoring all which are covered in the legal framework of ESIA. When well implemented taking into consideration the components of ESIA, sustainable development is achievable.

The theoretical framework of the study is further, informed by the Millennium Development Goals principles which recognize that;

- Every country should acknowledge that humans are at the centre of sustainable development, and therefore have the right to benefit from development and the natural environment;
- Development must be done in a manner that fulfils and meets the environmental and development needs of the next generation;
- Environmental and social issues are best handled by the indigenous people and local communities through public participation;
- Using the polluter PPP, the polluter should be held accountable for bearing all costs of mitigation impacts and other alterations done to the biophysical and human environment (United Nations, 2013)

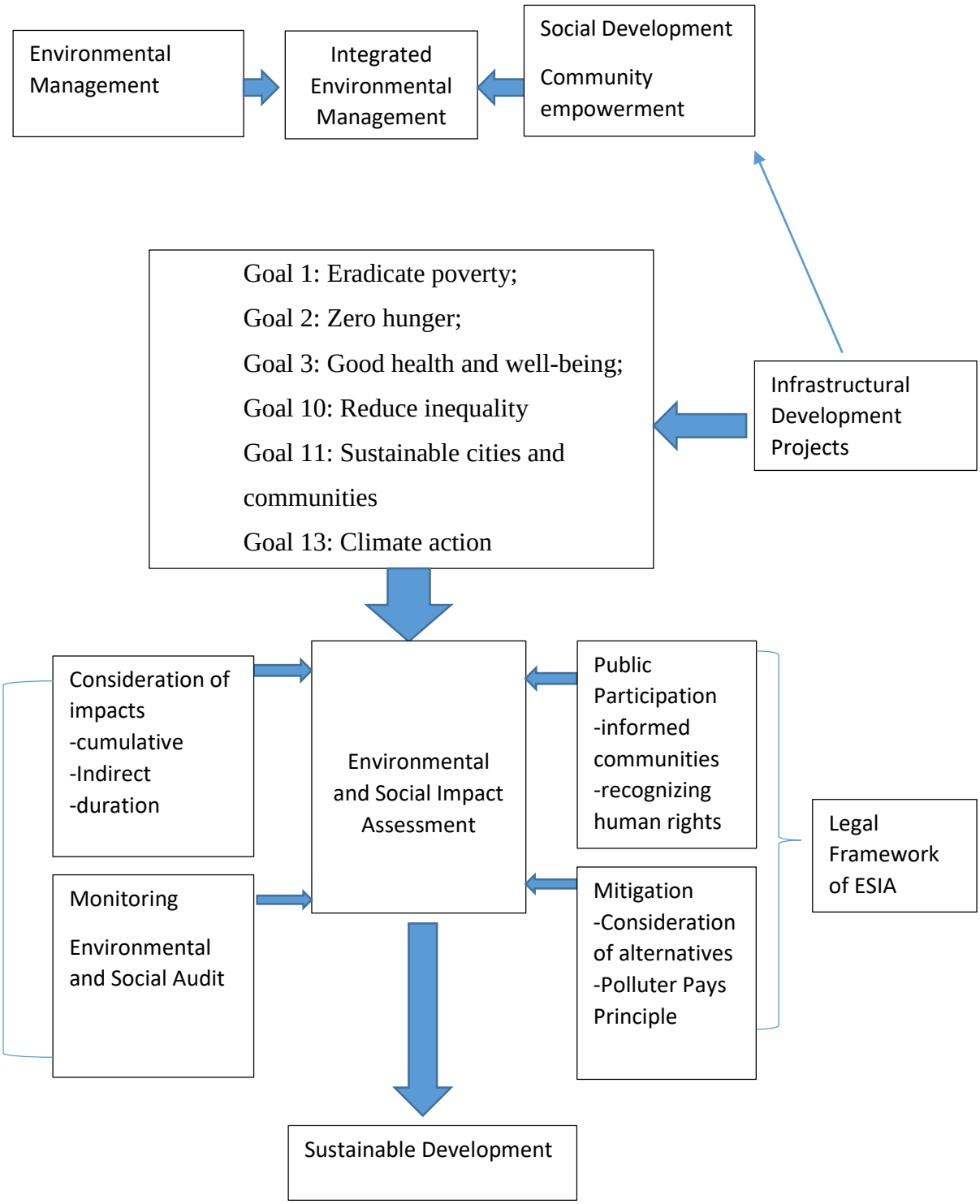


Figure 3: Theoretical Framework of Study

2.3.1 SIAs in social development

As previously stated, social development is concerned with the improvement of increased access to social services such as health care, basic education and food security. Furthermore, inclusive social and environmental justice, and integration of information between decision-makers and the general public forms part of social development. Because SIAs are assessments concerned with identifying and managing social impacts during planned interventions, SIAs are a great tool in predicting impacts that can compromise alleviation of social development. In addition, one of the key components of SIAs is promoting public participation whistle emphasizing that humans are at the centre of development and should benefit from both development and the natural environment, therefore, SIAs are essential for reaching social and environmental justice. Vanclay (2003) states that social development and community empowerment are equally important in sustainable development as is environmental protection. Social development and SIAs make up part of integrated environmental management.

2.3.2 SIAs in Integrated Environmental Management

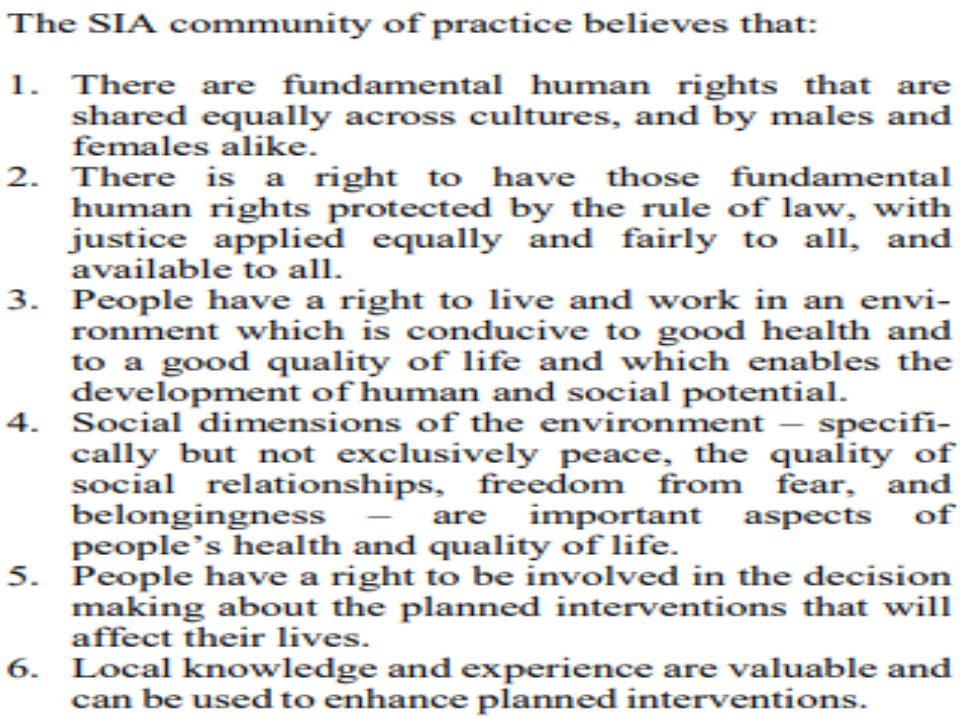
The interconnections that exists between the social, economic and environmental pillars of sustainability is becoming an important element in integrated environmental management (Tenderspecs, 2006). While the link between social development and economic growth has been widely explored, the connection between social development and environmental management remains poorly understood (Tenderspecs, 2006). To better understand the importance of recognizing the relationship between social development and environmental management, the biophysical environment should be thought of as the key dimension that supports life on earth. Economic growth and social development are dependent on the proper management of the natural environment. It is therefore, important that an integration of impact assessment including the use of SIAs for the promotion of integrated environmental management.

2.3.3 SIAs in Eswatini

Many developing countries continue to struggle with SIAs implementation. This is due to an array of challenges which hinder the successful completion and implementation of SIAs implementation and eventually lead to poor integrated environmental management practise after development has occurred in the case of minimizing impacts during intervention projects. The researcher has found that SIAs fail due to inadequate legislations that provide guidelines

of how SIAs should be conducted. In the Kingdom of Eswatini, SIAs are conducted as part of the EIA process, hence often referred to as ESIA. SIAs are not conducted as a separate entity, the researcher is therefore of the notion that they are conducted as specialists studies in the EIA process to identify social impacts and mitigation measures for minimizing impacts. Thus, SIAs are conducted as stipulated in the EMA of 2000 and Environmental audit, assessment and review regulations of 2002. These two legislations which govern the EIA procedures in the country can be interpreted as favouring environmental impacts over social impacts that can alter the human environment. Furthermore, often EIAs are conducted by environmental specialists with little input from social experts who are more relevant in making analysis of social impacts. These leads to huge challenges in the practice of SIAs locally.

When compared to international standards of SIAs guidelines, it is clear that management of SIAs locally is lacking. In most developed countries, IAIA guidelines are followed to ensure that SIAs role and procedures are well understood and implemented. The IAIA developed the guidelines below;


The SIA community of practice believes that:

1. There are fundamental human rights that are shared equally across cultures, and by males and females alike.
2. There is a right to have those fundamental human rights protected by the rule of law, with justice applied equally and fairly to all, and available to all.
3. People have a right to live and work in an environment which is conducive to good health and to a good quality of life and which enables the development of human and social potential.
4. Social dimensions of the environment – specifically but not exclusively peace, the quality of social relationships, freedom from fear, and belongingness – are important aspects of people's health and quality of life.
5. People have a right to be involved in the decision making about the planned interventions that will affect their lives.
6. Local knowledge and experience are valuable and can be used to enhance planned interventions.

Figure 4: Principles of SIA

Source: Frank Vanclay (2003) International Principles For Social Impact Assessment, Impact Assessment and Project Appraisal, 21:1, 5-12, DOI: 10.3152/147154603781766491

https://www.iaia.org/uploads/pdf/IAIA-SIA-International-Principles.pdf

Fundamental principles for development:

The SIA community of practice considers that:

1. Respect for human rights should underpin all actions.
2. Promoting equity and democratisation should be the major driver of development planning, and impacts on the worst-off members of society should be a major consideration in all assessment.
3. The existence of diversity between cultures, within cultures, and the diversity of stakeholder interests need to be recognised and valued.
4. Decision making should be just, fair and transparent, and decision makers should be accountable for their decisions.
5. Development projects should be broadly acceptable to the members of those communities likely to benefit from, or be affected by, the planned intervention.
6. The opinions and views of experts should not be the sole consideration in decisions about planned interventions.
7. The primary focus of all development should be positive outcomes, such as capacity building, empowerment, and the realisation of human and social potential.
8. The term, 'the environment', should be defined broadly to include social and human dimensions, and in such inclusion, care must be taken to ensure that adequate attention is given to the realm of the social.

Figure 5: Principles for development

Source: Frank Vanclay (2003) International Principles For Social Impact Assessment, Impact Assessment and Project Appraisal, 21:1, 5-12, DOI: 10.3152/147154603781766491 https://www.iaia.org/uploads/pdf/IAIA-SIA-International-Principles.pdf

The IAIA principles on development seem to suggest that SIAs should be conducted in a manner that places humans at the centre of sustainable development to ensure social and environmental needs of affected parties are met. These IAIA principles emphasize the purpose of the SDGs mentioned in the problem formulation (Chapter 1) of this study. Furthermore, IAIA principles promote integrated environmental management. This is because environmental management in development should be inclusive of social and human dimensions to enforce the relationships that exist within the biophysical and human environments.

Guideline for conducting Integrated Impact Assessments in South Africa

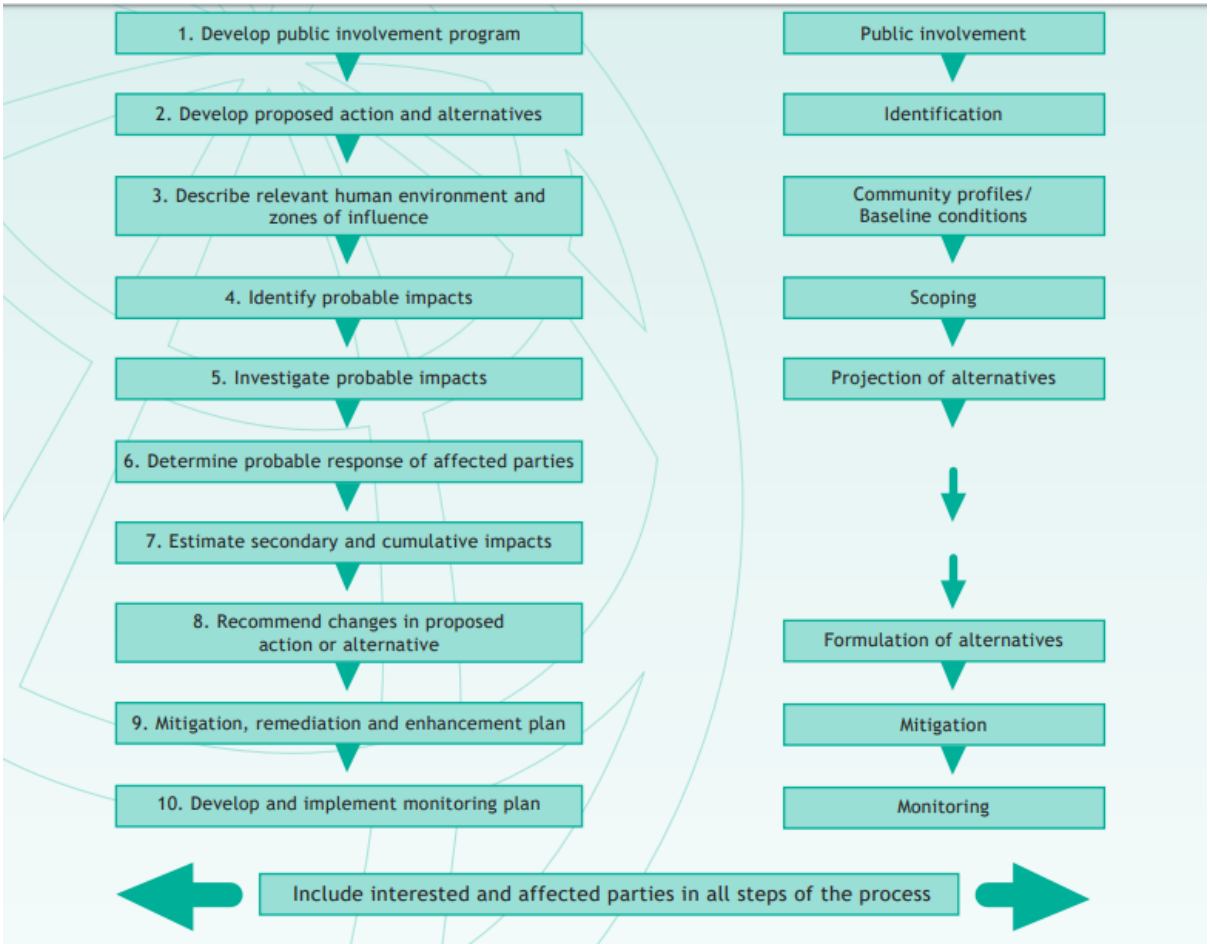


Figure 6: Guideline for IEM in South Africa

***Source*:** Department of Environmental Affairs and Tourism, South Africa (2005), *Integrated Environmental Management Information Series; Socio-Economic Impact Assessment*. https://www.environment.gov.za/sites/default/files/docs/series22_socioeconmic_impact_assessment.pdf

Despite lacking clear guidelines of SIAs in South Africa (Aucamp 2015; Hildebrandt 2012), the South African government has made efforts in setting forth guidelines of conducting socio-economic impact assessments (Figure) which are incorporated in the strategies for achieving improved integrated environmental management. Such a move prevents ESIA scoping from being only conducted using EIA regulations. It is not clear whether the Competent Authority in the Kingdom of Eswatini has similar strategies to improve environmental management practise locally. Browsing through the EEA website one finds components of the Environmental audits, assessments and review regulation. The objectives of this study was to emphasize the importance of incorporating social development strategies in the environmental

management field and to determine whether current ESIA regulations are effective in the drive for sustainable development and integrated environmental management. It is worth investigating SIAs standing in EIA process in Eswatini; this is explained in depth in Chapter 4 of this study.

2.3.4 Gaps in Knowledge

Prior to the development of the study, the researcher conducted a preliminary literature review which helped in formulating the core components of the study. Thorough the literature review presented in this chapter, the researcher was able to identify the extent to which SIAs concepts have been studied by other scholars before, especially in understanding the depth at which SIAs are integrated in the EIA process and how they play a role in social development as well as other issues that exists in SIAs implementation. While many SIAs studies have been published as either a tool for social development in the context of environmental management or social work, many of this studies have been conducted internationally. Very limited studies have been conducted that focused on the practise of SIAs in the Kingdom of Eswatini. Because, every country has its unique integrated environmental management legislations and social development goals it is important that The Kingdom of Eswatini has studies that focus SIAs studies in a local context. Locally, SIAs are conducted as specialist studies in the EIA process and very often by environmental practitioners instead of social scientists. Such management of SIAs leads to lack of legislation and guidelines regulating proper SIA implementation. Therefore, challenges may arise in identification and mitigation of major social impacts. This inadequate research on SIA practise in the Kingdom of Eswatini gave the researcher justification for conducting the study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

Ingwenugu (2016) defines research methodology as "a set of systematic techniques used in research, which provide a guide in how the study should be conducted (Igwenagu, 2016). Research methodology is essential in research because it; describes analyses methods used by the researcher to find suitable data collection and evaluation tools, assist in drawing conclusions of problems being investigated in the study.

This chapter describes the relevance of the study, research design, research approach, description of qualitative research method, data collection tools, areas of study, site description, target population and sampling methods, ethical considerations and limitations of this study.
In the Kingdom of Eswatini, the Competent Authority is the Eswatini Environment Authority and the Ministry of Tourism and Environmental Affairs represents government authority with regards to environmental management locally. It is important to look at the challenges faced by the MoTEA and the EEA because the two organizations administer different roles in environmental management in the country. The MoTEA- Environment department is responsible for the drafting, amending, and implementation of environmental policies. The Environment department is also responsible for delegating relevant duties to the EEA which is a parastatal and also acts as the competent authority. The EEA is responsible for monitoring compliance to environmental regulations, approving ESIAs applications, conducting inspections, issuing environmental permits/certificates as well as promoting environmental management in the country.

The research question seeks to investigate the reasons in poor implementation of SIAs, this is inclusive of focusing on the policies that govern ESIA, public participation process, documentation of ESIA reports, accessibility to documentation of published reports as well as mitigation and monitoring of social impacts. In addition, the research question seeks to identify gaps between SIAs theory- as it is written in the policy that governs ESIA, and the actual practise of SIAs during scoping and implementation phases. This will help in determining the challenges that exists in SIAs implementation and also pave a way in proving recommendations to be used to improve SIAs practise in the country.

3.2 Research Design `

In obtaining meaningful results while also ensuring effectiveness and efficiency of all operations of the study, and answering all research questions appropriate research design was applied. Research design is described as a *"blue-print that facilitates smooth functioning of all research components* (Kathori, 2004). Choosing the appropriate research design builds a foundation of the research methodology suitable for answering the researcher's questions and addressing the problem statement. Furthermore, research design guides the researcher with data collection methods, sampling and data analysis.

This study acknowledges the use of exploratory research design. Aucamp (2015) views exploratory studies as research that seeks to investigate unpopular or new topics that have not much been explored (Aucamp, 2015). Other scholars understand exploratory studies as research that seeks to address questions of "why", "who", "what" (Clark, 2005). The fundamental purpose of this study is to understand the role of SIAs in social development and integrated environmental management. Furthermore, the main research question of this study seeks to investigate poor SIA implementation and the hurdles to mitigation of social impact. Although there currently exists many published studies on poor practise of SIA and the value of SIAs, this study still follows exploratory research design. This is because the relationship between SIA, social development and value of SIA in integrated environmental management in the Eswatini context has not much been explored. In addition, this is an exploratory study as the researcher's aim was to explore the following:

- The effectiveness of environmental laws in Eswatini;
- Perspective of local environmental practitioners on SIA;
- Attitudes of community members towards environmental management and social development;
- Effectiveness of PPP locally during mitigation phase of a development project

While part of this study has limited new concepts being developed, the researcher hopes using an exploratory research design will pave a way into improvement of ESIA practice in the Kingdom of Eswatini as well as lead to development of in depth future studies.

3.3 Research Approach

For the successful completion of the study and to present meaningful results, it was crucial that the researcher choose the appropriate research approach, as it determined the research methodology and data collection tools as well as the data analysis techniques. The study is made of the following research approaches;

3.3.1 Applied Research

Applied research is essential in research to solve practical problems (Dr Smoot, 2019). It is designed to identify problems in a certain area of study to assist in providing solutions and recommendation of how problems presented by the researcher can be solved. Applied research in this study is used to identify and provide solutions to challenges in poor practice of SIAs and mitigation of social impacts. In addition, the applied research in this study is used in line with the sub-research questions the researcher thought to be appropriate in investigating the factors that influence the problem presented in the main research question. This is because the sub-research questions prompt the researcher to examine the following;

- Efficiency of the PPP;
- Inadequacy of social experts during ESIA implementation;
- Effectiveness of policies that govern ESIA;
- Roles of SIAs in social development and integrated environmental management.

By finding answers and solving problems presented by the sub-research question ultimately provides answers to the main research question.

3.3.2 Qualitative research

Qualitative research approach was used to structure the basis of the data collection methods in this study. Scholars and many researchers argue that defining qualitative research is a challenge (Rahman, 2017). Rahman (2017) states that qualitative research approach is not based on theories, paradigm and principles that exists on their own, rather it is multi-disciplinary and borrows from other concepts (Rahman, 2017). In addition, qualitative research involves a range of research designs and methodologies, which makes this type of research approach to be flexible when choosing data collection methods. Furthermore, qualitative research may require interpretative techniques and researcher's viewpoint (Rahman, 2017).

Since this is an exploratory study, the researcher deemed it necessary to use both applied and qualitative research approaches in order to achieve the goal of the study. Both research

approaches are flexible and can be used in an array of study fields. This flexibilities allowed the researcher to choose data collection methods appropriate for such a study.

3.4 Data Collection

For the purpose of achieving objectives of the study and overall successful completion of the study the researcher used both primary and secondary sources of data collection. Primary data was collected through questionnaires which were designed for environmental practitioners and community participants who were engaged in the study. The questionnaires contained structured open-ended questionnaires. Secondary data was collected through analysis of literature review (scholarly articles, journals and books) and ESIA reports.

3.4.1 Literature Review

The study made use of literature review in the form of published scholarly articles as a tool for identifying information that already exists done on SIAs, IEM, sustainable development and social development. The literature review was also helpful in determining gaps in knowledge which the researcher used to provide justification of the study in Chapter 2. Moreover, the literature review was used as part of data collection. Policies governing ESIA and international guidelines of SIA implementation were reviewed to make an analysis of the effectiveness of ESIA policies and regulations. Published policies and regulations such as the EMA of 2002 and the Environmental audit, assessment and review regulation of 2000 were treated as data collection tool and were deemed necessary by the researcher to identify gaps in the legal framework of ESIA implementation.

Literature review gave the researcher a foundation to build the research on and understand concepts in SIAs, IEM and social development. However, literature review alone is not enough to make conclusive analysis, hence the use of questionnaires to gain participants' perspective on the legal framework of SIAs and the overall implementation of SIA. The literature review as a tool for data collection was also accompanied by reviewing ESIA reports. According to Bowen (2009 "*organizational and institutional documents have been a staple in qualitative research*" (Bowen, 2009). Document or report analysis requires data be examined and interpreted to understand presented information. There are several benefits of reviewing organizational reports and documents in data collection and these include; (1) information is most likely reliable and can be verified, (2) data is already available and can be independently reviewed; (3) easy to apply in qualitative research. There are however, drawbacks in using this

form of data collection and these include; (1) analysing data can be time consuming, (2) the researcher has no control of the quality of the data being collected (Bowen, 2009). For the purpose of this study five ESIA reports were analysed to further evaluate the effectiveness of the ESIA process. Furthermore, the reports were analysed to determine if ESIA findings and write up complied with EIA policies and regulations.

3.4.2 Questionnaires

Questionnaires were used to gain environmental practitioners' and community members' perspectives on SIAs, social development and integrated environmental management. The two distinctive study groups had different questionnaires designed for them. A self-administered questionnaire (Appendix 1) containing open-ended questions was designed for the environmental practitioners from the different environmental organizations. The researcher approached the organizations' HRM, HOD or Director, who then approached the respondents who took part in this study. The researcher had no hand in how the environmental practitioners were selected. The researcher also used open-ended questions in the questionnaire designed for residents living around the Skhuphe International Airport (King Mswati III International Airport), see (Appendix 2). Most participants in the community were illiterate, the researcher translated all questions to the local language siSwati and participants answered questions verbally which then the researcher wrote down. The community participants were randomly selected.

According to Bird (2009) "*questionnaires are popular, valuable and a fundamental tool for acquiring information on public knowledge and perceptions on a range of topics"* (Bird, 2009). If kept simple and unambiguous, questionnaires produce reliable, credible and valuable results which the researcher can use in drawing conclusions to the research problem and questions that were being investigated (Bird, 2009). Using questionnaires in research has vast benefits as well as drawbacks. According to Milne (2000) questionnaires are useful in; (1) gathering information in a quick and standardized manner; (2) information can be gathered from a large number of participants, despite that the fact that there are high chances of low response rates (Milne, 2000). The drawbacks of using questionnaires include the following; (1) questionnaires are distributed after event or development has occurred, participants may not remember everything in detail (Milne, 2000); (2) in self-administered questionnaires, participants may misinterpret questions (Milne, 2000).

The researcher found out that use of questionnaires as form of data collection in this study produced the following advantages and disadvantages presented in the table below;

Table 1: Advantages and Disadvantages of using questionnaires in the study

Advantage	Disadvantage
Open-ended questions allowed participants to elaborate their responses	Respondents claimed questionnaire to be too long, hence low response rate from environmental practitioners.
Questionnaire were quick and easy to construct. Using questionnaires was an inexpensive method of data collection	Open-ended questions were time consuming hence the researcher felt some responses were rushed and not thought through providing very limited information
	Open-ended questions took long for he researcher to interpret and analyse

3.5 Study population and sampling

Study population refers to the smaller sample of a group of potential participants in the study chosen from a larger population for data collection (Taherdoost, 2016). The researcher used two distinct groups which were identified to answer questionnaires. Community participants chosen to take part in the study were those that were relocated during construction of the Sikhuphe Airport. Majority of the population around Sikhuphe area were somehow socially affected by the development of the airport, however, the researcher narrowed the number to those that were relocated to surrounding areas. Seventy families were relocated to a nearby location where a new community was established which is now referred to as the Sikhuphe Village. Informants of the study included both females and males. Majority of the informants are self-employed practicing subsistence farming, others stated they were currently unemployed and some of the participants are in high school. In addition, informants involved in the study were of different ages, the majority, however, was above 51 years old. After the study population was identified, the researcher applied simple random sampling technique to select participants. Simple Random sampling according to Taherdoost (2009) is "*there is an equal chance or probability that any unit within the population could be selected from inclusion in the sample"* (Taherdoost, 2016). The researcher personally approached families who were randomly selected to be part of the study.

3.6 Area of study



Figure 7: Location of Eswatini in Southern Africa

Source: Google Maps



Figure 8: Location of the Sikhuphe Airport

Source: Google maps

The Kingdom of Eswatini is a landlocked country in the Southern African Region. It is bordered by Mozambique on the north-eastern side of the country, and South Africa to the north-west and south-east as seen on

Figure 7 (First Environement, 2003). The study area was Sikhuphe which is located in the lowveld of Eswatini and it is situated under the SNL of which ownership of land is assigned to the King. The area is dry, temperatures range from 28˚C to 31˚C while annual rainfall ranges from 200mm to 800mm (Manyatsi, *et al*., 2016). Sikhuphe is described as a semi-arid rural area (Manyatsi, et al., 2016). There are approximately 120 homesteads in this area and over a thousand people are inhabitants of Sikhuphe (First Environement, 2003). The development in terms of community development and sustainability is very low as majority of the people are subsistence farmers. Farming is the main socio-economic activity in the area. Most families in the area utilize land for growing maize, cotton and sweet potatoes (First Environement, 2003). In addition, a large percentage of the population also relies on livestock keep for livelihood, which includes cattle and goats.

3.7 Data analysis

For data analysis, a qualitative data analysis approach using content analysis has been adopted by the researcher. Leedy and Ormrod (2001) describe content analysis as *"a detailed and systematic examination of the contents of a particular body of materials for the purpose of identifying patterns, themes or biases"* (Leedy & Ormrod, 2001). This approach of data analysis works by reducing large volumes of qualitative data and attempts to categorize it in similar meanings and themes. In addition, one of the key characteristics of content analysis is that it allows researchers to interpret text data and understand *"social reality in a subjective but scientific manner*" (Leedy & Ormrod, 2001). This element of content analysis allowed the researcher to interpret the perceptions of environmental practitioners and selected community members towards SIAs and social development for the establishment of integrated environmental management strategies. Creswell (2014) and Aucamp (2015) describes six steps which a researcher needs to follow when using content analysis for data interpretation;

- Data must be organized and prepared for analysis;
- Researcher must thoroughly read through the data;
- Data must be coded;
- Themes must be identified as they categorize similar data;
- Decide how themes are presented (as this will to how results are presented);
- Finally, interpret meaning of themes

This methods were also highlighted by Williams (2007) stating that the researcher using content analysis must first analyse the written texts and put them in frequency tables as each

characteristics of the data is mentioned (Williams, 2007). Secondly, the researcher must then quantify the data using statistical methods to help researcher in presenting the results.
The researcher first grouped questions into different categories and then each group of questions was given a theme (themes were pre-established during the designing of the questionnaires). During analysing the researcher first went through responses from participants, paying attention in how respondents understood concepts of pre-established themes and the questions. Emerging themes from responses were plotted in frequency tables.

Data Analysis 2: Assessing quality of Environmental Impact Reports (EIRs)

The other key factor that can be used to measure the overall effectiveness of ESIA practise is through analysis of EIRs. Momtaz and Kabir (2012) state that the quality of the EIR is a true reflection of the quality of ESIA practise in any given country (Kabir & Momtaz, 2012). The processes and dedication made throughout the whole ESIA work is ultimately demonstrated in the EIR, hence a review of the reports should be included as data collection and analysis to gather information on the practise of the ESIA. According to a European Commission publication, an EIR should be able to meet two objectives; (1) Provide decision-makers with necessary information with regards to environmental and social changes that might occur during a proposed development as well as how the proponent plans on mitigating those impacts, and (2) the report should communicate effectively to all stakeholders and affected parties on measures taken to identify and address impacts (European Commission , 2001). Many review checklists exist that are used to assess the quality of an EIR, however the Lee and Colley's (1992) has been widely adopted by many researchers and decision makers (Kabir & Momtaz, 2012). The EU Commission EIS checklists is another method that consist of review questions that a user can adopt to assess the quality of the EIR (European Commission , 2001) . Though both methods are widely popular in developed countries, in this study they have been amended to fit in the Eswatini context using the EAARRs of 2000 as detailed in the Compendium of Environmental Laws of Swaziland 2005 and in Chapter two of this report.

The Lee and Colley Review Package is organized in a hierarchal review criteria divided into four review levels (Lee, et al., 1999) as shown in the figure 9. When using the Review Package, the reviewer starts at the lowest, working upwards evaluating the quality of the EIR. Generally, the reviewer works on this sections to assess how well EIA procedures were followed prior compilation of the EIR;

Review 1: Description of the proposed development and local environment

Review 2: Identification of Impacts

Review 3: Mitigation and Alternatives

Review 4: Communication

The reviewer has to then use letter symbols (Lee, et al., 1999) as shown in Figure, to grade how well components of each review section were presented in the EIR. Lee et al (1999) encourage that the Review Package has to be used taking consideration of the EIA regulatory framework of that particular country. The Review Package in this study adapted components of the EAARRs 2000. Though originally, consisting of four review sections, the researcher in this study saw it fit to add a fifth review section (Public Participation) to evaluate public participation procedure in the practise of ESIA in the Kingdom of Eswatini. See APPENDIX 9 for the adaptation of the Lee and Colley Review Package which was used in the study.

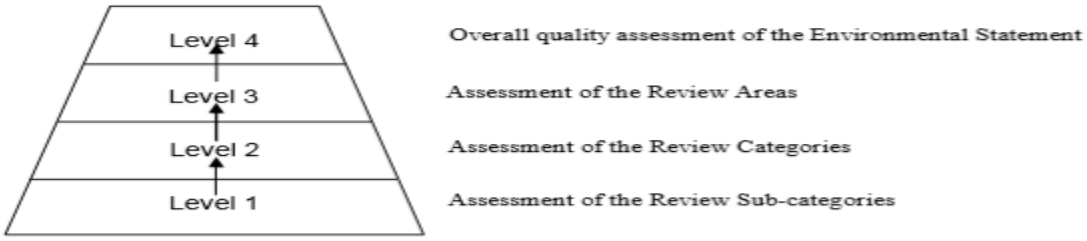


Figure 9: Assessment Hierarchy of the Lee and Colley Review Package

Source: (Lee, et al., 1999, p. 10)

Symbol	Explanation
A	Generally well performed, no important tasks left incomplete.
B	Generally satisfactory and complete, only minor omissions and inadequacies.
C	Can be considered just satisfactory, despite omissions and/or inadequacies.
D	Parts are well attempted but must, as a whole, be considered just unsatisfactory because of omissions or inadequacies.
E	Not satisfactory, significant omissions or inadequacies.
F	Very unsatisfactory, important task(s) poorly done or not attempted.
NA	Not applicable. The Review Topic is not applicable or it is irrelevant in the context of the environmental appraisal report.

Figure 10: Grading Criteria for Lee and Colley Review Package

Source: (Lee, et al., 1999, p. 11)

To avoid bias Lee and Colley (1999) recommend that at least two reviewers independently evaluate the selected EIRs (Lee, et al., 1999). However, the researcher was unable to fulfil that, instead, the researcher went over the tasks two times making sure bias was limited. In addition, the researcher also deemed it necessary to complement the Lee and Colley Review Package by using the EU Commission EIS Checklist which consists of review questions the researcher used to further avoid bias in evaluating the EIRs. The EU checklist is very similar to the Lee and Colley (1992) it consist of seven review criteria that the user must follow when grading an EIR ;

- Description of the project;
- Alternatives ;
- Description of the environment likely to be affected by the project;
- Description of the likely significant effects of the project;
- Description of Mitigating Measures;
- Non-Technical Summary;
- Quality of presentation

Table 2: Grading symbols of the EU EIS Review Checklist

Symbols	**Explanation**
A	Full provision of information with no gaps or weaknesses
B	Good provision of information with only very minor weaknesses which are not of importance to the decision
C	Adequate provision of information with any gaps or weaknesses in information not being vital to the decision process
D	Weak provision of information with gaps and weaknesses which will hinder the decision process but require only minor work to complete
E	Very Poor provision of information with major gaps or weaknesses which would prevent the decision process proceeding and require major work to complete

Source: (European Commission , 2001, p. 15)

3.8 Ethical Considerations

The University of Witwatersrand Research Committee requires that prior to conducting a study involving human subjects, an ethical clearance certificate must be obtained. As part of the

research methodology and data collection, environmental practitioners were approached by the researcher to gain perspectives of practitioners on SIAs and social development. Community members were also asked to participate in the study. Before participants took part in the research, they were given a participation information form (Appendix 1) which informed them about the purpose of the study in detail. Participants were also asked to sign a consent form (Appendix 2) before being engaged by the researcher. Both participation information form and consent form informed participants of the following;

- Participants were free to withdraw from the study anytime;
- Participants were allowed not to answer questions they were not comfortable with;
- Participants were informed that the study was solely for academic purposes;
- Participation was voluntary, no remuneration would be offered;

The study received ethical clearance prior to being undertaken. Confidentiality and anonymity of participants was maintained throughout the study.

CHAPTER 4: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents interpretation and analysis made from the two questionnaire surveys and analysis from the EIR review. First, it briefly describes the data analysis methods used in evaluating the data gathered. Then, it presents results of analysis in the form of graphs and frequency tables. The results obtained indicate the key issues in ESIA implementation in the Kingdom of Eswatini.

4.2 Data and methods of analysis

As described in Chapter 3, data was collected through questionnaire surveys of environmental practitioners and community members of Sikhuphe Village and from a sample of five EIR. The questionnaire surveys were analysed through content analysis. Questions in the surveys were organised in pre-established themes which were the main investigated topics in the study. The responses from participants were analysed through identifying emerging concepts of the pre-established themes. The findings were then quantified to give a numerical presentation of results. Results from the questionnaire surveys are presented in graphs and frequency tables. To determine the overall effectiveness of ESIA implementation, EIRs were reviewed using the Lee and Colley Review Package. To avoid bias and ensure reliability, the researcher further reviewed the quality of the five EIRs using the European Commission Review Checklist. Results of the EIR review are presented in graphs and frequency tables

4.3 Environmental Practitioners' Perspectives

Ten environmental practitioners' from government agencies and private consultation willingly took part in this study.

Theme 1: SIA and Social Development

The first theme in the questionnaire looked at the practitioners' perspectives on SIA and social development. There were five questions under this theme, and each was analysed to gain overall insight of how practitioners perceive the relationship of SIA and social development.

Question 1: What is your understanding of Social development and Sustainable development?

Responses from participants varied stating that social development had to do with; (1) meeting the social needs in communities (2) delivering of social services (3) improvement of livelihoods (4) improved well-being and well-fare of people and (5) emancipation . The researcher then grouped these responses into two key concepts; (1) Community empowerment and emancipation (2) Access to social needs and recognizing the needs of the communities.

Table 3: Understanding Social Development

Emerging theme	Frequency
Community empowerment and emancipation	8
Access to social services. Recognizing needs of people	2

The results shown in the table above indicate that a majority of the respondents consider community empowerment and emancipation as key components of social development as this theme appeared eight times in the responses. On the other hand, social development as means to increase access to social services and recognizing the needs of people only appeared twice in the responses.

Table 4: Understanding Sustainable Development

Emerging theme	Frequency
Management of resources	6
Integrated approach to understanding economic growth, social development and environmental protection	6

According to the frequency table above, out of the ten responses obtained from the practitioners', themes that emerged were (1) sustainable development is understood as management of resources and (2) also understood as an integrated approach of understanding and creating a balance in achieving economic growth and social development whistle ensuring environmental protection. Both themes appeared six times in the responses.

Question 2: Comment on the role SIAs play in social development

Table 5: Understanding the role of SIA

Emerging theme	Frequency
SIA is a planning to identify, mitigate etc.	9
Recognizes human rights	3
Promotes community development and improved standard of living	8

The results above indicate that SIAs are mostly used as a planning tool to identify impacts and possible mitigation measures. This was plotted nine times in the frequency table. SIAs is also understood as a tool efficient in promoting community development and improving the standard of living in communities. This idea appeared eight times in the responses of the practitioners. Vanclay (2003) states that SIAs should not only be understood as a tool used for identifying the social impacts and ways to minimize identified impacts, however should also be considered as a vital instrument used to recognize and respect human rights during proposed development projects (Vanclay, 2003, pp. 5-12). This concept seems to be the least observed by the sampled practitioners as it only appeared three times in the frequency table.

Question 3: What challenges are encountered by the competent authority and the government with regards to proper implementation of SIAs?

Table 6: Challenges in SIA implementation

Emerging theme	Frequency
Financial	3
Political	1
Expertise and experience of practitioners	2
Outdated/conflicting/inadequate guidelines and legislations	5
Lack of human and technical resources	5
Weakness in public participation	6

There were several varying challenges hindering the successful implementation of SIAs. The most pointed out challenge is the weakness in public participation as it appears six times in the frequency table. Lack of human and technical resources is mentioned five times, indicating that it is also a major challenge in ESIA implementation. Outdated legislations and the lack of SIA guidelines within the EIA also appears five times in the frequency table. Other challenges include; financial constraints which appears three times; lack of expertise and experience of practitioners to conduct SIAs appears two times. Political influence is the least mentioned challenge as it only appears once.

Question 4: Are SIA part of the EIA process or conducted separately?

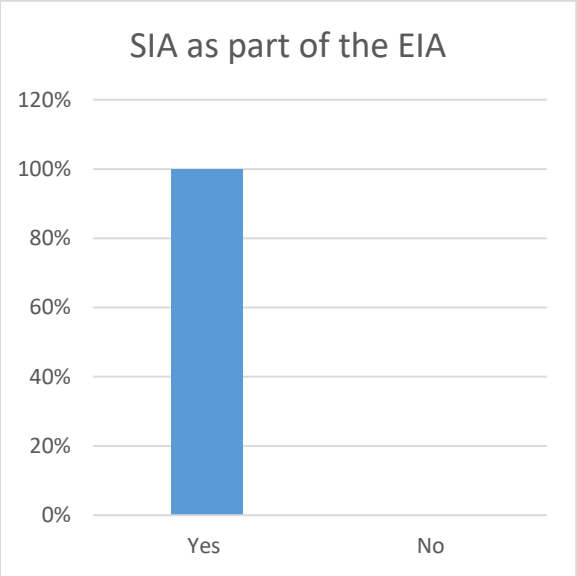


Figure 11

Question 5: If part of the EIA, does this not limit the effectiveness of SIA as EIA tend to focus more on the environmental impacts?

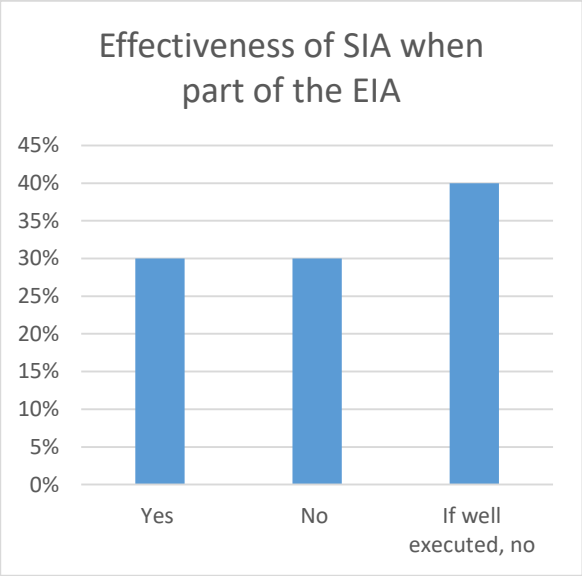


Figure 12

The two charts above representing results for question 4 and 5 focus on the effectiveness of SIA being a component of the EIA. In Figure 11 it shows that SIA are completely conducted as part of the EIA as 100% of the responses state so. Often, some researcher' believe that SIAs being a part of the EIA limits the effectiveness and proper implementation of SIA as more focus tends to be on the environmental impacts (Momtaz, 2003). Results obtained in this study show that the sampled local practitioners have varying opinions as shown in figure 12, the chart shows that 30% of the respondents believe that SIA being an integral part of the EIA limits the effectiveness of SIA. Another 30% strictly believe there is no limit of SIA when being

undertaken as part of the EIA. 40% of the respondents believe that it is dependent on the experience and capacity of the practitioner conducting the assessment. Therefore, if well executed SIA will not be conducted poorly.

Theme 2: Legal Framework of SIA

Question 1: Which policies govern the EIA/SIAs processes?

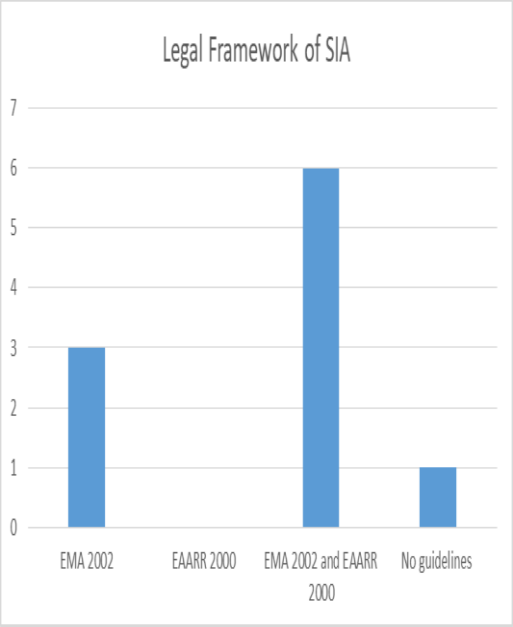


Figure 13: Legal Framework of ESIA

Question 2: Are environmental laws/policies/legislations in the country made clear and accessible to the public?

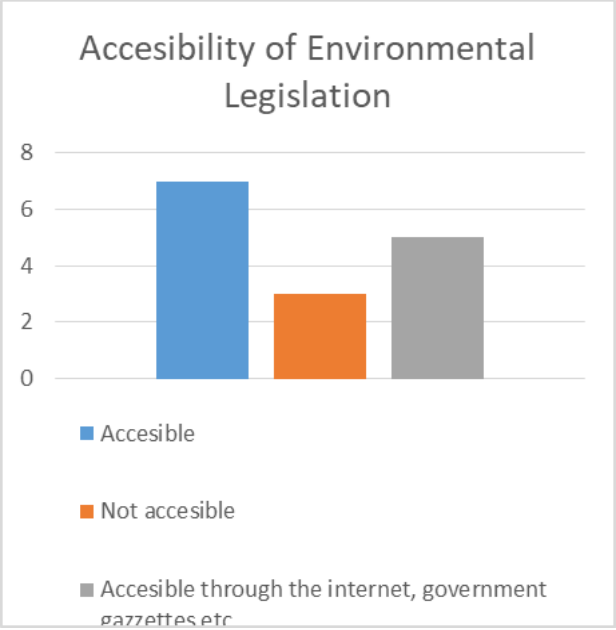


Figure 14: Accessibility of Environmental Legislations

According to the Compendium of Environmental Laws of Swaziland 2005, both the EMA 2002 and the EAARR 2000 and useful in public participation practise (Swaziland Environment Authority, 2005). The results in Figure 13 show that 60% of the respondents cited both the EMA 2002 and EAARRs 2000 as the legislations that provide the legal framework of ESIA. 30% of the respondents cited the EMA 2002 as the only regulation guiding ESIA, while 0% cited the EAARRs as the only regulation of ESIA. The remaining 10% indicates that there are no SIA guidelines within the EIA regulations.

To achieve reasonable SIAs practise, legal framework documents and other relevant documents pertaining to ESIA should be accessible to the public. The responses of practitioners shown in Figure 14 indicate that 30% of the respondents state that environmental legislations are not available to the public. 70% state that they are accessible to the public. However, within the 70%, 50 % of the responses added that they are accessible through the internet and government gazettes as well as through the Compendium of Environmental Laws of Swaziland 2005 which is being sold at 100SZL the equivalence of USD 6.66 per copy.

Question 3: Any further comments and suggestions on the legal framework on EIA/SIAs implementation?

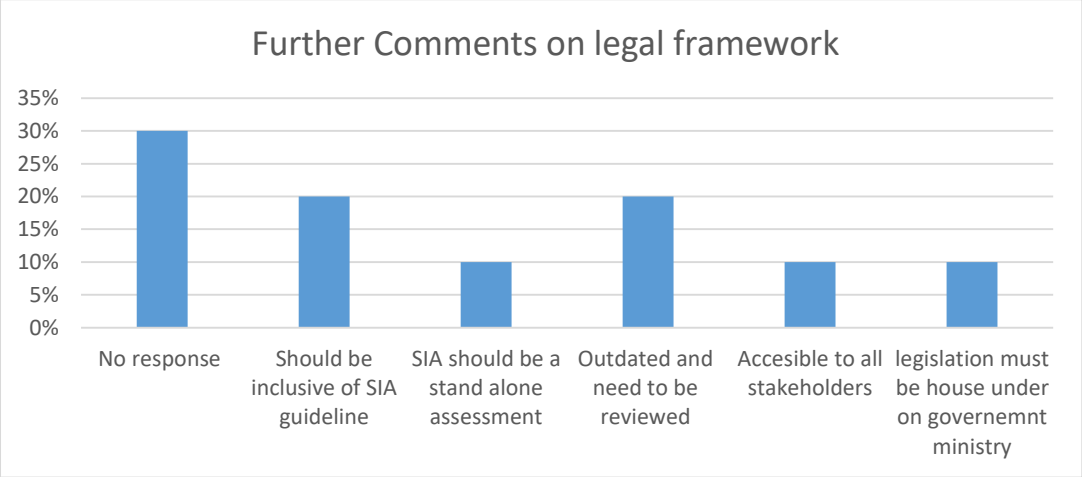


Figure 15: Comments on Legal Framework of ESIA

When asked to further comment on the legal framework ESIA, 30% of the practitioners did not respond. 20% state that the legislations are outdated and need amendment. Another 20% believe the current legislations need to be inclusive of SIA guidelines to guide the practitioners during undertaking of ESIA. 10% state that SIA should be a stand-alone assessment, 10% believe legislations should be available to all stakeholders, including affected parties. The remaining 10% believes that all environmental legislations should be housed under one government ministry to make referencing easier when conducting ESIA.

Theme 3: Public Participation

Question 1: What is the policy on public participation for planned development projects?

Table 7: Public Participation Legislation

Emerging theme	Frequency
Covered in EAARR 2000	4
Scoping meeting	2
Public review	3
EMA 2002	1
No response	1

Public participation in Eswatini is covered under the EMA 2002 (Swaziland Environment Authority, 2005). Scoping meetings and Public Review processes are sub-sections of Part VIII of the EMA 2002. Public participation is also mentioned under Part D of the EAARR 2000. Both the EMA and EAARR are important in guiding public participation. In the results above most responses cited the EAARR 2002 as the legislation that governs public participation. Public Review is mentioned three times, while scoping meeting is mentioned twice. Only one response cited the EMA 2002 as the legislation which provides guidelines of Public Participation.

Question 2: Are affected parties (locals) made aware of the potential environmental and social impacts associated with a particular planned development intervention?

Table 8: Transparency during Community Engagement

Emerging theme	Frequency
Yes (through scoping and public review)	8
Yes (through newspaper ads)	2
No (only when they will be relocated)	1

A majority of the participants agreed that affected parties are made aware of the potential environmental and social impacts likely to occur due to developments projects. This was plotted eight times in the frequency table. Some respondents stated that potential impacts are revealed through newspaper advertisements. The least mentioned is that locals are not made aware of the environmental and social impacts, they are only made aware of resettlement issues.

Question 3 (a): In detail, please explain the public participation process in the country.

Table 9: Public Participation Procedures

Emerging themes	Frequency
Scoping meetings	4
Published announcements/adverts	2
Public Review	1
No response/inadequate response	4

The results in the frequency table illustrate that scoping meetings are at the centre of public participation and this was stated four times in the practitioners' responses. Two responses point out that public participation occurs through published announcement. Public review as a process of public participation appears only once in the frequency table. A no response was recorded four times.

Question 3 (b): What would you recommend to improve the process?

Table 10: Recommendation to improve Public Participation

Emerging theme	Frequency
No response	4
Increase awareness of public participation concepts to affected parties	1
Increase awareness about project	2
Improvement of practitioners skills and experience	1
Advertise project details on more media channels	1
Simplify project reports	2

Studies claim that in developing countries, there exists many weaknesses in the public participation implementation process (Kakonge, 2012, pp. 309-320). Solutions need to be brought forward in order to improve the process. The results illustrated in Table 10 indicate that respondents recommend that there needs to be more awareness of impacts of a particular development project. This was plotted two times in the frequency table. What also appears twice is the recommendation that project reports need to be simplified for the public to understand. Another recommendations that were raised which were only mentioned once include the following; (1) increase awareness of public participation concepts; (2) improve the skills of practitioners; (3) advertise project details on more media channels.

Theme 4: Reporting and Documentation

Question 1: How true is it that many published EIAs are a copy and paste from

other already published reports?

Question 2: Are published EIAs/SIAs and other assessments easily accessible and available in both English and siSwati

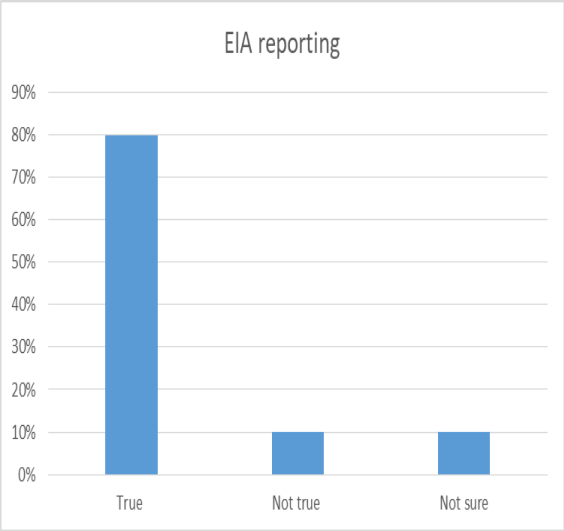


Figure 16: Responses on EIA reporting

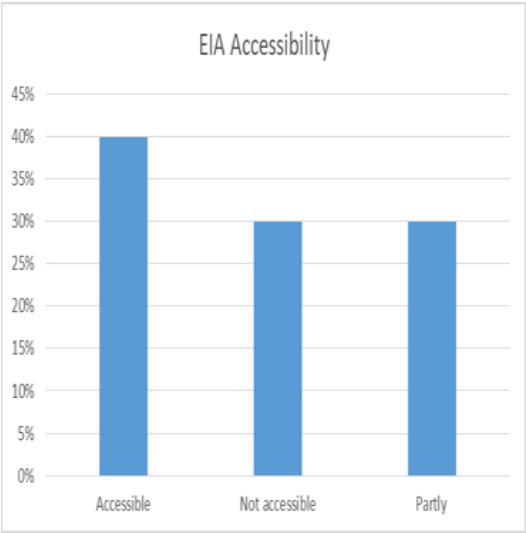


Figure 17: Responses on EIA Accessibility

Kubir and Momtez (2012) state that the overall effectiveness of ESIA implementation is often reflected in the EIR (Kabir & Momtaz, 2012, pp. 94-99). Authenticity of the reports is therefore very important. The results in Figure 16 indicate that 80% of the respondents believe it is highly possible that there is lack of authenticity in EIA reporting. 10% stated that there is no truth in

that statement, while the remaining one respondent represented by the remaining 10% responded as not sure.

According to EU Commission (2001) the purpose of EIR is to communicate with the decision makers, which is the competent authority and should also speak to the public (European Commission , 2001). The reports should therefore not only be available, but the public should be also able to access them. The results presented in Figure 17 show that 40% percent of the practitioners believe EIRs are accessible, while 30 % state EIRs are not accessible. The last 30% shows that EIRs are somewhat accessible to the public.

Theme 5: Mitigation

Question 1: What social impacts were caused by the construction and operation of the Sikhuphe Airport?

Table 11: Social Impacts caused by development of Sikhuphe Airport

Emerging theme	**Frequency**
Resettlement	7
Reduction of grazing lands	4
Change of social, cultural, traditional set-up/lifestyle	5
No response	3
Positive: employment. Skills transfer	1

The construction and operation of the Sikhuphe (King Mswati III International Airport) impacted many families in the Sikhuphe Community. Respondents point resettlement as the major social impact that occurred as it appears seven times in the frequency table above. Change in social lifestyle was also another major social impact and it is cited five times. Reduction in grazing lands appears three times. Only one positive impact was mention which was employment opportunities, however, it was mentioned only once.

Question 2: What mitigation measures were taken (should have been taken) to address those social impacts?

Table 12: Mitigation measures to reduce Social Impacts

Emerging themes	Frequency
Better housing	2
No/inadequate response	3
Provision of arable land	1
Mitigation measure were inadequate	5

According to the results shown, it appears that mitigation measures that were implemented to reduce social impacts that affected community members at Sikhuphe did not adequately address identified impacts. This appears 5 times in the frequency table in Table 12. Mitigation measures taken include; provision of arable land for the families that were relocated and provision of better houses during resettlement. Other practitioners either did not respond or provided information that was irrelevant to the question.

Question 3: What specialist studies were done to identify social impacts? (Cultural, heritage…?)

Table 13: Specialists studies taken to identify Social Impacts

Emerging themes	Frequency
No response	5
Compensation plan	1
Not aware	2
Socio-economic	2

According to the results shown in Table 13 specialists' studies that were done were socio-economic studies and a compensation mitigation plan. A no response was recorded five times in the frequency table, while there's a record of two that were not aware of the specialist studies that were done.

Question 4: What policy governs the way affected families are compensated? How is compensation calculated? (Please also comment on rehabilitation of damaged heritage cites

Table 14: Policy on Compensation

Emerging themes	Frequency
None	2
No response	2
Farm Dwellers Act	1
Resettlement Act 1996	4
Acquisition of Property Act 1961	1
Ministry of Housing and Urban Development guidelines	1
National Settlement Policy 2002	1
Rural Development and Resettlement Bill 2003	1

According to the results illustrated in Table 14, there is no legislation or clear guidelines on compensation of affected families. The most referenced compensation legislation is the Resettlement Act 1996 on it appears four times in the frequency table. The other responses vary with no similarities, indicating that practitioners are not aware of any guidelines of how socially affected families are compensated.

Theme 6: Monitoring

Question 1: How often does the competent authority (EEA) monitor accumulative environmental and social impacts in affected communities?

Table 15: Frequency of Monitoring

Emerging theme	Frequency
Lack of human resource	1
Never	1
Responsibility of proponent	1
Not aware	1
Quarterly	2

Towards completion of project	1
Often	2
When affected parties complain	1
When proponent submits Project Compliance Reports	1

Monitoring is an integral part of EIA follow-up, yet the most neglected component of the EIA (Ahhamed, 2007). Monitoring responses from practitioners showed various monitoring timelines. In all the responses plotted on the frequency Table 15 none of the same responses surpassed 30%. The results indicated in the table suggest that there is no clear guideline of how often monitoring should take place. The researcher learnt that it is not the EEA that monitors impacts, however the proponents'. While it's the proponent's responsibility to monitor impacts, the competent authority is responsible for enforcing monitoring and compliance regulations and ensuring the proponent is held accountable for mitigating and monitoring impacts. Even though, the question might have been inaccurately phrased, the responses from the practitioners still indicate that there are gaps in monitoring.

Question 2: After development has occurred, do locals benefit from it? (Social/community development, standard of living)

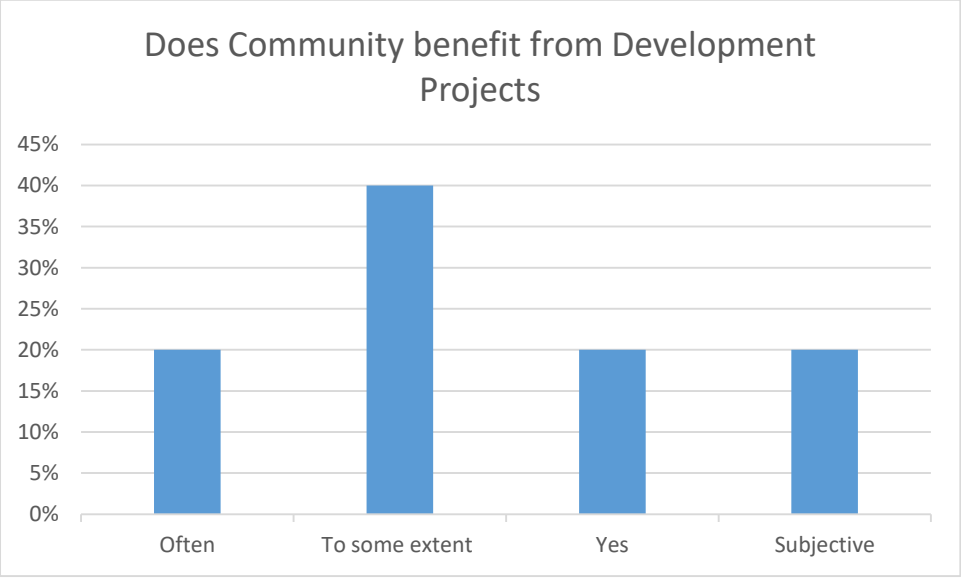


Figure 18: Benefiting from development projects

Development projects are meant to bring economic growth whistle benefiting communities by promoting community empowerment and social development at community level. However,

many studies have shown that community members are usually left worse off after development has occurred (Kerry, 2001, pp. 18-27). The graph in figure (x) shows that 40% of the response agree that to some extent development projects do benefit local communities. 20% of the respondents believe locals often benefit. Another 20% believe that development projects definitely benefit local communities, while the last 20% of respondents believe that benefiting from development can be subjective.

4.4 Community Perspectives

Prior to development of the Sikhuphe Airport, seventy families were relocated to a new location not very far from the airport. The seventy families were given new houses and the newly established settlement was named Sikhuphe Village. Out of the seventy families which were relocated, the researcher reached out to sixteen which willingly took part in the study. Most of the participants were illiterate, therefore the researcher explained in detail purpose of the study and also translated the questions to the local language siSwati. Those that were literate, still preferred that the researcher explains and writes down answers from respondents. The questionnaire survey was treated as interviews and was conducted in the local language. The researcher, however wrote down responses in English. To avoid bias, the researcher and each participant approached would go over the questions two times.

General Statistics

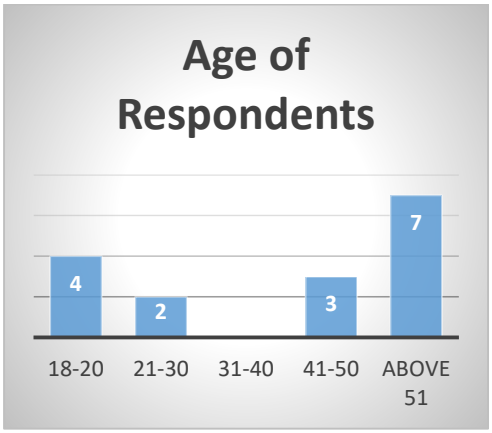


Figure 19: Gender of Respondents

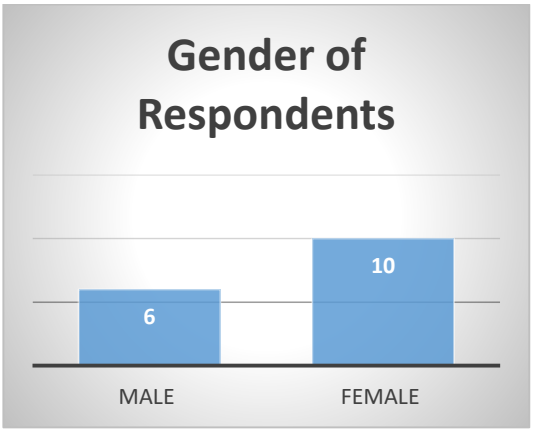


Figure 20: Age of Community Respondents

Figure 19 shows that out of sixteen participants, seven were above the age of 51 years, four were in the 18-20 years range, and three were aged between 41-50 years. None of the respondents were between the ages of 31-40 years.

Figure 20 shows that a majority of the participants were females and six of the participants were males.

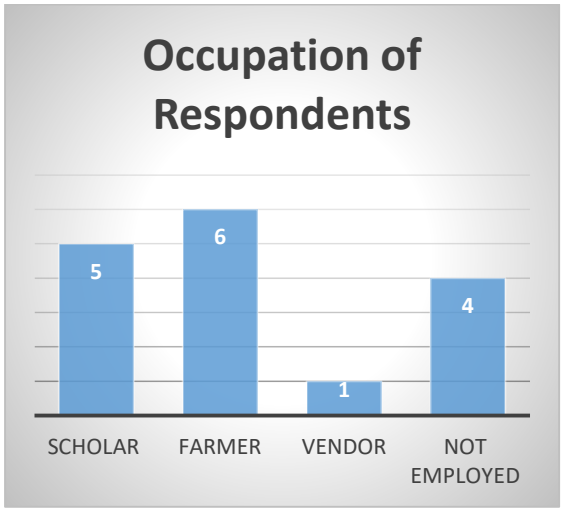


Figure 21: Occupation of respondents

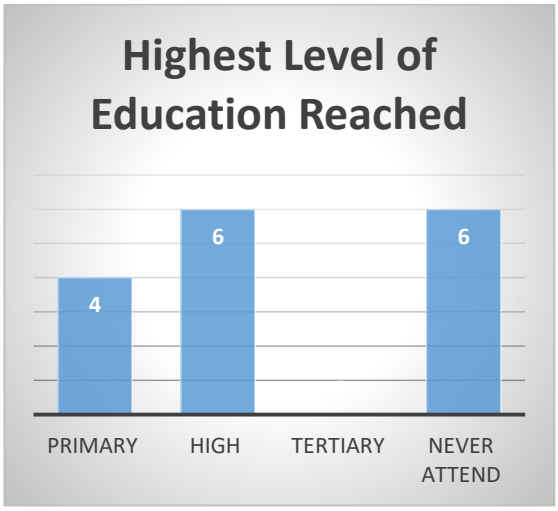


Figure 22: Educational history of respondents

The results in Figure 21 show that 31.25% of the participants were scholars, 37.5% practise farming and 6.25% employed as a street vendor. 25% of the participants were not employed. In Figure 22, it is illustrated that 25% of the interviewed participants have primary school education, while 37.5% have a high school education. None of the participants ever attended tertiary school, while 37.5% have never attended school.

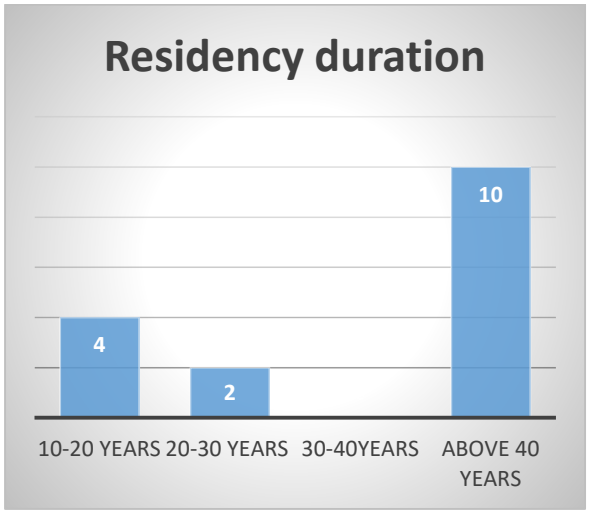


Figure 23: Residency duration of respondents

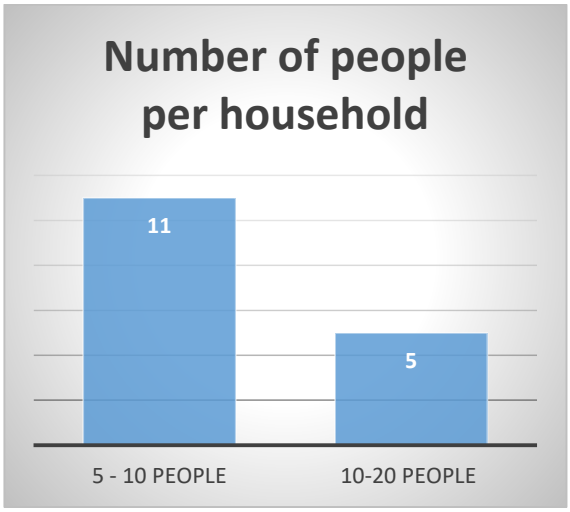


Figure 24: Number of people in respondents households

Figure 23 indicates that 62.5% of the participants has lived in Sikhuphe for more than forty years. 25% of the participants have lived in Sikhuphe for 10-20 years. The other 12.5% of the interviewed participants have lived in Sikhuphe for more than 20 years.
Figure 24 shows that 68.75 of the interviewed participants have between 5-10 people in the household, while 31.25% of the participants have between 10-20 people per household.

Theme 1 Social Development

Question 1: How has construction and operation of the airport affected you and your family?

Table 16: Impacts during development of the airport

Emerging theme	**Frequency**
No response	2
(Positive) Access to clean water and electricity	7
(Negative) Reduced income	3
(Positive) Access to tarred roads	3
(Positive)Better housing	3
(Negative) Change in lifestyle	1
(Negative) No job opportunities	2
(Negative) no improvement to standard of living	8

The interviewed participants and their families were negatively and positively affected by the development of the airport. The most common negative impact experienced by the affected families is that there standard of living did not improve after development occurred. This appears eight times in the frequency table. There were no job opportunities created for locals and this appears two times. During resettlement affected families are likely to experience a social change they had not anticipated, this negative impact appears only once in the frequency table. Participants also state that there was income reduction from agricultural activities, this is mentioned three times. Positive impacts also emerged during development of the airport. Residents gained access to clean water and electricity which participants mentioned seven times in the responses. Roads improved and residents were given better houses, each positive impact is mentioned three times.

Question 2: What social impacts were caused by the development project in your community?

Table 17: Social Impacts during and after development

Emerging theme	Frequency
(Negative) reduced agricultural land	11
(Negative) reduced livestock	9
(Negative) change in lifestyle	2
(Positive) better housing	1
(Negative) damage to assets	2
(Negative) increased bills	2
No response	1
(Negative)No community liaison	1
(Positive) Better transport system	2
(Positive) access to clean water and electricity	2

The interviewed participants were mostly socially affected by the reduction of agricultural land which was tallied eleven times. Participants also lost livestock and this impact is mentioned eight times in the participants' responses. There were also impacted through the change of lifestyle, damage to family assets, and increased bills which all appear two times in the frequency table. The other social impact mentioned in the responses is that there was no community representative to assist residents in community engagement with developers. There were also positive impacts mentioned in the responses which include; access to clean water and electricity which is mentioned two times. Better transport system due to improved roads which is mentioned two times as well as better housing which is mentioned only once.

Question 3: Was there compensation offered. How was your family compensated? Are you satisfied with how you were compensated?

Table 18: Mitigation of Social Impacts

Emerging theme	Frequency
Inadequate compensation	9
Received food parcels for 2 years	4
Better housing	13
Arable land clean	4
Access to water and electricity	3
Received monitory stipend	2

The results in Table 18 illustrate that majority of the participants state they were compensated by getting new houses. This was recorded thirteen times in the frequency table. Inadequate compensation was recorded nine times. Other respondents state that they were compensated through receiving food parcels for two years and some state they were given arable land, both compensation measures were plotted four times in the frequency table. Compensation in the form of monetary value is recorded two times. Access to water and clean water appear three times in the frequency table.

Question 4: What social and economic benefits have been brought by the operation of the project in your community?

Table 19: Social and Economic benefits brought by development

Emerging theme	Frequency
Reduced water borne diseases	2
None	8
Job opportunities	2
More problem generated than benefits	5
Not sure	2
Increased electrification rates	1
New roads closer to school	2

When development occurs, there are social and economic benefits that are usually brought by the development of that particular project. However, according to the results illustrated in Table 19 there were not much social and economic benefits of the airport. Majority of participates stated that no benefits were brought by the development of the project as this appears eight times in the frequency table. Other participants believe the development brought more problems than benefits as this appears five times. Least mentioned benefits which do not appear more than three times in the frequency table include; job opportunities, reduced water borne diseases, new roads and increased electrification rates.

Question 5: Has the standard of living in the community improved since completion of the project?

Table 20: Improvement of Standard of living

Emerging theme	**Frequency**
No change	4
Better living conditions	8
Standard of living worse off after development	5

According to the results in Table 20, the standard of living has worsened for the sampled participants. No change to the standard of living is recorded four times in the frequency in the table. Some participants, however, believe they are living in better conditions than before, and tis was appears eight times in the frequency table.

Theme 2: Public Participation

Question 1: Were community members engaged in all developments and proceedings of the project? If, yes explain how

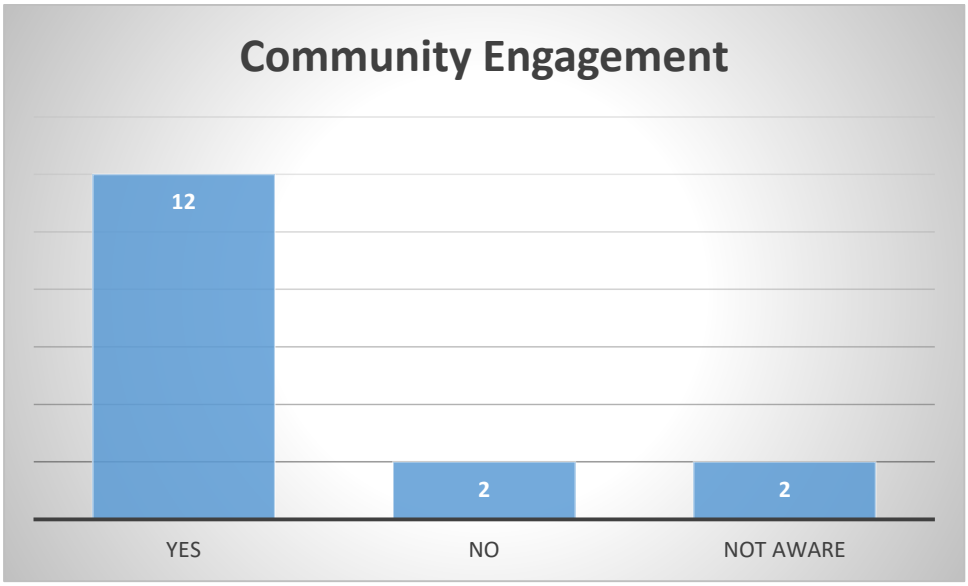


Figure 25: Community Engagement

The graph above indicates that 75% of the respondents agree that there was community engagement during the development. 12/5% believe the community was not engaged at all stages of the development. Another 12.5% of the respondents were not aware of any community engagements.

Question 2: How often did developers, specialists and the competent authority consult with community members regarding the development project?

Table 21: Frequency of community engagement

Emerging theme	Frequency
During community meetings	2
No response	2
During resettlement phase	4
Communication a one way system	1
Not aware/not sure	5
Often	3

The various responses in Table 21 show that five times respondents stated they were not aware how often community members engaged with developers. Community occurred during resettlement phase is appears four times in the frequency table. Some participants believe community engagement often occurred and this appears three times in the frequency table.

Question 3: Were you made aware of the potential social and environmental impacts that could have been caused by the development of the project?

Table 22: Awareness on social and environmental impacts

Emerging theme	Frequency
No/inadequate response	6
No, only about resettlement	4
No	2
Yes, made aware of impacts on agricultural activities	3
Never attended a meetings	1

The results illustrated in Table 22 indicate that community was made aware of resettlement impact and this appears four times in the frequency table. Affected families were also told about agricultural impacts which appears three times. The results also show that affected families were not told about social and environmental impacts ass this appears twice. There were also no responses to this question and this was recorded six times in the frequency table.

Question 4: What are your views on the public participation process in the country?

Table 23: Views of Participants on Public Participation

Emerging theme	Frequency
More youth participation	1
More awareness on public participation	1
Process politically influenced	2
Dictatorial system	4
Gaps in the system	2
No response	3
Have limited information on Public Participation	6

Results in Table 23 show that there are weaknesses in the public participation process in the country. Some of the interviewed participants have limited information on public participation which was recorded six times in the frequency table. The other most mentioned weakness is that the public participation process is more of a dictatorial system as this emerged four times in the responses. Other weaknesses include political influence and gaps in the system which both appear twice in the table. The least mentioned is that there should be more youth participation and more awareness on public participation.

Theme 3 Reporting and Documentation

Question 4: Did developers and the competent authority make you aware that according to the Environmental Management Act (2002), all proceedings of the project should be reported, documented and made available to all concerned parties?

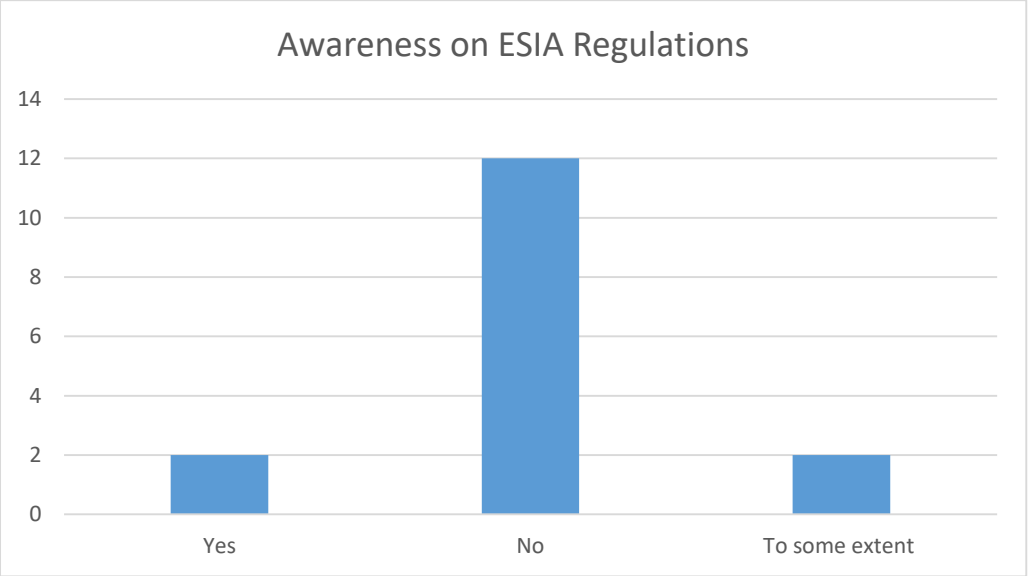


Figure 26: Awareness on ESIA Regulations

Out of sixteen sampled respondents, the graph indicates that 75% of the respondents are not ESIA regulations. 12.5% of the respondents are aware of the regulations and the remaining 12.5% respondents stated. These results show that affected parties have limited knowledge of environmental legislations.

Theme 4 Mitigation and Monitoring

Question 1: What mitigation measures were taken to improve the lives of affected families?

Table 24: Mitigation of social impacts

Emerging theme	Frequency
Better housing	12
Mitigation did not met needs of affected community	5
New arable land	4
Increased access to water and electricity	2
No response	2

Mitigation in the form of giving residents new houses was the main mitigation that was done to reduce social impacts as this is plotted twelve times in the table. The results in Table 24 also indicates that affected families were given arable land farm and this was recorded four times in the table. Residents also had increased access to electricity and water which appears twice in. In addition, some of the responses claimed the mitigation measures taken were ineffective to meet needs of affected families.

Question 2: How often does the Eswatini Environment Authority monitor cumulative impacts since development of the project occurred in your area?

Table 25: Frequency of monitoring

Emerging theme	Frequency
During resettlement phase	1
No monitoring after development	4
No response/inadequate answer	2
During construction of airport	6
Often	3

Monitoring of impacts and mitigation was done mostly during the construction of the airport, as this appears six times in the table. Some participants believe monitoring was never

completed and this is recorded four times in the table. Monitoring according to the results in the table occurred often and this was recorded three times in the table.

Question 3: How should things be done differently in the future? What would you change in how the process was carried out?

Table 26: Recommendations on improving ESIA implementation

Emerging theme	Frequency
Developer must deliver compensation as agreed	4
No response	1
No hope in change	4
More job opportunities	3
Satisfied with development	2
Improved engagement between developer and community	2
Access to social services delivery	2
More awareness on proposed development	1

The results illustrated in Table 26 show various ways suggestions in which the process could be improved. Respondents believe that the developer should ensure that compensation is done per the agreement that was made during consultation between developer and community. This appears four times in the frequency table. Other respondents want more job opportunities to be created for local residents, and this was mentioned three times. Other suggestions include; more awareness on proposed development, increased access to social services. While some participants made suggestions to improve ESIA process, some had no hope that the system would ever change. This appears four times in the frequency table.

4.5 Quality Review using Lee and Colley (1992) Review Package

Lee and Colley (1999) suggest that an evaluation of EIR be done to determine the overall effectiveness of the EIA (Lee, et al., 1999). In this study, five category three EIRs were evaluated to determine key challenges in ESIA implementation. The EIRs were reviewed using Lee and Colley Review Package and the EU EIS Review Checklists. Though both review methods emerged in the UK, they have been widely adopted by other researchers (Kabir &

Momtaz, 2012, pp. 94-99). For this particular study, the researcher made use of the EAARRs 2000, a regulation that governs the ESIA process in the Kingdom Eswatini. Components of EAARRs were categorized in each of the review areas stated in the Lee and Colley Review Package. The EU EIS Review Checklists consists of questions that the researcher used to further make analysis of the review areas that were being evaluated.

After reviewing each EIR using the modified Lee and Colley Review Package, the researcher then reviewed each EIR again using the review questions from the EU EIS Review Checklist. The following results were obtained from the Lee and Colley Review Package;

Table 27: Review Area 1- Description of proposed development and Local Environment

Report No.	1.1 Design and size of proposed site	1.2 Alternative sites	1.3 Map with location	1.4 Estimated construction duration	1.5 Description of biophysical environment	1.6 Description of human environment	1.7 Uncertainty, risk and hazard assessment
1	A	A	A	A	A	A	B
2	B	D	C	D	A	A	C
3	A	C	A	D	A	A	A
4	A	C	B	A	A	A	B
5	A	C	A	A	A	A	D

Review Area 1 presents detailed information on the proposed development and the local environment. In this study, it is divided into seven review categories as shown in Table 27. The purpose of this review area is to present a clear picture of the proposed environment; its estimated construction duration, alternatives sites, its design and size which should be accompanied by location maps. The Review Area should also describe the local environment (biophysical and human) that is likely going to be impacted by the proposed development. In addition, uncertainties, risks and hazards associated with the proposed development need to be assessed.

Table 27 shows that 100% of the EIR samples meet the requirements of the review area despite the minor omissions shown. The EIR reports are at a satisfactory level (A-C) range as it shows that majority of the review categories were well done. 40% of the EIR have no omissions or inadequacies as all review areas were well executed. The remaining 60% of the EIR were overall "just satisfactory" because they had minor shortfalls with scores of symbol grade (D) in some review categories. Though the EIR performed generally well in this Review Area, there is need for improvement. Site alternatives need to be considered well giving full explanations of the preferred site. Estimated time duration should also be clearly indicated in the EIR. In addition, risk and hazard assessments are crucial to identify safety and health standards that may be jeopardised by proceedings of the proposed development.

Table 28: Review Area 2-Identification of Social Impacts

Report No.	2. 1 Distinguish between significant and beneficial impacts	2.2 Identify irreversible impacts	2.3 Allocate significance of impacts against international or national regulations, standards and quality objectives	2.4 Identify significant data deficiencies and assumptions made	2.5 Determine spatial and temporal distribution of impacts
1	A	A	D	C	F
2	A	A	C	D	A
3	B	D	E	C	A
4	B	B	C	E	C
5	B	B	C	C	B

Review Area 2 reflects on how social impacts were understood by the practitioner. The practitioners should be able to distinguish between adverse impacts and positive impacts that need to be enhanced as well as be able to indicate which impacts are likely to be irreversible.

Identified impact significance should be allocated against international or national standards bearing in mind of national social development and environmental protection strategies. There may be limited resources to well identify and execute ESIA, data deficiency and assumptions made must be indicated in the report. Lastly, the social impacts' distribution an duration must be determined and stated in the EIR. In Table 28 the results show that 100% of the sampled EIR meet the requirements of category 2.1 demonstrating "well performed-satisfactory" level (A-B). The results also show that 40% of the EIR performed well in category 2.2, 40% were at a satisfactory level while one (20%) EIR did not pay much attention on which impacts were irreversible, obtaining a "just unsatisfactory" grade. In category 2.3 and 2.4, 100% of the EIR performed at a "just unsatisfactory" level. In the last category, 40% of the EIR samples had obtained a symbol grade of (A) demonstrating "well performed" work. 20% of the EIR showed "satisfactory -just satisfactory" (B-C). 20% of the EIR was at a "did not attempt" level.

Table 29: Review Area 3- Mitigation and Alternatives

Report No.	3.1 Impacts to be prevented or reduced in severity	3.2 Benefits to be enhanced	3.3 Mitigation measures to achieve the above	3.4 Budget, institutional and training requirements	3.5 Monitoring Programmes to track project related impacts, implementation and mitigation	3.6 Community liaison procedures needed	3.7 Analysis of alternatives and selection of preferred option	3.8 Consultations made with government agencies, NGOs and public during EIA work
1	A	C	C	C	D	D	E	C
2	A	B	C	C	B	D	E	B
3	B	B	C	C	C	C	E	B
4	B	A	A	A	D	E	D	B
5	B	C	C	C	C	E	E	C

The mitigation and alternatives review should reflect how well developers propose to mitigate identified impacts. It should address how adverse impacts are to be reduced and indicate how beneficial impacts would be enhanced. The developers should allocate funds to be used to mitigate impacts. Furthermore, it is in this review area that commitment from the developer to mitigate impacts is clearly indicated. Alternatives to proposed mitigation measures should also be included in the EIR. According to Tinker *et al* (2005) mitigation is best implemented using the mitigation hierarchy to properly assess which mitigation method best reduces identified impacts (Tinker, et al., 2005, pp. 265-280). Therefore, it should be indicated in the EIR how

the practitioners and developers assessed the magnitude of the mitigation measures identified. Other categories of Review Area 3 are shown in Table 29.

The results as shown in Table 29 indicate that there are numerous weaknesses in the mitigation and alternatives implementation. It is shown that 100% of the sampled EIR fail to meet the requirements of category 3.7 as they fall in the (E-F) range, signifying that "no attempt" was made to identify alternatives to the mitigation strategies that were proposed in each of the reviewed EIR. Furthermore, there is no clear explanation why those mitigation measures were best suited to deal with the identified impacts. The results also show "poor-no attempt" in category 3.6. According to Kakonge (2012) community members need to be included in the mitigation implementation process (Kakonge, 2012, pp. 309-320). The poor scores in category 3.6 point to poor community consultation procedures followed to engage community members in the mitigation process. 80% of the EIR samples show "just unsatisfactory/poor attempt in category 3.6. For effectiveness of monitoring, it is suggested that monitoring programmes are put in place in order to track and evaluate effectiveness of monitoring (Ahhamed, 2007). 40% of the sampled reports had scores of (D) indicating "just unsatisfactory" attempt of implementing monitory programmes. Another 40% had scores of grade symbol (C) which indicates "just satisfactory" work. One (20%) of the EIR had a satisfactory grade. The other review categories in Review Area 3 show satisfactory work, receiving grade symbols (A-C). In the EIR impacts to be reduced, benefits to be enhanced, allocated budgets and mitigation measures were clearly stated, even though there were no alternatives to the selected mitigation measures proposed.

Table 30: Review Area 4 - Communication

Report No.	4.1 CMP	4.2 EAR	4.3 PCR	4.4 Scoping Report
1	C	E	E	F
2	C	E	F	A
3	E	D	D	C
4	D	D	D	C
5	D	E	D	B

Review Area 4 focuses on how well the EIR communicates crucial information with stakeholders and the reviewer evaluating effectiveness of the ESIA implementation. This section evaluates presentation of information and how well reviewer can access all pieces of information relevant to the EIR. In this study, the researcher evaluated Review Area 4 by reviewing the following; CMP, EAR, PCR, and the scoping report. The specifics of these four report were detailed in Chapter. These report should be attached to the EIR and contain all necessary information. The results illustrated in Table 30 show that 100% of the EIR samples performed very poor in category 4.2 and 4.3 with grades symbols (D-F) demonstrating "just unsatisfactory – did not attempt" level. The EAR and PCR were not included in the EIR, instead information that should be inclusive in both reports was all over the report, making it for the researcher to navigate through the EIR. All the EIR were inclusive of the CMP, however, 60% of the EIR had poorly compiled CMPs which had grades (D-E) indicating "unsatisfactory to poorly attempt" level. In category 4.4, there were mixed results demonstrating that 80% of the scoping reports attached to the EIRs were of "satisfactory level".

Table 31: Review Area 5: Public Participation

Report No.	5.1 Identification of the interested and affected parties	5.2 Method(s) used to inform and involve stakeholders	5.3 Analysis of the views and concerns expressed	5.4 How concerns have been taken into account
1	F	F	F	F
2	B	C	B	B
3	A	B	B	B
4	C	E	E	C
5	A	B	B	B

The last component of the review areas in this study is Review Area 5 evaluates how well public participation was implemented using the five EIR samples. Public participation is an integral part of the ESIA process. In the results illustrated in Table 31, 60% of the EIR are of satisfactory level (A-C) as they meet all the requirements of Review Area 5. 20% of the EIR barely meets the requirements as there are significant inadequacies in two of the review

categories; 5.2 and 5.3. The last 20% of the EIR were at a "not satisfactory" level as important tasks were not attempted at all. Although there are weaknesses in the public participation process, there is more room for improvement and this can be seen through the EIR with the 60% satisfactory level.

4.6 EIR Quality Review using EU EIS Review Checklist

Table 32: Review Area 1: Description of environment

	Report No.				
Review Questions	**1**	**2**	**3**	**4**	**5**
1. 1 Is the plan for implementation of the project described, detailing estimated duration?	A	D	D	A	A
1.2 Is the location of each project component identified, using maps, plans and diagrams as necessary	A	B	B	A	B
1.3 Is the design and size of the site occupied by the project described	A	B	B	A	A
1.4 Are any risks, hazard and uncertainties associated with the Project discussed?	B	C	A	C	D
1.5 Are measures to prevent and respond to accidents and abnormal events described?	B	C	B	C	C
1.6 Is the process by which the project was developed described and are alternatives considered during this process described?	A	D	C	C	C
1.7 Is the biophysical environment described, detailing on topography, hydrology, geology, species diversity etc.?	A	A	B	A	A
1.8 Is the human environment described, detailing land uses, cultural activities, heritage sites?	A	A	B	A	A
1.9 Are demographic, social and socio-economic conditions (e.g. employment) in the area described?	A	A	A	A	A

Overall, 100% of the EIR meet the requirements of Review Area 1 with minor gaps as illustrated by the results above in Table 32. The results also illustrate that 60% of the EIR samples obtained grades (A-C) in all the review categories indicating that there was good

provision of information. 40% of the EIR samples had grades (D) in some of the review categories, demonstrating "adequate provision of information) with minor gaps or weaknesses.

Table 33: Review Area 2: Identification of Social Impacts

	Report No.				
Review Questions	**1**	**2**	**3**	**4**	**5**
2.1 Are direct, primary effects on demography, social and socio-economic condition in the area described and where appropriate quantified	A	A	B	B	A
2.2 Are primary and secondary effects on human health and welfare described and where appropriate quantified	A	A	B	B	B
2.3 Where effects are evaluated against legal standards or requirements are appropriate local, national or international standards used and relevant guidance followed?	E	C	D	D	C
2.4 Are positive effects on social changes described?	A	A	B	C	B
2.5 Are impacts described on the basis that all proposed mitigation has been implemented?	B	C	C	C	B
2.6 Is appropriate emphasis given to the most severe, adverse effects of the Project with lesser emphasis given to less significant effects	B	B	B	B	B

Results displayed in Table 33 illustrate that 60% of the EIR had poor provision of information in review category 2.3, obtaining grades (D-E) as there was little evidence showing that impacts of development were evaluated at the required legal national or international standards. In addition, there was insufficient information on the guidelines followed to analyse magnitude of impacts. 40% of the EIR samples showed "full provision of information" to "adequate provision of information with minor weaknesses.

Table 34: Review Area 3: Mitigation and Alternatives

	Report No.				
Review Questions	**1**	**2**	**3**	**4**	**5**
3.1 Where there are significant adverse effects , is the potential for mitigation of these effects discussed	B	B	B	B	B
3.2 Are any measures which the developer proposes to implement to mitigate effects clearly described and their effect on the magnitude and significance of impacts clearly explained?	C	C	C	C	C
3.3 If the effect of mitigation measures on the magnitude and significance of impacts is uncertain is this explained?	D	E	D	D	D
3.4 Is it clear whether the Developer has made a binding commitment to implement the proposed mitigation or that the mitigation measures are just suggestions or recommendations?	E	E	B	E	E
3.5 Are the Developer's reasons for choosing the proposed mitigation explained?	E	E	D	D	D
3.6 Are responsibilities for implementation of mitigation including funding clearly defined?	B	B	B	C	C
3.7 Are arrangements proposed to monitor and manage cumulative impacts?	C	B	C	D	C

The results in Table 34 illustrate that mitigation is one of the poorly implemented components of the ESIA. The results indicate that almost 100% of the sampled EIR have very low scores in category 3.3, 3.4 ad 3.5. The reports had no evidence that Developers had binding commitment to mitigate impacts and implement monitoring programmes. In addition, there were no explanations from developers of choosing the proposed mitigation measures as well as the magnitude to which proposed mitigation measures would effectively reduce impacts. The EIR achieved grade symbols (D-E) demonstrating "*week provision of information"* to "*very poor provision of information*" demonstrating major gaps in the mitigation process. In the other review categories the results show that the EIR samples had scores of (B-C) which means provision of information in the reports was adequate with minor weaknesses. Category 3.7 which looks at monitoring shows that 100% of the reports did not score above grade (B),

indicating that tasks in this review category were not well implemented. Majority of the EIR which is 60 % of the sampled reports demonstrated level (C) work level in the 3.7 category. This signifies a major concern in monitoring and ESIA-follow up as the results show numerous omissions and inadequacies.

Table 35: Review Area 4: Communication

	Report No.				
Reviews Questions	**1**	**2**	**3**	**4**	**5**
4.1 Do the reports explain all necessary measures taken?	D	D	C	C	C
4.2 Does the presentation make effective use of tables, figures, maps, photographs and other graphics?	B	B	B	B	C
4.3 Does the presentation make effective use of annexes or appendices to present detailed data not essential to understanding the main text?	C	B	B	B	A
4.4 Does the whole EIR read as a single document with cross referencing between sections used to help the reader navigate through the document(s)	C	D	C	C	C

In Review Area 4, the results above indicate that information presented in the EIR was communicated at a mediocre level. There was no sufficient evidence in the CMP, EAR, PCR and Scoping report that all necessary information was included in the report. In review category 4.1 and 4.4 the results show that there was "*adequate to week provision of information*" as 100% of the EIR samples did not have a score of above (C). In category 4.2 and 4.3 100% of the EIR had *"adequate provision of information*" In addition, 40 % of the EIR overall, had minor gaps in the Review Area 5.

Table 36: Review Area 5: Public Participation

	Report No.				
Review Questions	**1**	**2**	**3**	**4**	**5**
5.1 Are the comments and views of those consulted presented?	E	A	A	C	A
5.2 Is it evident that full consultation was carried out during scoping?	E	B	A	C	A
5.3 Are public hearing minutes, advertisements attached to report?	E	A	A	D	B

The results from the EIS review are very similar to that illustrated in Table 36. 60% of the EIR have an overall satisfactory grade. These EIR performed particularly well in review category 5.1. 20% of the EIR samples had "*week provision of information"* obtaining an overall grade of (D) in Review Area 5. The remaining 20% obtained (E) grade symbols in all the review categories, indicating that there was no evidence that the public participation process was followed, and indicating "*very poor provision of information*".

4.7 Findings from Questionnaire Surveys

The two questionnaire surveys used in the study were used to gain perspectives of environmental practitioners and Sikhuphe residents on the practise of SIA in the Kingdom of Eswatini. The response from both questionnaire surveys revealed several weaknesses in the ESIA process. These weaknesses are mostly in; mitigation and monitoring, public participation and the legal framework of ESIA.

The results from Theme 5 and Theme 6 of the practitioners' questionnaire and Theme 4 of the community questionnaire illustrate gaps in the mitigation and monitoring phase. Of the ESIA. Results from the practitioners' questionnaire indicate that there are currently no clear and effective guidelines on how affected families are compensated. The lack of legislation governing mitigation and compensation is evident from the fact that practitioners aren't aware of which legislation is enforced to compensate those that have been socially impacted. Different legislations were cited by practitioners, the common one cited being the Resettlement Act of 1996, however, this legislation only applies in resettlement issues, and it does not guide how other social impacts are mitigated. Vanclay (2003) and Burge (2003) state when well

executed, SIA should promote community development (Burge, 2003, pp. 225-229). Furthermore, mitigation should go far beyond resettlement. Response from the community questionnaire also indicate that mitigation of social impacts was poorly implemented. During construction of the airport and resettlement phase, affected families were compensated with better housing and their access to clean water and electricity increased. However, the mitigation was ineffective because according to the responses from sampled Sikhuphe residents, there were no job creations for local residents. Furthermore, the residents are either unemployed or small scale farmers. With the increased water and electricity bills, yet little income generation and lack of community development, affected families cannot afford to maintain their current standard of living.

The responses from the questionnaire surveys also indicate that monitoring is poorly implemented in the ESIA process. Practitioners aren't quite aware how often monitoring is supposed to happen during and after development has occurred. The practitioners had different views on the frequency of monitoring, indicating that there are gaps in the legal requirements for monitoring. Responses obtained from the community questionnaire also indicate that monitoring was not effectively implemented during the development project.

Theme 3 from the practitioners' questionnaire and Theme 2 of the community questionnaire show gaps in the public participation process. Public participation regulations are covered in the EMA 2002 and EAARR 2000 (Swaziland Environment Authority, 2005). Results illustrated in Table 7 show that practitioners either cited the EMA 2002 or the EAARR 2000 as the legislations that provide guidelines for public participation. Some stated that scoping meeting and public review, however, according the Compendium of Environmental Laws of Swaziland (2005) scoping meetings and public review are part of the procedures that need to be followed during the public participation phase. On the community engagement, results from both questionnaire surveys indicate that community engagement often occurs, however, results from Theme 2 of the community questionnaire indicate that residents of Sikhuphe aren't quite aware of the public participation process. Furthermore, the process is more of a dictatorial system, making public participation a one way communication process where rather than encouraging engagement community members are told what to do and expect.

Gaps in the legal framework of ESIA also hinder the successful implementation of the process. Firstly, the environmental laws and legislations are not accessible to public, especially those in

rural communities. Figure 14, 17 and Figure 26 results clearly show that there is limited accessibility and awareness of environmental laws and legislations. Lack of awareness of the legal framework prevents people from knowing and practising their rights during ESIA implementation. Furthermore, gaps in the legal framework also prevent practitioners from ensuring that ESIA is well implemented. In addition, practitioners' believe there are weaknesses in the legal framework. The following are some of the response from the practitioners;

1. *"EAI/ SIA legislation is not regularly reviewed, resulting in discrepancies between the legislation and its application by the competent authority. For example, Regulation 6 of the Environmental Audit, Assessment and Review Regulations, 2000 stipulates that the Eswatini Environment Authority shall categorise a proposed project as a Category 1 (straightforward environmental authorisation) or Category 2 (Initial Environmental Evaluation) or Category 3 (Environmental Impact Assessment). There is no provision for categorising a project as an Environmental Management Plan (EMP), yet the authority in certain cases does so. Furthermore, there are no guidelines under the First Schedule as to what types of projects would ordinarily be categorised as an EMP, nor are there any guidelines under the Second Schedule as to the structure and format of an EMP. This therefore causes varying degrees of interpretation between the Eswatini Environment Authority and the consultants preparing the EMP. When questioned on the legal status of an EMP, the Eswatini Environment Authority has responded that it is higher than a Category 1, but below a Category 2, a practice which the authority saw fit to introduce due to certain realities when implementing the legislation. It is however improper for any duly authorised agency to introduce or implement a law without the legislation first being updated as this will lead to potential legal complications as well as confusion amongst stakeholders, particularly in the event of disputes."*
2. *" The Eswatini Environment Authority needs to motivate parliament to update legislation to reflect changes in realities of implementation and enforcement of the law, rather than unilaterally or arbitrarily introducing new directives in an attempt to accommodate changing realities"*
3. *"The EIA process in Swaziland in guided by the legislation. The SIA process is guided by professional understanding of identifying social impacts arising from the implementation of a series of interventions"*

4.8 Findings from reviewed EIR

To further evaluate the effectiveness of ESIA implementation in the Kingdom of Eswatini, the researcher reviewed five category three EIRs. These EIR were reviewed using Lee and Colley Review Package and the EU EIS Review Checklist. The results obtained show strengths and weaknesses in ESIA reporting and documentation, which inevitably has an overall effect on the implementation process.

Results illustrated in Table 27 and Table 32 indicate that Review Area 1 which makes analysis of the description of a proposed development and the local environment, is the most well performed part of the ESIA. All the reviewed EIR had sufficient information on the nature of the proposed development. There was also good provision of information regarding the biophysical and human environment in which the development projects were proposed to be located. In addition, results in the review categories in Table 27 and Table 32 indicate that key activities of Review Area 1 are satisfactory executed. There were however, minor omissions in some review categories which include; limited information of uncertainties, risks and hazards associated with the proposed developments. Furthermore, it is crucial to estimate how long the proposed development project' construction phase will take as this will assist in the monitoring of impacts. Overall, results from Review Area 1 meet the required standards. Well execution of the first review area is important as it determines successful completion of the second review area.

Review Area 2 evaluates how social impacts were identified. According to Hildebrandt (2012) identification of impacts depends on how well the practitioner must have understood the proposed development's potential to alter the human environment (Hildebrandt, 2012). Therefore, the practitioner should distinguish between negative impacts that need to be mitigated and those that are positive that would need to be enhanced to promote community development. In addition, the practitioner should be able to estimate the duration of the impacts and their distribution. Table 28 and Table 33 show that are minor weaknesses in Review Area 2, the common being that the EIR have limited information on how impacts are evaluated against national or international standards and regulations. It must be indicated in the EIR, how the practitioner determined the extent of the impacts using SIA guidelines (Hildebrandt, 2012). Furthermore, there is limited information on significant data deficiencies that hinder the process of identifying social impacts during ESIA scoping. Despite the minor weaknesses in identification of social impacts, there is room for improvement. If SIA guidelines are enforced

in the ESIA implementation, there would be a significant improvement in how Review Area 2 is executed.

Based on results illustrated by Table 29 and Table 34, mitigation and the overall EIA follow-up is the most neglected part of the EIA process. There were major inadequacies of mitigation and alternatives in the EIR. Mitigation is an integral part of the EIA that aims to reduce severity of impacts by either avoiding, minimizing, or rehabilitating and compensating (Tinker, et al., 2005, pp. 265-208). Mitigation should be implemented considering the extent to which chosen mitigation measures are effective in reducing identified impacts. Other key elements to mitigation include the developers' commitment to full be responsible for mitigating and monitoring impacts. Consideration of alternatives also plays a role in the mitigation phase. The results in Table 29 obtained from using Lee and Colley Review Package show that EIR fail in three review categories;

Category 3.5 Monitoring Programmes- as the need for EIA continues to grow, it has become increasingly important to introduce regulatory approaches to EIA monitoring a legal requirement (Ahhamed, 2007). However, monitoring remains the least favoured component of the EIA (Ahhamed, 2007). Illustrations from Table 29 show that 80% of the EIR samples had no good provision of information on how identified impacts and mitigation measures were to be monitored. The trend in the EIR is to mention authorities responsible for monitoring mitigation, however, there is insufficient information explaining the monitoring procedures to be taken and their effectiveness in managing impacts. In addition, limited information is provided on frequency of monitoring for proposed mitigation measures as well as the programmes implemented to ensure effective monitoring. Furthermore, there are no guidelines of monitoring in any of the reports and no information on data deficiencies and insufficiencies of resources to effectively implement monitoring;

Category 3.6 Community liaison – mitigation is best achieved when community members are engaged in the process (Kakonge, 2012, pp. 309-320). Due to the poor community engagement and lack of community liaison procedures followed as indicated in Table 29, mitigation implementation might not be a success;

Category 3.7 Analysis of alternatives- the results in Table x also indicate that consideration of alternatives in mitigation is very poor. According to Jones (1999) "the EIA is weak at

considering alternatives and has been attributed to a lack of proactive stances taken by competent authorities" (Jones, 1999, pp. 201-228). 100% of the reviewed EIR have no alternatives in any of the chosen mitigation measures. Failing to provide alternatives leads to failure of examining the most effective method to reducing impacts.

Results obtained from adaptation of the EU EIS Review Checklist show that the EIR reports failed to meet mitigation requirements in the following review categories;

Category 3.3 Effectiveness of mitigation measures- another key issue in mitigation implementation is that Developers fail to measure and determine the extent to which chosen mitigation measures have the potential to meet and effectively reduce the magnitude of the identified impacts. According to Tinker *et al "mitigation measures proposed often do not give any indication as to their potential effectiveness in ameliorating significant impacts"* (Tinker, et al., 2005, pp. 265-280). Furthermore, uncertainties of the chosen mitigation measures to effectively reduce impacts is not sufficiently explained in the EIR;

Category 3.4 Developer's commitment- the key principle of the PPP is that the Developer should be held accountable for any alterations that occur to the biophysical and human environment as well as ensure that mitigation and monitoring are effectively implemented (Khan, 2015, pp. 635-655). 80% of the EIR samples did not have any binding commitment from Developers to take full responsibility in mitigation and monitoring;

Category 3.5 Developers reasons for choosing proposed mitigation measures- in the EIA process and EIR the developer should clearly state the reasons for choosing proposed mitigation (Tinker, et al., 2005, pp. 265-280). This should be done taking into consideration comments and concerns from affected parties and alternatives identified. From the results in Table 34 there is no provision of adequate reasons on how mitigation measures were evaluated. The EIR is also crucial in communicating with decision makers and affected parties (European Commission , 2001). Table 30 and Table 35 show varying results obtained from using the two different review methods. Table x shows that the EIR samples did not meet the requirements of Review Area 4 because they were missing information on project compliance, environmental audit and monitoring and lacked detailed information in the CMP. Information that must be included in the CMP, PCR, EAR and scoping report was all over the EIR making it hard to effectively communicate with the reviewer. Table 35 results somehow meet

requirements of Review Area 4 in the EU Checklist as the EIR made use of tables, graphs and appendices.

Public participation is the process by which concerned and affected parties engage with developers and decision maker regarding a proposed development (Kakonge, 2012, pp. 309-320). While results from Table 31 and Table 36 indicate that 60% EIR samples somehow meet requirements of the Public Participation review area, there are still major concerns that need to be addressed in the public participation. Little attention is paid on how affected parties are identified and how concerns are analysed and included in the decision making process.

CHAPTER 5: CONCLUSION, RECOMMENDATION, FUTURE RESEARCH AND STUDY LIMITATIONS

5.1 Conclusion

The aim of this study was to investigate the challenges faced by the competent authority and the government (MoTEA) in the implementation of SIAs in the Kingdom of Eswatini. To achieve this aim, the researcher's objectives were to; (1) scrutinize the effectiveness of the Environmental and Social Assessment policy framework in regulating development projects in the Kingdom of Eswatini, (2) Examine the level of public participation in the environmental management process based on the case study of the Sikhuphe Village. A qualitative data collection approach was applied in this study through use of literature review, two questionnaire surveys and review of EIA reports. Data analysis was also done in a qualitative approach which revealed strengths and weakness in the ESIA implementation. Through literature review analysis, the researcher identified weaknesses in the ESIA legal framework which included the following key issues;

I. Within the EMA 2002 and the EAARRs 2000, there are no guidelines specific to how SIA are conducted;
II. The legislations are outdated failing to meet current social developmental needs and emerging environmental issues;
III. There is lack of regulations on the PPP and guidelines on how affected families are compensated by project proponents;
IV. There is no legal body regulating ESIA practitioners' experience, qualification and competency;
V. Accessibility of environmental legislations is inadequate;

Analysis of the two questionnaire surveys and evaluation of the five category three EIR also revealed key issues in the ESIA implementation in the Kingdom of Eswatini. There are weakness in the implementation of mitigation, monitoring and public participation. A possible fact the researcher observed is that the legal framework of the ESIA process seems to be the main key issue that leads to development of implementation challenges mentioned in Chapter 4. The legal framework should provide regulatory approaches for effective mitigation, monitoring and public participation implementation. The figure below summarizes weakness in ESIA implementation;

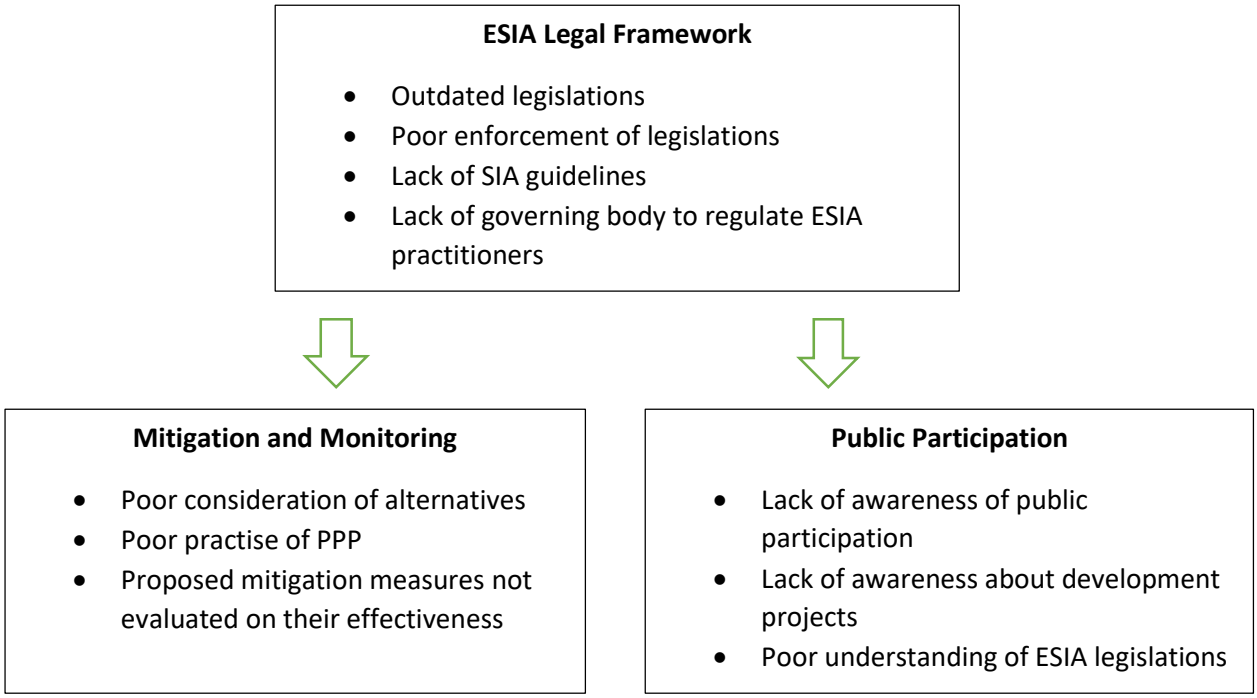


Figure 27: Summary of key issues in implementation of ESIA

Despite the observed challenges existing in the practise of ESIA in the Kingdom of Eswatini, the researcher has identified a few strengths which, if improved on, there is possibility of major improvement. SIA are conducted to identify, mitigate and manage social impacts that are likely to cause adverse social changes during planned interventions. They are also essential in enhancing the positive impacts to assist in community development. The analysis from environmental practitioners showed that, many of them are aware and understand the relationship that exists between proper implementation of SIAs and social development as well as the overall purpose of conducting SIA and its relation to integrated environmental management. Furthermore, the analysis showed that a larger percentage of the environmental practitioners recognize and acknowledge the challenges and gaps in Impact Assessment implementation. Many emphasized that the policy framework is a key issue in implementation. Other responses stated that lack of funds, inadequate human resource to carry out monitoring activities, and conflicting government ministerial legislations and agendas normally hinders the successful implementation of SIA. Acknowledging the challenges in the ESIA implementation process is important as this encourages solutions on how the process could be improved.

5.2 Recommendations

The following is recommended for SIA practise in the Kingdom of Eswatini;

I. The legal framework of EIA should be revised to be inclusive of clear guidelines of what constitutes of a social impact and how SIAs should be conducted. The guidelines should be specific to SIA detailing the expected format of how SIA findings are reported and documented.

II. There currently exist many weaknesses in the public participation process. Firstly, community members in rural and developing areas have little knowledge of environmental legislations and lack understanding of what social impacts are. Furthermore, community members aren't aware of their rights during public meetings. The researcher recommends that the MoTEA and the EEA which acts as the competent authority should educate the public more about environmental management and social development concepts. In addition, practitioners conducting ESIA should not solely depend on community members to point out social impacts that are likely to occur, because most rural community residents are illiterate therefore, do not understand the extent to which a planned intervention is likely to cause social impacts in their communities. Affected communities cannot even file for concerns within the sixty days as stipulated in the EAARRs 2000 due to the illiteracy. Furthermore, both MoTEA and EEA should make communities aware of what is expected from them during the public participation meetings.

III. More than 50% of responses from practitioners revealed that successful implementation of SIA is currently dependent on the practitioner's understanding of social impacts and how well they should be mitigated. To prevent inexperienced practitioners from conducting poor ESIA, there should exist a legal body where accredited EIA and SIA practitioners can be registered. A degree in the Natural Science or Environmental Science field alone is not enough to allow any environmental practitioner to conduct an ESIA.

IV. The MoTEA, EEA and tertiary institutions should continuously provide ESIA trainings which should be mandatory to all ESIA specialists. Furthermore, successful implementation of ESIA is possible if experienced social experts are part of the EIA team.

V. There should exist clear enforcement of how affected families are compensated by the project proponent. Resettlement and "better" housing alone are not enough to

compensate those that have been socially impacted by development projects. Furthermore, complexities of social impacts should be clearly understood to better compensate those affected by development.

VI. ESIA specialists and all environmental practitioners should understand that availability of the legislations and EIA reports does not necessarily mean they are accessible to the public. The legislations, EIA guidelines and some EIA reports are available on the web and in hard copies kept at the EEA resource centre, however, they are not accessible to people living in rural areas because they do not have accesses to the internet, and also cannot afford to buy the Compendium of Environmental Laws of Swaziland as it is sold at E100.00 which is equivalent to USD 6.66 per copy.

5.3 Future Research

Based on the findings of the study, the researcher has identified the following areas as needing further exploration;

I. One of the major factors influencing SIA practise in Eswatini is the public participation process. Future research should examine the key issues in public participation. This includes; the legal framework governing the process (2) Political interference (3) Communities' awareness on their rights during the process as well as communities' knowledge of key concepts relevant to environmental management and social development.

II. The study revealed that there are weakness in the mitigation and monitoring implementation in EIA follow- up. More research should be conducted to investigated how the PPP is enforced and whether there are clear guidelines and laws that project proponents abide to when compensating affected families. The future research on mitigation and monitoring should also look into the reasons project proponents often fail to satisfactorily compensate those affected by development. Furthermore, it is worth investigating whether rural communities do benefit from planned development.

III. Many issues arise from the outdated legislations guiding EIA. There should be research that explores how feasible it would be for the MoTEA to amend environmental legislations to be inclusive of SIA guidelines and integration of international environmental and social standards.

IV. Future research could also be done to improve this study. More case studies need to be included to the research to gain perspective of different community members who have

been affected by different development projects. Perspectives of social scientists on SIA should also be included in the study.

5.4 Limitations of study

Throughout the study, the researcher observed the following limitations;

- To gain perspective of environmental practitioners on the research questions that were being investigated, the researcher approached several environmental organizations (parastatal and consulting agencies). However, the researcher had no control on how the respondents would be selected. Selection of respondents were done either by the HRM, HoD, or CEO of approached organization. This prevented the researcher from knowing the area of expertise and experience of selected respondents in the ESIA field, therefore, the researcher believes some responses might have not been in-depth and thought through thus provide limited information to draw conclusive facts. Furthermore, the use of open ended questions in the practitioners questionnaires yielded a low response rate as some respondents felt the questions were too long;
- The use of random sampling in choosing participants who were engaged in the community survey was a quick and easy sampling method. However, the researcher should have carried out the data collection through focus groups rather than approaching community members individually. Furthermore, the use of open ended questions in the questionnaire designed for community members without conducting a pre-study limited the insights into community members' perspectives on the research questions that were being investigated. In addition, the questionnaire was too long, participants tend to lose focus and interest.
- Social development and integrated environmental management are very complex phenomenon. Results obtained in this study may only reflect a small portion of the complex problems preventing successful ESIA implementation to improve social development and integrated environmental management.

Bibliography

Ahhamed, R. A., 2007. *The Role of Monitoring and Auditing in the Environmental Impact Assessment process in Australia* , Australia : University of Adelaide.

Alshuwaikat, H. M., 2004. Strategic Environmental Assessment can help solve environmental impact assessment failures in developing countries. *Environmental Impact Assessment Review* , 25(1), pp. 307-311.

Arce-Gomez, A., Donovan, J. D. & Bedggod, R. G., 2015. Social Impact Assessment: Developing a Consolidated Conceptual Framework. *Environmental Impact Assesment Review,* 50(1), pp. 85-94.

Aucamp, I., 2003. *The Role and the place of Social Impact Assesment in the Project Life Cycle,* Pretoria, South Africa : University of Pretoria.

Aucamp, I. D., 2015. *Social Impact Assessment as a tool for Social Development in South Africa; an exploratory study,* Pretoria: University of Pretoria .

Ayers, J. M. & Huq, S., 2007. The Value of Linking Mitigation and Adaptation: A Case Study of Bangladesh. *Enviromental Management,* pp. 1-12.

Bird, D., 2009. The use of questionnaires for acquiring information on public perception of natural hazards and risk mitigation – a review of current knowledge and practic. *Natural Hazards and Earth System Sciences,* Volume 9, pp. 1307-1325.

Bowen, G. A., 2009. Document Analysis as a Qualitative Research Method. *Qualitative Research Journal* , 9(2), pp. 27-40.

Burge, R. J., 2003. Benefiting from the practice of social impact assessmen. *Impact Assessment and Project Appraisal,* 21(3), pp. 225-229.

Clark, J. R., 2005. *Research Methods and Methodologies,* s.l.: s.n.

Department of Environmental Affairs, 2004. *Overview of Environmental Management . Integrated Environmental Management Information Series,* Pretoria: Department of Environmental Affairs.

Dr Smoot, G., 2019. *Basic vs. Applied Research Methodology.* [Online] Available at: http://www.lbl.gov/Education/ELSI/research--main.html [Accessed 23 December 2019].

Esteves, A. M., Franks, D. & Vanclay, F., 2012. Social impact assessment: the state of the art. *Impact Assessment and Project Appraisal,* 30(1), pp. 34-42.

European Commission , 2001. *Guidance on EIA ; EIS Review.* Luxembourg: Office for Official Publications of the European Communities: European Commission .

Fadiran, A., Dlamini, C. & Thwala, J., 2014. Environmental Assessment of Acid Mine Drainage Pollution on Surface Water Bodies around Ngwenya Mine, Swaziland. *Journal of Environmental Protection,* Volume 5, pp. 164-173.

Farris, F. A., 2015. The Gini Index and Measures of Inequality. *The Mathematical Association of America. The American Mathematical Monthly,* 1(117), pp. 1-15.

First Environement, 2003. *Sikhuphe International Airport/Link Road EIA Report,* Mbabane: First Environment and Arab Consulating Engineers.

Grant, C. & Onsaloo, A., 2014. Understanding, Selecting and Intergrating a Theoretical Framework in Dissertation Research: Creating the BluePrint for your House. *Administartive Issues Journal. Connecting Education, Practise and Research,* 10(1), pp. 12-26.

Hildebrandt, L., 2012. *The significance and status of Social Impact Assessment (SIA) in a South African context,* Potchefstroom Campus of the North-West University: North-West University.

IFAD, GLTN, n.d. *International Fund for Agriculture Development. Global Land Tool Network. Land and Natural Resources in Swaziland,* Rome, Italy: IFAD, GLTN.

Igwenagu, C., 2016. *Fundamentals of research methodology and data collection* , Nigeria: Enugu State University of Science and Technology.

Jones, C., 1999. Screening, scoping and consideration of alternatives. *Handbook of Environmental Impact Assessment*, Volume 1, p. 201–228.

Kabir, Z. & Momtaz, S., 2012. The quality of environmental impact statements and environmental impact assessment practice in Bangladesh. *Impact Assessment and Project Appraisal,* 30(2), pp. 94-99.

Kakonge, J. O., 2012. Problems with Public Participation in EIA Process: Examples from Sub-saharan Africa. *Imapct Assessment,* 14(3), pp. 309-320.

Kathori, C., 2004. *Research Methodology-Methods and Techniques,* s.l.: New Age International Publishers.

Kerry, A., 2001. WHO BENEFITS FROM RURAL DEVELOPMENT PROJECTS? A CASE STUDY OF THE KOMATI PILOT PROJECT, SWAZILAN. *South African Geographical Journa,* 83(1), pp. 18-27.

Khan, M. R., 2015. Polluter-Pays-Principle: The Cardinal Instrument for Addressing Climate Change. *Laws,* 4(10), pp. 638-653.

Lawrence, D. P., 2007. Impact significance determination—Back to basics. *Environmental Impact Assessment Review,* 27(1), pp. 755-769.

Leedy, P. & Ormrod, J., 2001. *Practical research: Planning and design (7th ed.),* Upper Saddle River, NJ: Merrill Prentice Hall: SAGE Publications .

Lee, N., Colley, R., Bonde, J. & Simpson, J., 1999. *Reviewing the Quality of Environmental Statements and Environmental Appraisals ,* Manchester : University of Manchester .

Lexico , 2019. *Lexico Powered by Oxford.* [Online] Available at: lexico.com/definition/literature [Accessed 29 December 2019].

Madlome, S. F., 2016. *Evaluation of the effectiveness of Environmental Impact Assessment in promoting sustainable development in the energy sector of South Africa,* Johannesburg : University of the Witwatersrand.

Mahmud, A., 2018. *Exploring the Gap between Theory and Practice in the Implementation of Paramedical Curriculum,* Malaysia: University Kebangsan Malaysia.

Manyatsi, A., Vilane, M., Mavuso, S. & Bruce, T., 2016. Progress in addressing Millennium Development goal 7 ; The case of Malindza, A semi-arid rural area. *International Journal of Environmental Sciences,* 5(1), pp. 58-64.

Margerum, R., 1999. Integrated Environmental Management: The Foundations for Successful Practic. *Environmental Managemen,* 24(2), pp. 151-166.

Marttunen, M., Vienonen, S., Koivisto, U. & Ikäheimo, E., 2013. *IMPACT SIGNIFICANCE DETERMINATION IN ENVIRONMENTAL IMPACT ASSESSMENT – LITERATURE REVIEW ,* Finland : Europian Union .

Midgley, J., 2013. *Social Development; Theory and Practise ,* Washington DC: SAGE.

Milne, J., 2000. *Questionnaires: Some advantages and disadvantages. Centre for CBL in Land Use and Environmental Sciences,* Aberdeen : Aberdeen University.

Momtaz, S., 2003. The practice of social impact assessment in a developing country: the case of environmental and social impact assessment of Khulna-Jessore Drainage Rehabilitation Project in Bangladesh. *Impact Assessment and Project Appraisa,* 21(2), pp. 125-132.

Morgan, R. K., 2012. Environmental impact assessment: the state of the art. *Impact Assessment and Project Appraisal,* 30(1), pp. 5-12.

Morrison-Saunders, A., 2007. *Exploring the Dimensions of EIA Follow up. Impact Assessment for Industrial Development Whose Business Is It?.* Canada, IAIA.

Pieter, J., 2018. Bridging the gap between theory and practice in management accounting. Bridging the gap between theory and practice in management accounting: Reviewing the literature to shape interventions. *Accounting, Auditing & Accountability Journal,* 31(5), pp. 1486-1509.

Rahman, S. M., 2017. The Advantages and Disadvantages of Using Qualitative and Quantitative Approaches and Methods in Language "Testing and Assessment" Research: A Literature Review. *Journal of Education and Learning,* 6(1), pp. 102-112.

Snyder, H., 2019. Literature review as a research methodology: An overview and guidelines. *Journal of Business Research,* Volume 104, pp. 333-339.

Stern, P. C. & Dietz, T., n.d. *Public Participation in Environmental Assessment and Decision Making.* s.l.:s.n.

Swaziland Environment Authority , 2005. The Environment Management Act. In: *Compendium of Environmetal Laws of Swaziland.* Mbabane-Swaziland : Ministry of Tourism, Environment and Communications. Swaziland Environment Authority. United Nations Environment Program, pp. 1-60.

Swaziland Environment Authority, 2005. *Compendium of Environmental Laws of Swaziland.* Mbabene: SEA and MoTEA.

Taherdoost, H., 2016. Sampling Methods in Research Metodology; How to chose a Sampling Technique for Research. *International Journal of Academic Research in Management,* 5(2), pp. 18-27.

Tenderspecs, 2006. *Study on Links Between the Social and Environmental Pillars Sustainable Development,* s.l.: Tenderspaces.

Tinker, L., Cobb, D., Bond, A. & Cashmore, M., 2005. Impact mitigation in environmental impact assessment: paper promises or the basis of consent conditions?. *Impact Assessment and Project Appraisal,* 23(4), p. 265–280.

Tinker, L., Dick, C., Alan, B. & Mat, C., 2005. Impact mitigation in environmental impact assessment: paper promises or the basis of consent conditions?. *Impact mitigation. Impact Assessment and Project Appraisal,* 23(4), pp. 265-280.

Tur, A. A. & Gomez, J., 2016. Social Impact Assessment (SIA) from a multidimensional paradigmatic perspective: challenges and opportunities. *Journal of Environmental Management,* 10(1), pp. 1-12.

UN Economic Commision for Africa, 2016. *Country Profile- Swaziland Social Development ,* Addis Ababa, Ethiopia: Economic Commission for Africa.

UNDP, 2011. *Environmental Management Tools and Techniques. Royal Government of Bhutan National Environment Commision,* Bhutan : UNDP, Royal Government of Bhutan .

United Nations , 2020. *Sustainable Development Knowledge Platform. The 2030 Agenda for Sustainable Development.* [Online] Available at: bledevelopment.un.org [Accessed 08 January 2020].

United Nations, 2013 . *Promoting a more Responsible and Sustainable Financial System. The Rio Declaration on Environment and Development.* [Online] Available at: http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm [Accessed 08 January 2020].

USC Research Guide, 2019. *University of Southern California. Organizing your Social Sciences Research Paper . The Literature Review.* [Online] Available at: libguides.usc.edu/writingguide [Accessed 10 December 2019].

Vanclay, F., 2003. International Principles For Social Impact Assessment. *Impact Assessment and Project Appraisal,* 21(1), pp. 5-12.

Williams, C., 2007. Research Methods. *Journal of Business & Economic Researc*, 5(3), pp. 65-72.

World Bank, 2019. *The World Bank Development Research Group. Swaziland-Gini Index.* [Online]
Available at: http://iresearch.worldbank-Gini Index
[Accessed 19 December 2019].

Appendixes

Appendix 1

Practitioner Questionnaire

School of Geography, Archaeology and Environmental Studies

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http://www.wits.ac.za/geography/

SIA and Social/Sustainable development

1. **What is your understanding of the term social development? Sustainable development?**

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2. **Comment on the role SIAs play in social development**

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3. **What challenges are encountered by the competent authority and the government with regards to proper implementation of SIAs?**

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4. **Are SIA part of the EIA process or conducted separately?**

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5. **If part of the EIA, does this not limit the effectiveness of SIA as EIA tend to focus more on the environmental impacts?**

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Legal framework Guiding SIA/EIA

1. **Which policies govern the EIA/SIAs processes?**

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2. **Are environmental laws/policies/legislations in the country made clear and accessible to the public?**

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3. **Any further comments and suggestions on the legal framework on EIA/SIAs implementation?**

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Public Participation

1. **What is the policy on public participation for planned development projects?**

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2. **Are affected parties (locals) made aware of the potential environmental and social impacts associated with a particular planned development intervention?**

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3. **In detail, please explain the public participation process in the country.**

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Reporting and documentation

1. **During the EIA scoping meetings, the issue of lack of authenticity in published EIAs is often raised. How true is it that many published EIAs are a copy and paste from other already published reports?**

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2. **Are published EIAs/SIAs and other assessments easily accessible and available in both English and siSwati?**

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Mitigation

1. **What social impacts were caused by the construction and operation of the Sikhuphe Airport?**

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2. **What mitigation measures were taken(should have been taken) to address those social impacts :**

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3. **What specialist studies were done to identify possible social impacts? (Culture, heritage…?)**

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4. **What policy governs the way affected families are compensated? How is compensation calculated? (please also comment on rehabilitation of damaged heritage cites)**

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Monitoring

1. **How often does the competent authority (EEA) monitor accumulative environmental and social impacts in affected communities?**

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2. **After development has occurred, do locals benefit from it ?(social/community development, standard of living)**

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Overall Comments and Suggestions

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Appendix 2

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Questionnaire (residents)

Gender: F M

Age Range: 18 -20 21-30 31-40 41-50 51 and above

- How long have you lived in the area ……..
- Are you a local resident (place of birth)/ non- local resident……
- Number of people in your household ……..
- Are you currently employed……
- What type of employment (self-employed?) …….
- Level of highest education reached ……

Social development

1. **How has construction and operation of the airport/ railway line affected you and your family?**

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2. **What social impacts were caused by the development project in your community?**

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3. **Was there compensation offered? How was your family compensated? Are you satisfied with how you were compensated?**

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4. **What social and economic benefits have been brought by the operation of the project in your community?**

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5. **Has the standard of living in the community improved since completion of the project?**

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Public Participation

1. **Were community members engaged in all developments and proceedings of the project? If, yes explain how**

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2. **How often did developers, specialists and the competent authority consult with community members regarding the development project?**

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3. **Were you made aware of the potential social and environmental impacts that could have been caused by the development of the project?**

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4. **What are your views on the public participation process in the country?**

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Reporting and documentation

1. **Did developers and the competent authority make you aware that according to the Environmental Management Act (2002), all proceedings of the project should be reported, documented and made available to all concerned parties?**

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Mitigation and monitoring

1. **What mitigation measures were taken to improve the lives of affected families?**

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2. **How often does the Eswatini Environment Authority monitor accumulative impacts since development of the project occurred in your area?**

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3. **How should things be done in the future? What would you change in how the process was carried out?**

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Overall comments and suggestions

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Appendix 3

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http://www.wits.ac.za/geography/

Consent Form

Title of Project; Social Impact Assessments in the Kingdom of Eswatini

Name of researcher: Neliswa P. Mkhatshwa

I agree to participate in this research. Full details of the research have been explained to me, and I understand that this research is conducted for academic purposes only. I have also been shown proof that the researcher is enrolled at the University of the Witwatersrand in Johannesburg.

By signing this form I agree to the following;

- Information gathered will only be used for the research that has been explained to me
- My participation will remain anonymous
- I will not receive any benefits or gifts from the student or the University of the Witwatersrand
- I can choose not to answer questions I am uncomfortable with
- I can withdraw from the interview at any point

Signature……

Date……

Place……

Appendix 4

School of Geography, Archaeology and Environmental Studies

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http://www.wits.ac.za/geography/

Neliswa P. Mkhatshwa
Cell: +2778563246/ +26878227911
Email: 1862325@students.wits.ac.za

Dear Sir/Madam,

My name is Neliswa Mkhatshwa, I am a Masters student in Environmental Sciences at the University of the Witwatersrand in Johannesburg. I am currently undertaking a study titled*" Social Impact Assessments in the Kingdom of Eswatini.* The purpose of the research is to examine the way SIAs processes are implemented in the country and study the role of SIAs in social development. This research is in fulfilment with the requirements of the completion of a Master's degree at the University, and is being conducted for academic purposes only.

As part of the project I would like to invite you to take part in this research by answering a questionnaire. Your opinions and comments will be treated with respect and will remain anonymous throughout the study. Furthermore, you are allowed to leave out question you are not comfortable with or withdraw completely from the activity. This activity should take about 20-30mins. Please be advised that you will not receive any benefits from the student or the University by taking part in this research.

Should you have any questions, comments, concerns or complaints regarding the ethical procedures of this research or the purpose of the study, please make use of the contacts at the bottom of this page. If you would like to receive or view the full report once it has been completed a copy will be sent directly to you upon request. Alternatively, the report will be accessible through the school's library website.

Yours Sincerely,

Neliswa Mkhatshwa

Human Research Ethics Committee

Tel: +27(0)11 717 1408, email: Shuan.Schoeman@wits.ac.za

Supervisor, Thembiwe Russell

Tel: +27(0)11 717 6043, email: Thembiwe.Russell@wits.ac.za

Appendix 5

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Mkhatshwa

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: H19/06/19**
PROJECT TITLE	Social impact assessment in developing Eswatini: Why they are essential in social development, yet still poorly executed in government funded projects
INVESTIGATOR(S)	Miss N Mkhatshwa
SCHOOL/DEPARTMENT	Geography, Archaeology and Environmental Studies/
DATE CONSIDERED	21 June 2019
DECISION OF THE COMMITTEE	Approved
EXPIRY DATE	28 August 2022

DATE 29 August 2019 **CHAIRPERSON** J - Knight
(Professor J Knight)

cc: Supervisor : Dr T Russell

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to completion of a yearly progress report.**

_____ _____/_____/_____
Signature **Date**

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix 6

No	Environmental Impact Report	Year
1	Sikhuphe (King Mswati III International Airport)	2003
2	Irrigated Sugarcane for Lugedzedze in Madlenya	2018
3	Royal Science and Technology Park	2011
4	Salgaocar Swaziland - Conservation of Iron Ore Through Rehabilitation of Ngwenya Iron Ore Mining Dumps	
5	Upgrading of Mbabane Bypass Road-Mbabane Resettlement Plan, Establishment of a Township at Manzana. 2014	2014