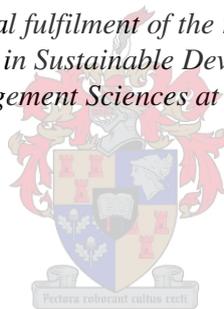


**AN ANALYSIS OF THE ROLE OF IMPACT ASSESSMENT LEGISLATION IN FACILITATING
SUSTAINABLE DEVELOPMENT: A CASE STUDY OF TANZANIA**

By

Emanoel R. Alfred

*Thesis presented in partial fulfilment of the requirements for the degree
of Master of Philosophy in Sustainable Development in the Faculty of
Economic and Management Sciences at Stellenbosch University*



Supervisor: Ms. Anneke (JI) Muller

March 2015

Declaration

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own, original work, that I am the sole author thereof (save to the extent explicitly otherwise stated), that reproduction and publication thereof by Stellenbosch University will not infringe any third party rights and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

Date: March 2015

Copyright © 2015 Stellenbosch University

All rights reserved

Abstract

Impact assessment tools (such as Environmental Impact Assessments (EIAs), Strategic Environmental Assessments (SEAs) and Sustainability Assessments (SAs)) are decision-making tools that have been developed to assess how policies, plans, programmes and projects promote social, environmental or sustainability goals, in order to improve project proposals and policy-making outcomes. This study explored the effectiveness of impact assessment and related legislation in contributing towards sustainable development in practice, by looking at Tanzanian laws and policies on impact assessment that claim to promote sustainable development and measuring them against recommendations from the literature and comparative legislation of other countries. A case study methodology was used, and made use of a variety of methods to explore the Tanzanian case study. These include an in-depth literature review which guided the development of this study, content and document analysis of Tanzanian laws and policies and examples of Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs), as well as a comparative analysis of other country's laws and policies. The main themes which emerged from the theoretical outline (those that appear frequently in the literature) were used to analyse and critique the laws, policies and impact assessment reports.

The theoretical framework explored the meaning of the different dimensions (or pillars) of sustainable development (social, economic, political, physical and ecological) and the integration of these sustainability dimensions into decision-making. The lack of universal acceptance of what sustainable development means in theory and practice creates significant challenges. Key issues of sustainability were explored such as the need to take into account social equity; benefit sharing; poverty alleviation and institutional sustainability. The review also explored how sustainable development must be informed by strategic and long-term planning, taking note of complexity and system thinking, as well as interdisciplinarity and transdisciplinary learning. Together with effective coordination mechanisms, these aspects are key in promoting the goals of sustainable development. Best practices from the European Union, the United Kingdom and South Africa on how they use impact assessment legislation to promote sustainability, were therefore discussed and compared with the Tanzanian context.

According to the literature, impact assessment legislation (which should also incorporate supportive and pro-active tools such as integrated impact assessment, Local Agenda 21 plans and indicators) should harmonise and link with other legislation and planning instruments, as well as a National Strategy for Sustainable Development (NSSD), in order to facilitate the assessment process and the integration of sustainability goals into decision-making. This should go together with strengthening coordination mechanisms, meaningful involvement of stakeholders, acceptance of complexity in decision-making, as well as strengthening and introducing

appropriate ways of conducting awareness of the public and government officials on matters concerning sustainability at national and local levels.

The Tanzania case study described the background, socio-economic and environmental conditions, as well as the legal and policy framework for impact assessment. Although Tanzania is often praised for its efforts at mainstreaming the environment into development planning, it was found that many of the key factors mentioned in the literature which are required to promote sustainability were lacking in Tanzanian impact assessment legislation. There is a lack of proper integration and coordination mechanisms, very little strategic and long-term sustainability planning; little understanding of complexity and systems thinking, no meaningful stakeholder participation in decision-making, as well as a lack of good governance and application of the rule of law, especially as it relates to enforcement. As such, impact assessment policies and laws are inadequate at promoting sustainability in Tanzania.

There is a need to review existing legislation in terms of its efficiency in mainstreaming sustainability goals in decision-making processes. The study recommends different measures to help legislation in the country to be more effective at promoting sustainability. These measures include institutional reform which should focus on enhancing the culture of law abidingness, enforcement of laws, accountability and transparency. It is suggested that the government adopt a separate National Strategy for Sustainable Development (NSSD) apart from the current National Strategy for Growth and Reduction of Poverty (NSGRP), which is a short to medium term policy. The new NSSD should be seen as a strategic and long-term planning document which sets out long-term goals for sustainability (based on the five pillars of sustainability, and the proposed Sustainable Development Goals (SDG's) of the United Nations) and should also indicate how these goals will be integrated and adequately realised.

Opsomming

Impak-assesering-instrumente (soos Omgewingsimpakanalise (*OIA*), Strategiese Omgewingsanalise (*SOA*) en Volhoubaarheidsanalise (*VA*)) is besluitnemingsinstrumente wat ontwikkel is om te asseser hoe beleide, planne, programme en projekte sosiale, omgewings-, en volhoubaarheidsdoeleindes bevorder, ten einde projekvoorstelle- en beleidsformuleringsuitkomste te verbeter. Hierdie studie ondersoek die doeltreffendheid van impakanalise en verwante wetgewing om by te dra tot volhoubare ontwikkeling in die praktyk, deur te kyk na Tanzaniese beleid en wetgewing oor impakanalise wat beweerlik volhoubare ontwikkeling bevorder, en dit te meet teenoor die aanbevelings van literatuur en vergelykende wetgewing van ander lande. 'n Gevallestudie metodologie is gebruik, en verskeie metodes is benut om die Tanzaniese gevallestudie te ondersoek. Dit sluit in 'n in-diepte literatuurstudie wat die ontwikkeling van hierdie studie gelei het, inhoud- en dokumentanalise van Tanzaniese wette, beleide en voorbeelde van Omgewingsimpakanalises en Strategiese Omgewingsanalises, sowel as 'n vergelykende analise van ander lande se beleid en wetgewing. Die hooftemas wat uit die teoretiese raamwerk na vore gekom het (daardie wat gereeld in die literatuur verskyn het), is benut om die wette, beleide en impakanalise-verslae te analiseer en te kritiseer.

Die teoretiese raamwerk het die betekenis van die onderskeie dimensies (of pilare) van volhoubare ontwikkeling (sosiaal, ekonomies, polities, fisies en ekologies) ondersoek, sowel as die integrasie van hierdie volhoubaarheidsdimensies in besluitneming. Die gebrek aan universele aanvaarding van wat volhoubare ontwikkeling in teorie en praktyk beteken, skep beduidende uitdagings. Kern kwessies van volhoubare ontwikkeling is ondersoek, soos die behoefte om sosiale gelykheid in ag te neem, deling van voordele, armoedeverligting, en institusionele volhoubaarheid. Hierdie oorsig het ook ondersoek hoe volhoubare ontwikkeling ingelig moet word deur strategiese en langtermyn planne, inagneming van komplekse en sisteem denke, sowel as interdisiplinêre en transdisiplinêre onderrig. Tesame met doeltreffende koördineringsmeganismes is die bogenoemde aspekte noodsaaklik in die bevordering van volhoubare ontwikkelingsdoeleindes. Beste praktyke van die Europese Unie, die Verenigde Nasies, en Suid-Afrika sowel as hoe hierdie lande impakassessering wetgewing gebruik om volhoubaarheid te bevorder, word dus bespreek en vergelyk met die Tanzaniese konteks.

Volgens die literatuur moet impakanalise wetgewing (wat ook ondersteunende en proaktiewe instrumente soos geïntegreerde impakanalises, Plaaslike Agenda 21 planne en aanwysers moet inkorporeer), harmoniseer en skakel met ander wetgewing, beplanningsinstrumente, en 'n Nasionale Strategie vir Volhoubare Ontwikkeling (*NSVO*), ten einde die assesseringsproses en die integrasie van volhoubaarheidsdoelstellings in besluitneming te fasiliteer. Hierdie prestasie moet gaan saam met die versterking van koördineringsmeganismes, betekenisvolle betrekking van belanghebbendes, aanvaarding van die kompleksiteit van besluitneming, en die bekendstelling

en versterking van toepaslike wyses om bewusmaking van die publiek en regeringsamptenare aangaande sake rakende volhoubaarheid uit te voer op nasionale en plaaslike vlak.

Die Tanzaniese gevallestudie beskryf die agtergrond, sosio-ekonomiese- en omgewingsomstandighede, en die geregtelike en beleidsraamwerk vir impakassessering. Alhoewel Tanzanië gereeld geprys word vir pogings om die omgewing te hoofstroom in ontwikkelingsbeplanning, is daar bevind dat vele van die sleutelfaktore wat in die literatuur genoem word as vereistes vir die bevordering van volhoubaarheid, tekortskiet in Tanzaniese impakassessering wetgewing. Daar is 'n tekort aan behoorlike integrerings- en koördineringsmeganismes, min strategiese- en langtermyn volhoubaarheidsbeplanning, min begrip van komplekse en sisteem denke, geen betekenisvolle deelname van belanghebbendes in besluitneming nie, en 'n tekort aan goeie bestuur en die toediening van die oppergesag van die gereg, veral in verband met afdwinging. Impakassesseringsbeleid en -wetgewing is dus nie voldoende in die bevordering van volhoubaarheid in Tanzanië nie.

Daar is 'n behoefte aan die hersiening van bestaande wetgewing in terme van doeltreffendheid in die hoofstroming van volhoubaarheidsdoelstellings in besluitnemingsprosesse. Die aanbeveling van hierdie studie is dat verskeie maatreëls geïmplementeer word om wetgewing in die land meer doeltreffend te maak in die bevordering van volhoubaarheid. Hierdie maatreëls sluit in institusionele hervorming met die fokus op die verbetering van 'n kultuur van regsgehoorsaamheid, afdwinging van wette, aanspreeklikheid, en deursigtigheid. Dit word voorgestel dat die regering 'n afsonderlike Nasionale Strategie vir Volhoubare Ontwikkeling (*NSVO*) aanneem wat onderskei kan word van die huidige Nasionale Strategie vir Groei en Armoedeverligting, wat 'n kort- tot mediumtermyn beleid is. Die nuwe *NSVO* behoort beskou te word as 'n strategiese en langtermynbeplanningsdokument wat die doelstellings vir volhoubaarheid uiteensit (gebaseer op die vyf pilare van volhoubaarheid en die voorgestelde Volhoubare Ontwikkelingsdoelstellings van die Verenigde Nasies), en behoort ook 'n aanduiding te gee van hoe hierdie doelstellings geïntegreer en toereikend gerealiseer sal word.

Acknowledgment

Research of this kind is not often the result of one person's sole efforts but the combination of several important people. Mostly I thank the almighty God, the creator of heaven and earth who for his purpose and mercy has protected me throughout my presence under the sun and specifically at Stellenbosch University, who has also protected my supervisor in her multifarious academic duties and her daily struggle for life.

I would like to sincerely thank my supervisor, Ms Anneke Muller for her kindness, tireless persistence in supervising and supporting the starting, progressing, and completion of this work. I appreciate her tolerance, wisdom and comforting advice in the course of pursuing this work. Thanks Madam!

I am highly indebted to my beloved Parents (Mr. and Mrs. Shirima, my relatives and my fiancée) for their parental care and their advice which touches the root of my existence at Stellenbosch University, their moral and material support and cooperation that enabled me to present this work in this version.

I owe a great deal of thanks to all my course mates and all my friends for their support and encouragement. My special regards go to Jennifer Saunders and Helen Mullineux for their intellectual guidance and technical comments during the writing of this thesis.

My sincere gratitude goes to all the Officials of the Vice President Office-Division of Environment, National Environmental Management Council (NEMC) and Lawyers' Environmental Action Team for providing me with necessary documents, materials and information in support of this work.

Lastly, I extend my sincere gratitude to TRECCAfrica for awarding me a scholarship to pursue my postgraduate studies in Stellenbosch University. This journey would not have been possible without the financial assistance from TRECCAfrica.

Table of contents

Declaration.....	ii
Abstract.....	iii
Opsomming.....	v
Acknowledgment.....	vii
Table of contents.....	viii
List of figures.....	xiv
List of tables.....	xv
List of acronyms and abbreviations.....	xvi
CHAPTER ONE: BACKGROUND	1
1.1 Introduction.....	1
1.2 Problem statement.....	4
1.3 Goal, research questions and objectives	6
1.3.1 Goal.....	6
1.3.2 Research questions	6
1.3.3 Research objectives.....	7
1.4 Methodology	8
1.5 Importance of the study.....	8
1.6 Limitations and assumptions of the study.....	8
1.7 Chapter layout.....	9
CHAPTER TWO: THEORETICAL FRAMEWORK.....	10
2.1 Introduction.....	10
2.2 The concept of ‘sustainable development’	10
2.3 The history of sustainable development.....	13
2.4 Integration of sustainable development dimensions with key aspects of sustainability	16
2.4.1 Economic growth and benefit-sharing.....	16

2.4.2	Social equity, poverty alleviation, and cultural sustainability	18
2.4.3	Governance and the rule of law	19
2.4.4	Physical sustainability (built environment and technology)	20
2.4.5	Environmental sustainability	22
2.5	Integrating sustainable development with a strategic and long-term planning approach	22
2.6	Integrating sustainable development into a systems and complexity perspective	25
2.7	Integrating sustainable development with interdisciplinary and transdisciplinary approaches.....	26
2.8	Coordination mechanisms for integration process	27
2.8.1	Vertical integration	28
2.8.2	Horizontal integration	28
2.9	Conclusion.....	29
CHAPTER THREE: DECISION-MAKING FOR SUSTAINABLE DEVELOPMENT		30
3.1	Introduction	30
3.2	Impact assessment tools: background information	30
3.2.1	Environmental Impact Assessment (EIA)	32
3.2.2	Strategic Environmental Assessment (SEA).....	34
3.2.3	Sustainability Assessment (SA)	39
3.3	Other supportive tools.....	43
3.3.1	National Strategies for Sustainable Development (NSSDs)	43
3.3.2	Local Agenda 21 plans	45
3.3.3	Sustainability indicators and criteria	46
3.3.4	State of Environment Reports (SoERs)	47
3.4	Procedures and methodologies for the impact assessment.....	47
3.4.1	Timing for assessment process.....	49
3.4.2	Stakeholder and public participation	49

3.5	Impact assessment in other countries.....	50
3.5.1	Impact assessment in the European Union and the United Kingdom.....	50
3.5.2	Promoting sustainability through the use of the Sustainability Assessment (SA) legislation.....	51
3.5.3	Promoting sustainability through the use of integrated impact assessment	52
3.5.4	Promoting sustainability through the use of NSSDs and Environmental Policy Integration (EPI).....	53
3.5.5	Impact assessment in South Africa.....	54
3.6	Conclusion.....	55
CHAPTER FOUR: RESEARCH METHODOLOGY		57
4.1	Introduction	57
4.2	Research design	57
4.3	Case study approach.....	59
4.4	Methods of data collection.....	61
4.4.1	Literature review	61
4.4.2	Sampling	61
4.4.3	Content and document analysis.....	63
4.4.4	Comparative study	64
4.5	Data analysis	65
4.6	Challenges faced during data collection.....	65
4.7	Conclusion.....	66
CHAPTER FIVE: TANZANIAN CASE STUDY		67
5.1	Introduction	67
5.2	Background	67
5.2.1	Socio-economic conditions	69
5.2.2	Tanzanian environmental challenges.....	70
5.3	Legal and policy framework governing impact assessment in Tanzania.....	71

5.3.1	The Constitution of the United Republic of Tanzania, Act No. 2 of 1977	72
5.3.2	The National Environmental Policy of 1997	72
5.3.3	The Environmental Management Act (EMA), No. 20 of 2004	73
5.3.4	The Environmental Impact Assessment and Audit Regulations, GN. No. 249 of 2005	75
5.3.5	The Strategic Environmental Assessment Regulations, GN No. 153 of 2008	76
5.3.6	The Tanzania Vision of 2025	77
5.3.7	The National Strategy for Growth and Reduction of Poverty (NSGRP) I (2005-2010) and II (2010-2015)	77
5.3.8	The Tanzania Five Year Development Plan (FYDP)	78
5.3.9	The National Environmental Action Plan (NEAP) of 2013	79
5.3.10	Other legal frameworks related to impact assessment.....	79
5.4	Institutional framework for impact assessment and sustainability in Tanzania.....	80
5.4.1	Vice-President Office (Minister responsible for Environment)	80
5.4.2	Division of Environment (Director responsible for Environment).....	81
5.4.3	The National Environmental Advisory Committee (NEAC)	81
5.4.4	National Environmental Management Council (NEMC).....	81
5.4.5	Sector ministries.....	82
5.4.6	Regional Secretariat (RSs) and Local Government Authorities (LGAs)	82
5.4.7	Other Institutions.....	83
5.5	Conclusion.....	83
CHAPTER SIX: EIA AND SEA CASE STUDIES		85
6.1	Introduction	85
6.2	Impact assessment trends in Tanzania.....	85
6.3	Impact assessment procedures in Tanzania	86
6.4	Examples of EIA and SEA.....	86
6.4.1	EIAs and SEAs conducted before the promulgation of EMA, 2004 and its regulations	87

6.4.2	The EIAs and SEAs conducted after the promulgation of EMA, 2004 and its regulations	93
6.5	Conclusion.....	102
CHAPTER SEVEN: ANALYSIS AND DISCUSSION.....		104
7.1	Introduction	104
7.2	Analysis of themes	104
7.2.1	Perceptions concerning sustainable development.....	105
7.2.2	Integration and coordination mechanisms	107
7.2.3	Public/stakeholders participation	109
7.2.4	Addressing poverty alleviation, inequality, and benefit-sharing.....	111
7.2.5	Good governance and the rule of law	114
7.2.6	Impact assessment processes.....	115
7.2.7	Strategic and long-term planning.....	118
7.2.8	Complexity and system thinking.....	119
7.3	Discussion of findings	120
7.3.1	Impact assessment process and sustainability.....	121
7.3.2	Challenges of impact assessment legislation in achieving sustainability	124
7.4	Discussion of the study limitations	131
7.5	Summary.....	132
CHAPTER EIGHT: CONCLUSION AND RECOMMENDATIONS.....		136
8.1	Introduction	136
8.2	Outcome of the research.....	136
8.3	Recommendations	139
8.4	Conclusion.....	142
8.5	Areas of future research	143
Bibliography.....		145

Appendix A.....	168
Matrix of legislation.....	168
Matrix of EIAs and SEAs.....	179
Appendix B.....	188
The CEC/EIA certificates issued in different sectors before EMA, 2004.....	188
The EIA certificates issued in different sectors after EMA, 2004.....	189
Appendix C.....	190
Impact assessment procedures in Tanzania.....	190
Appendix D.....	193
Institutional framework governing impact assessment and sustainability in Tanzania.....	193

List of figures

Figure 1: Research questions and objectives.....	7
Figure 2: Sustainable development dimensions.....	12
Figure 3: The potential for SEA to influence sustainable development.	35
Figure 4: Sustainability assessment process.....	41
Figure 5: Research approach and strategy	58
Figure 6: Map of Tanzania.....	68
Figure 7: Map for Songo Songo Island South East of Tanzania	88
Figure 8: Map of Rufiji River Delta in South East of Tanzania	91
Figure 9: Map of Bagamoyo District	93
Figure 10: Map of North-Eastern Tanzania illustrating proposed road across Serengeti and alternative Southern route	96
Figure 11: Map of Southern Agriculture Growth Corridor of Tanzania illustrating the clusters and phases of the programme.....	100
Figure 12: EIA projects conducted per sector before EMA, 2004	122
Figure 13: EIA projects conducted per sector in post EMA period.....	122

List of tables

Table 1: Difference between EIA, SEA and SA	40
Table 2: Tanzania population and economy	69
Table 3: Outcome of the research	139

List of acronyms and abbreviations

AIDS	Acquired Immune Deficiency Syndrome
CEC	Conditional Environmental Clearance
CO ₂	Carbon Dioxide
CSR	Corporate Social Responsibility
DEAT	Department of Environmental Affairs and Tourism (South Africa)
DSD	Division of Sustainable Development (United Nations)
EAC	East African Community
EEAC	European Environment and Sustainable Development Advisory Councils
EIA	Environmental Impact Assessment
ESIA	Environmental and Social Impact Assessment
EIS	Environmental Impact Statement
EMA	Environmental Management Act
EPI	Environmental Policy Integration
ESDN	European Sustainable Development Network
EU	European Union
EU SDS	European Union Sustainable Development Strategy
GDP	Gross Domestic Product
GN	Government Notice
HIV	Human Immunodeficiency Virus
IAIA	International Association of Impact Assessment
ICJ	International Court of Justice
IEM	Integrated Environmental Management
IIED	International Institute for Environment and Development

JPOI	Johannesburg Plan of Implementation
LA21	Local Agenda 21
LEAT	Lawyers' Environmental Action Team
LGAs	Local Government Authorities
MDAs	Ministries, Departments and Agencies
MDGs	Millennium Development Goals
NCSSD	National Conservation Strategy for Sustainable Development (Tanzania)
NEMC	National Environmental Management Council (Tanzania)
NEMA	National Environmental Management Act (South Africa)
NEP	National Environmental Policy (Tanzania)
NEAP	National Environmental Action Plan
NEPA	National Environmental Policy Act (USA)
NGOs	Non-Government Organizations
NFSD	National Framework for Sustainable Development (South Africa)
No.	Number
NSGRP	National Strategy for Growth and Reduction of Poverty (Tanzania)
NSSD 1	National Strategy for Sustainable Development and Action Plan (South Africa)
REDD	Reducing Emissions from Deforestation and Forest Degradation
RSs	Regional Secretariats
SA	Sustainability Assessment
SADC	Southern African Development Community
SAGCOT	Southern Agricultural Growth Corridor of Tanzania
SD	Sustainable Development
SDGs	Sustainable Development Goals

SDSN	Sustainable Development Solutions Network
SEA	Strategic Environmental Assessment
SEC	Sector Environmental Coordinator
SRESA	Strategic Regional Environmental and Social Assessment
TCA	Technical Advisory Committee
ToR	Terms of Reference
UK	United Kingdom
TANESCO	Tanzania Electricity Supply Company
UNCSD	United Nations Conference on Sustainable Development
UNESC	United Nations Economic and Social Council
UNCD	United Nations Conference on Environment and Development
UNDESA	United Nations Department of Economic and Social Affairs
UNCHE	United Nations Conference on the Human Environment
UNEP	United Nations Environmental Programme
UNECA	United Nations Economic Commission for Africa
UN-HABITAT	United Nations Human Settlements Programme
USA	United States of America
URT	United Republic of Tanzania
WSSD	World Summit on Sustainable Development
UNITS	
ha	Hectare
ft	Feet
km	kilometre
km ²	Square kilometre

m	Metre
mm	Millimetre
MW	Megawatt
pH	Hydronium ions
t	Tonne
Tsh	Tanzanian shilling
USD	US dollar

CHAPTER ONE: BACKGROUND

1.1 Introduction

Over the past few decades, environmental protection has emerged as one of the main agendas for achieving sustainable development (Hopwood et al., 2005; Pallangyo, 2007). Since then, the notion of 'sustainable development' has been elaborated in terms of integrating socio-economic, physical, political and environmental goals (Sneddon et al., 2006; Hopwood et al., 2005; Ness et al., 2006). Recently, the concept has been linked to the Millennium Development Goals (MDGs), which focuses on the protection of earth's life support system and human security. Griggs et al (2013: 1) defined sustainable development to mean "development that meets the needs of the present while safeguarding earth's life –supporting system, on which the welfare of current and future generations depends". Moreover, the authors argue that protection of earth's life support system and poverty reduction must be the twin priorities for sustainable development, by combining the MDGs with global environmental targets (Griggs et al., 2013).

Millennium development goals were formulated in 2000 to address, among others, poverty alleviation, reducing gender inequality and achieving environmental sustainability. The present MDGs are only applicable until the end of 2015. As such, the United Nations Rio+20 Summit conducted during 2012 in Brazil, stressed the need for adopting a set of Sustainable Development Goals (SDGs)¹ as follow-up to the MDGs after their 2015 deadline. The SDGs are proposed with provisional targets for 2030 (UNCSD, 2012; SDSN, 2013; Griggs et al., 2013).

These SDGs include eradication of extreme poverty and hunger; achieving development within planetary boundaries; ensuring effective learning for all; as well as achieving gender equity, social inclusion and human rights for all. Other goals include achieving health and wellbeing; improving agricultural system and rural development; empowering inclusive, productive and resilient cities; and addressing climate change and sustainable energy. The SDGs prioritise secure ecosystem services and biodiversity, including good management of water and other natural resources, as well as transforming governance for sustainable development (SDSN, 2013; Griggs et al., 2013).

For effective realisation of these goals, the Sustainable Development Solutions Network, a group of experts (lead by Prof. Jeffrey Sachs) advising the UN Secretary-General on the SDGs, believes that sustainable development requires mutual integration of these aspects rather than implementing them individually or one at a time (SDSN, 2013). Countries could see this as an opportunity and mainstream these goals into their present impact assessment legislation after

¹ *The SDGs is an international concept and not the same as sustainable development goals at local, regional, and national level, although local, regional and national sustainable development goals would have to align with international SDGs.*

they have been formally adopted in 2015. The SDGs are strategic and long-term goals which can promote sustainable development at different levels of decision-making in an integrated manner. They support positive socio-economic, political, physical, as well as environmental links between urban, peri-urban and rural areas by strengthening national, regional and local development planning through the overarching framework of poverty eradication (SDSN, 2013).

However, the transition to sustainable development requires that these goals be assessed at the level of policies, plans, programmes and projects. This has created significant challenges for the scientific community in providing efficient and reliable tools for such assessments (Ness et al., 2006; Griggs et al., 2013). Impact assessment laws and policies are regarded as key instruments which can facilitate the environmental assessment processes and promote sustainable development (Agano, 2002; DEAT, 2007; UNEP, 2012; Betey & Godfred, 2013).

The Rio +20 declaration on justice, governance and law for environmental sustainability of June, 2012 declared, among others, that impact assessment legislation is essential for promoting sustainable development in most countries (UNEP, 2012). The declaration lays down the principles for rule of law, good governance and sustainable development. It states that meeting sustainable development goals is part of a dynamic and integrated process in which sustainability objectives are closely intertwined. For this reason, impact assessment laws and policies adopted to achieve those objectives should be progressive. Sustainable development and sound environmental management can only be achieved in the context of fair, effective and transparent institutions, as well as fair, clear and implementable impact assessment laws and policies (Sachiko & Durwood, 2007; Sosovele, 2011; UNEP, 2012).

Impact assessment laws and policies provide a framework for environmental management and sustainability in most countries. It establishes and provides a legal foundation for environmental assessment and planning tools such as Environmental Impact Assessments (EIAs), Strategy Environmental Assessments (SEAs) and Sustainability Assessments (SAs). These tools are regarded as key instruments used to improve the basis of project proposal and policy-making processes as well as integrating sustainable development goals into decision-making at project, programme, policy and planning levels (Kibbassa, 2003; Weaver, 2003; DEAT, 2007; Betey & Godfred, 2013). The EIA, as the first generation of impact assessment tools, is a planning tool employed to identify and evaluate the probable environmental consequences of certain proposed development actions in order to facilitate informed decision-making and sound environmental management (Mwalyosi et al., 1999; Cashmore et al., 2004).

The SEA (the second generation of impact assessment tools) is a formal and systematic process to integrate SDGs in the higher level of decision-making such as policies, plans, programmes and strategies (Pallangyo, 2007; DEAT, 2007). It is used as a tool to describe different approaches to the environmental appraisal of agenda setting activities, which take place above or before the

project level (Lobos & Partidario, 2010). On the other hand, SAs are seen as the third generation of impact assessment tools, which aim to “provide decision-makers with an evaluation of global to local integrated nature-society systems in short and long-term perspective in order to assist them to determine which actions should or should not be taken in an attempt to make society sustainable” (Ness et al., 2006: 499). They are also known as Integrated Assessments (Pope et al., 2004; Ecologic et al., 2007; Berger, 2007; Hüge, 2010).

African countries are experiencing rapid socio-economic, political and environmental changes which call for sound environmental management and sustainability. Environmental degradation, pollution, loss of biodiversity, water shortages as well as climate change, population growth, food insecurity and poverty are overwhelming challenges in most Sub-Saharan African countries (Achieng Ogola, 2007; Boko et al., 2007). To respond to these challenges, the Policy and Strategy Committee for Environmental and Sustainable Development of the Southern African Development Community (SADC, 1996) called for a necessary paradigm shift from fragmented, sectoral approaches towards integrated environmental management and sustainability. As a result, SADC requires all its member states to pursue a single agenda by adopting impact assessment legislation which can address sustainability aspects in decision-making. Since 1996, great efforts have been made by those states to formulate impact assessment laws and policies which provide a framework for environmental management and sustainable development (Kibbassa, 2003; Wood, 2003; Walmsley & Patel, 2011).

Tanzania, like other SADC member states in particular and Africa at large, started to implement impact assessment tools in the early 1980s without clear legislation and institutional setups (Mwalyosi & Hughes, 1998; Sosovele, 2011). Impact assessment tools were conducted as a mandatory requirement by multinational financing institutions before funding projects (Katima, 2003; Nugent, 2009). To respond to this challenge, the government enacted the National Environmental Management Council Act in 1983. This Act established the National Environmental Management Council (NEMC) with the main objective of advising the government on environmental matters. The council developed EIA guidelines which were used to implement the EIA process (Katima, 2003; Nugent, 2009).

In 1998 a detailed study was conducted to investigate the effectiveness of impact assessment tools in Tanzania. The assessment addressed the issue of whether EIA was being applied in a way that is relevant to decision-making processes in the country or not (Mwalyosi & Hughes, 1998). Among others, the study examined process and institutional issues such as the legal regime, public participation, institutional framework, the EIA process and its effect in the decision-making process (Mwalyosi & Hughes, 1998; Sosovele, 2011).

The main findings of the study were that, due to inadequate legal procedures, the EIA performance in the country was extremely poor. It had only a trivial impact on decision-making and planning towards facilitating the achievement of sound environmental management and sustainability in the country (Mwalyosi and Hughes, 1998). The view was that impact assessment tools such as EIA required major changes in order to contribute to the greater consideration of ecological, cultural, political and socio-economic issues in environmental analysis and planning (Mwalyosi & Hughes, 1998; Sosovele, 2011).

The Mwalyosi and Hughes (1998) study recommended the adoption of impact assessment legislation to regulate the EIA process. The lack of legislative framework which governed EIA processes was regarded as among the major factors which made this tool ineffective. Other contributing factors were a lack of institutional capacity, public awareness and participation as well as human resource shortages (Mwalyosi & Hughes, 1998; Katima, 2003; Sosovele, 2011).

To implement these recommendations, the Tanzanian government enacted the Environmental Management Act (EMA) in 2004 which repealed and replaced the National Environmental Management Council Act of 1983. Moreover, EIA regulations and SEA regulations were promulgated in 2005 and 2008, respectively, for the enforcement of the Act and impact assessment tools. These laws presently form the main framework for impact assessment as well as environmental management and sustainability in the country.

It is almost a decade since the EMA was enacted in Tanzania. Therefore, this study explores the extent to which this legislation managed to facilitate sound environmental management and sustainability in Tanzania.

1.2 Problem statement

The world has experienced a rapid economic growth, arising mainly in the 19th and 20th centuries, which resulted in massive unsustainable utilisation of natural resources and environmental problems (URT, 2012a; Achieng Ogola, 2007; Boko et al., 2007). To address these challenges, different international conferences have been organised (for instance United Nations Conferences) to address the issues of sustainability and environmental management.

At the European level, policy integration and integrated environmental assessment tools were developed and widely applied by the member states. These initiatives facilitated the integration of environmental aspects and policy objectives into sectoral policies to facilitate sound environmental management and sustainability (Bond et al., 2001; Persson, 2004; Berger, 2007). In South Africa, for instance, Integrated Environmental Management (IEM) was adopted as an integrated and holistic approach to provide a set of principles and impact assessment tools that can contribute to sustainable development (DEAT, 2004; Said, 2010).

In Tanzania, as studies have shown, the nature of the country's economy and development trends imposes a challenge to ensure long-term environmental management and sustainability. According to Gross Domestic Product (GDP) records, Tanzania had an average annual growth rate of about 7 percent over the 2001 to 2012 period (URT, 2013). Agriculture is the main sector which contributes about 25.3 percent of the GDP, but absorbs 80 percent of the labour force (URT, 2012a; URT, 2013).

On the other hand, Tanzania is experiencing a fast population growth rate, creating pressure on resources utilisation and management (Tripathi, 2012). According to the 2012 census, the population of Tanzania was approximately 47.78 million (World Bank, 2012) with a population growth rate of 2.7 percent per annum (therefore much slower than GDP growth, but still set to double in about 25 years) (Tripathi, 2012; URT, 2013). In addition, other environmental problems which need urgent national intervention have been pointed out by the National Environmental Action Plan (NEAP) of 2012-2017. These include: land degradation, water resources degradation and pollution, aquatic resources degradation, loss of wildlife habitats and biodiversity, deforestation, urban pollution, climate change, invasive alien species, and challenges of modern biotechnology, electronic waste, and biofuels (URT, 2013).

To address these challenges, Tanzania has focused on developing a regulatory and policy support framework to encourage sound environmental management and sustainable development (Tripathi, 2012; URT, 2013). These include: the National Environmental Action Plan (NEAP) of 1994 which was revised by NEAP of 2013; the Tanzania Five Years Development Plan (TFYDP) of 2012; the National Environmental Policy of 1997; the Tanzania Vision of 2025; the National Strategy for Growth and Reduction of Poverty (NSGRP) I (2005-2010) and II (2010-2015); the Environmental Management Act of 2004 (Act No. 20 of 2004) as well as other related sectoral legislation, policies, plans and strategies (Mwalyosi et al., 1999; URT, 2013).

However, it has been noted that mainstreaming sustainable development goals into these policies, legislation, plans and strategies remains a national challenge (Tripathi, 2012; URT, 2013). Despite the fact that impact assessment legislation is seen as the key instrument for facilitating sustainable development, the literature reveals that this legislation will only contribute to sustainability if it complies with certain requirements.

These include promoting strategic and long-term planning, which takes note of complexity and systems-thinking (Lawrence, 2000; Nooteboom, 2007; Maxwell & Conway, 2000); good governance and institutional arrangement predicated on the rule of law (Sachiko & Durwood, 2007; Sosovele, 2011; UNEP, 2012); meaningful stakeholder and public participation (Abaza, 1996; Hughes, 1998; Abaza, 2003); as well as proper coordination mechanisms and integration of sustainable development dimensions into decision-making (Pisano et al., 2013; UNCSD, 2012; SDSN, 2013; Griggs et al, 2013).

Numerous studies conducted in Tanzania have focused on analysing the effectiveness of impact assessments, such as EIA. Those include the study of Mwalyosi and Hughes (1998), Katima (2003), Sosovele (2002), Mwalyosi (2004), Pallangyo (2005) and Sosovele (2011). Few studies have examined to what extent the impact assessment legislation itself facilitate sustainable development. Cashmore et al (2004) argue that the research agenda must extend beyond decision-oriented theory development to encapsulate more fully the role of impact assessment legislation in promoting sustainable development goals. The potential for impact assessment legislation to contribute to sustainability is widely undermined in a number of ways, including through problematic legislation; a lack of coordination and long-term and strategic planning as well as inadequate adherence to principles of good governance and the rule of law. For this reason, this study has focused on the analysis of impact assessment legislation and whether and to what extent the legislation facilitates sustainable development in Tanzania.

1.3 Goal, research questions and objectives

1.3.1 Goal

This study will focus on the analysis of impact assessment legislation and whether and to what extent the legislation facilitates sustainable development in Tanzania.

1.3.2 Research questions

The preliminary investigation revealed that numerous studies conducted in Tanzania on impact assessment have focused on analysing the effectiveness of impact assessments, such as EIA. Few studies have looked at whether the impact assessment legislation itself, in conjunction with other related legislation, facilitates sustainable development. The primary research question of this study is therefore whether and to what extent, Tanzanian impact assessment legislation and policies, in conjunction with other related legislation and policies, facilitate sustainable development.

The associated secondary research questions presented below have been answered in different chapters of this study. Questions number (1), (2), and (5) have been addressed in chapter two and three while the rest of the questions have been answered in the rest of the chapters.

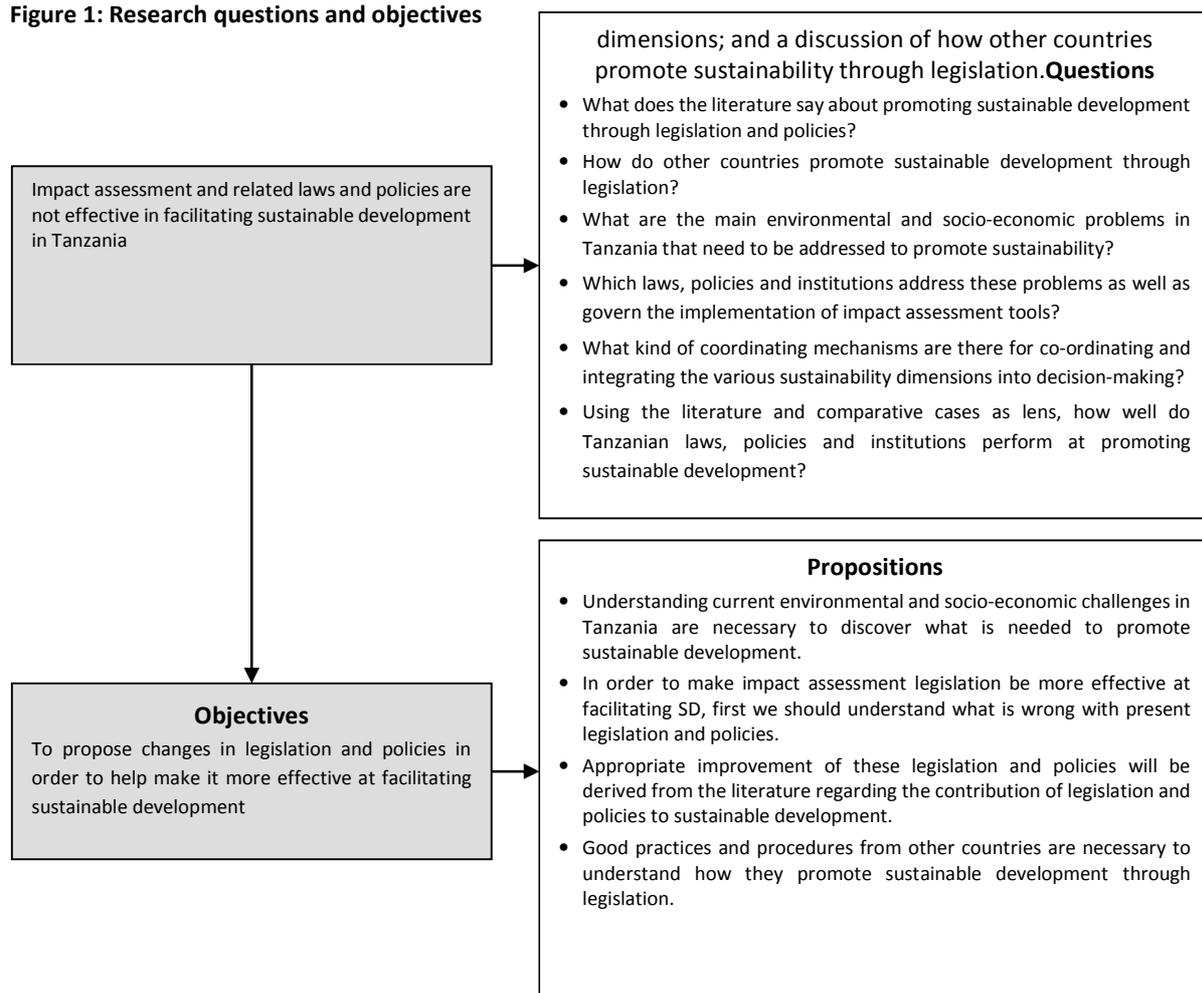
1. What does the literature say about promoting sustainable development through policies and legislation?
2. How do other countries promote sustainable development through legislation?
3. What are the main environmental and socio-economic problems in Tanzania that need to be addressed to promote sustainable development?

4. Which laws, policies and institutions address these problems, as well as govern the implementation of impact assessment tools?
5. What kind of coordinating mechanisms are there for co-ordinating and integrating the various sustainability dimensions into decision-making?
6. Using the literature and comparative cases as lens, how well do the Tanzanian laws, policies, institutions and co-ordinating mechanisms perform at promoting sustainable development?

1.3.3 Research objectives

By answering the above research questions, the objective of this study was to make recommendations, based on these findings, on how to improve impact assessment and related legislation in Tanzania, in order to be more effective at promoting sustainable development. Figure 1 below gives a visual representation of the research questions and objectives of this study.

Figure 1: Research questions and objectives



1.4 Methodology

A case study methodology was used, making use of a variety of methods to explore the case study, such as a literature review and desktop study, document analysis, content analysis, and comparative analysis. The case study is Tanzania and its context, and includes an analysis of laws, policies and a number of examples of EIAs and SEAs which have been conducted in the country. The unit of analysis is documents. The content of these documents was analysed and compared with the literature and other country's policies, in order to explore whether they promote sustainable development or not. The methodology and methods of this study are explored more in depth in chapter four.

1.5 Importance of the study

This research can potentially benefit policy makers and law enforcers who may take necessary steps to review policies and legislation based on the findings and recommendations of this study. Moreover, this research could benefit other researchers and academics who intend to carry out similar or related study in this area. Also, the researcher has benefitted from this study as it closely relates to the researcher's background and undergraduate studies in law, and it is a good foundation for further studies in the legal and sustainability fields.

1.6 Limitations and assumptions of the study

- New methodologies adopted in this study challenged the researcher during data analysis and presentation of results. This is due to the fact that qualitative content analysis does not prescribe systematic rules for analysing data and creating categories.
- The case study seems to be very extensive due to the fact that laws and policies used as a scale of analysis are applicable to the entire country. Therefore, it was difficult for the researcher to identify the gaps in legislation as this also requires practical studies to assess their effectiveness in specific areas or localities, which was beyond the scope of this study.
- The existence of many EIAs conducted in the country imposed a challenge to sampling specific cases for analysis. The selected EIAs and SEAs only give a broad overview and illustrate examples of impact assessment processes in Tanzania where significant negative environmental and social impacts were ignored.
- There were time limitations due to the fact that the study required a lot of information to be gathered and analysed within one year.

- The existence of bias (i.e. shortcomings that originate from the researcher, such as strong prejudice that might bias the interpretation of the data) or methodological constraints are challenges which are difficult to exclude from the study.

1.7 Chapter layout

This study consists of eight chapters. This introductory chapter is presented together with related research questions and research objectives to form the structural foundation of this study. In chapters two and three the theoretical framework of this study is explored. While these chapters (two and three) deals with existing theories and literature relating to the research questions, chapter four presents the research methodology adopted in this study to illustrate how this research was carried out.

In chapter five the Tanzanian case study is discussed, by exploring background information and socio-economic and environmental challenges of Tanzania, as well as relevant legislation and policies. The sixth chapter presents EIA and SEA case studies which have been conducted in the country. In chapter seven the practical application of the issues and themes that emerged from theoretical framework and case studies are analysed. This chapter presents an analysis matrix of the impact assessment legislation together with an analysis matrix of the EIA and SEA case studies.

In the concluding chapter, findings are summarised and recommendations are made. The findings are based on the theoretical foundation and on the case studies which describe the extent to which the impact assessment legislation contributes to sustainable development.

CHAPTER TWO: THEORETICAL FRAMEWORK

2.1 Introduction

This chapter discusses the concept of ‘sustainable development’ in the contemporary world to provide an insight on why there is a need to adopt impact assessment legislation to promote sustainability. It includes a detailed review of the history of sustainable development based on different international conferences and summits conducted by the United Nations. The evolution of the sustainable development concept helped the researcher to understand efforts to implement the concept at global level and why impact assessment legislation is necessary to implement the concept at the local level. The integration of different dimensions (or pillars) of sustainable development (socio-economic, political, physical, and environment) into decision-making processes is discussed in detail as key aspects of achieving sustainability. Moreover, other key aspects of sustainability such as strategic and long-term planning, interdisciplinary and transdisciplinary learning, complexity and system thinking, as well as coordination mechanisms are discussed. These aspects or themes have been selected due to the fact that they appear widely in the sustainability literature, major international conference reports and declarations and to a large extent address the research questions.

2.2 The concept of ‘sustainable development’

Sustainable development was defined for the first time by the Brundtland Commission as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987; Ness et al., 2006). This definition has become the cornerstone for the discussion of this concept, but due to its ambiguity and vagueness, it also provoked the emergence of different approaches and interpretations.

The first approach is based on the interpretation of the notion “needs” and the idea of “limitations”. The notion of needs refers to the needs of the world’s poor which can only be satisfied through further trade and economic growth, but also through redistribution and empowerment. The ideas of limitations are those imposed by the present state of technology and social organisation on the environment’s ability to meet present and future needs. This approach encompasses the concept of inter-and intra-generational equity as key components of sustainability (Wackernagle & Rees, 1996; Mebratu, 1998).

On the other hand, the concept of sustainable development can be viewed in terms of various pillars or dimensions. This view is based on splitting the holistic concept of sustainability into social, economic, environmental, and governance pillars (Sneddon et al., 2006; Gibson, 2006; Huges, 2010), while other sources add the physical element (the built environment and

technology) as a further pillar or dimension of sustainable development (Pezzoli, 1997; Allen & You, 2002; Allen et al., 2007; Allen, 2009).

The social pillar (which also encompasses key issues such as social justice and equity) refers to “the fairness, inclusiveness and cultural adequacy of an intervention to promote equal rights over the natural, physical and economic capital that supports the livelihoods and lives of local communities, with particular emphasis on the poor and traditionally marginalised groups” (Allen, 2009). It also includes the cultural adequacy which requires developmental practices to respect cultural heritage and cultural diversity (Allen et al., 2007; Scammon, 2012).

The economic component refers to efficiently managing the economy to meet material needs. It encompasses the capacity and ability of developmental practices to be able to put local and national resources to productive use for the long-term benefit of the community, without damaging or depleting the natural resource base on which it depends. In the other words, this component implies that economic growth should take into consideration the full impacts of the production cycle of the particular region or nation (Allen et al., 2007; Allen, 2001; Allen, 2009).

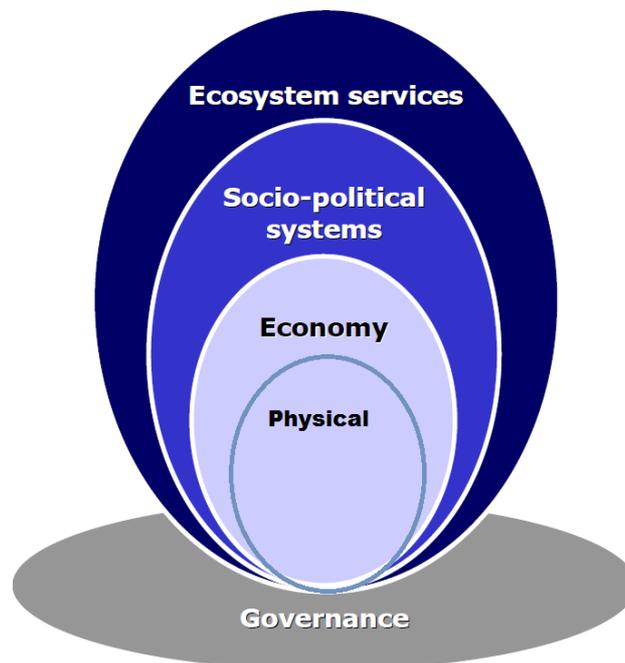
The environmental component is concerned with the conservation and enhancement of the physical and biological resource base and ecosystems. It also entails the impact of economic production and consumption on the integrity and health of the ecological carrying capacity. This aspect implies the long-term consideration of the relation between the state and dynamics of environmental resources and services and the demands exerted over them (Allen, 2001; Allen et al., 2007; Allen, 2009; Hüge, 2010).

The physical sustainability element “concerns the capacity of an intervention to enhance the liveability of buildings and urban infrastructures for ‘all’ city dwellers without damaging or disrupting the urban region environment” (Allen, 2009). It also includes a “concern for the efficiency of the built environment to support the local economy” (Allen, 2009). This dimension also requires full integration of existing and new scientific knowledge as a fundamental prerequisite for achieving sustainability (Glaser et al., 2011).

The governance aspect on the other hand entails principles such as participation, transparency, accountability and multi-level as well as multi-actor decision-making (Hüge, 2010). It is also concerned with the quality of governance systems guiding the relationship and actions of different actors among the other four dimensions. In that respect, it implies the democratisation and participation of local civil society in all areas of decision-making (Allen, 2001; Allen, 2009). Strengthening institutional capacity and capability is a key to improve poor people’s quality of life. The realisation of a sustainable society demands democratic governance and socio-economic quality (Hüge, 2010).

These five pillars are embedded within each other and then integrated via the governance aspect that holds together all other components within a legitimate regulatory framework (DEAT, 2008). As such, sustainable development entails the continuous and mutually compatible integration of these facets over time. Achieving sustainability requires that these facets remain mutually integrated as the key development challenges are met via specific actions and interventions to eradicate poverty and severe inequalities (DEAT, 2008; Sneddon et al., 2006; Hüge, 2013). See figure 2 for sustainable development dimensions or pillars.

Figure 2: Sustainable development dimensions (Source: DEAT, 2008)



It can be argued that sustainable development is the integration of socio-economic, political, physical and environmental dimensions into the decision-making process for long-term planning (Hopwood et al., 2005; Gibson, 2006). Due to the fact that there is no universal acceptance of what sustainable development means in theory and practice, the integration of these pillars should take into consideration the context of the particular society, such as cultural values, morals, norms and ethics, as well as the level of development (Weaver, 2003). Certain practices and approaches towards achieving sustainable development may be appropriate in one society while in another society it may not be the case.

For instance, Muller (2006) points out that, unlike the developed countries, in the African context, sustainable development entails a process of collaborative and communicative learning between different actors through networking (making connections) and linkages between

various role-players, experts, disciplines (trans-disciplinarity), communities; formal and informal businesses, politicians, officials and civil society (NGOs, CBOs) at local level (Muller, 2006).

Pezzoli (1997) states that prior to the acceptance that sustainable development is a new morality and development path, knowledge of what ecological, social, political, physical and personal values it serves, is necessary. Also vital is knowledge of how to reconcile the moral claims to human freedom, equality and community with our obligations to individual animals and plants, species and ecosystems (Pezzoli, 1997). Changes to present lifestyles, personal behaviour and general morality of the society are of paramount importance to achieving sustainable development, both in poor and rich communities (Huge, 2010; Swilling & Annecke; 2012).

However, the achievement of sustainable development is not a once-off occurrence and its objectives cannot be achieved by a single action or decision. It is an on-going process that requires a particular set of values and attitudes in which these dimensions of sustainability are managed in a manner that will sustain human well-being in the present and for future generations. For this reason, achieving sustainable development requires effective co-ordination mechanisms, long-term strategic planning, as well as contributions from different stakeholders (Muller, 2006; Sachiko & Durwood, 2007; Jacob et al., 2012).

Therefore, understanding the concept of sustainable development is essential in order to realise the need for impact assessment legislation and policies as one of the main engines to facilitate the process of achieving sustainability. This study focuses on integration of the sustainable development pillars into decision-making process. It examines the extent to which impact assessment legislation integrates these dimensions of sustainability into the decision-making process.

2.3 The history of sustainable development

The concept of sustainable development has become a transnational issue since the 1972 Stockholm United Nations Conference on the Human Environment (UNCHE). This conference established the nexus between development and environmental integrity. The conference was conducted to address observed global development trends which threatened the supporting ecosystem, wild-life, fauna and flora and indeed human security (Agano, 2002).

The declaration that followed recognised the importance of adopting policies, programmes, laws and measures for preserving the environment while achieving technological, socio-political and economic development. In order to be achieved, these goals demanded the acceptance of responsibility by citizens, communities, enterprises and institutions at every level (UNCHE, 1972; ClientEarth, 2011).

The Stockholm conference played a key role in terms of raising awareness of the issues of environmental management and sustainability. Accordingly, it led to other key events during the 1980s. This included the publication of the 1987 report of the World Commission on Environment and Development (WCED), commonly known as “Our Common Future,” which elaborated the concept of sustainable development. In this report, among other things, the Commission warned that development trends were increasing the number of poor and vulnerable people and simultaneously degrading the environment (WCED, 1987).

The Commission stressed that addressing poverty and inequity is a prerequisite for a sustainable future because a world in which poverty is endemic will always be prone to ecological and other catastrophes. It is futile to attempt to deal with environmental problems without a broader perspective that encompasses economic, social, physical and political factors, including those that underlie world poverty and global inequality. The Commission stressed the need for fundamental policy change in areas of population, food security, species and ecosystems, energy, industry, and urbanisation (WCED, 1987; Mohamed-Katerere, 2007).

The WCED Report (1987) inspired many initiatives at global, regional, national, and local levels. It encouraged participatory conservation and sustainable use of laws, policies, programmes, strategies and projects in pursuing development based on principles of fairness, equity, and benefit-sharing (Mohamed-Katerere, 2007). It also provoked the emergence of the 1992 United Nations Conference on Environment and Development (UNCED) commonly known as the “Earth Summit”. The 1992 Earth Summit laid down the foundation for the global institutionalisation of sustainable development.

The Earth Summit adopted Agenda 21 as a global plan of action for sustainable development and lead to the drafting of National Strategies for Sustainable Development (NSSDs). The declaration adopted the concept of sustainable development with human beings as the centre of concern and environmental protection as the main objective. In particular, principle 17 emphasised the use of impact assessment legislation as a national instrument to assess all activities that are likely to have a significant adverse impact on the environment. The principle of sustainable development was developed into a policy-oriented approach whereby environmental protection constituted an integral part of the development process and cannot be considered in isolation from it. Member states were obliged to formulate National Strategies for Sustainable Development (NSSD) as an instrument for policy integration to mainstream sustainable development aspects into decision-making process (UNCED, 1992; Drexhage & Murphy, 2010; ClientEarth, 2011).

However, one of the challenges of the Earth Summit was the fact that the negotiations placed too much emphasis on the “environmental pillar” and put less emphasis on the other dimensions of sustainability. Moreover, there were inadequate mechanisms for implementing goals

established under Agenda 21 (Drexhage & Murphy, 2010). As such, the 1997 Earth Summit+5 in New York and the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg were conducted to review the implementation of the previous Summits (Drexhage & Murphy, 2010).

Taking these challenges into consideration, the discussions at the WSSD in 2002 demonstrated a major shift in the perception of sustainable development. These included the shift from environmental issues toward social, political and economic development. Specifically, this shift was driven by the needs of the developing countries and strongly influenced by the Millennium Development Goals (MDGs). The Summit made a constructive change by focusing considerably more attention on development issues, particularly in integrating the MDGs with sustainable development principles and practices. The summit established a more comprehensive scope for sustainable development (Drexhage & Murphy, 2010; ClientEarth, 2011).

Moreover, the Summit recognised the issues of poverty eradication and climate change as global challenges and indispensable requirements for sustainable development, particularly for developing countries. To address these challenges, the Summit stressed that sustainable development requires long-term strategic planning and broad-based participation in policy formulation and implementation at all levels. This process should go together with establishing effective, democratic, coordinated and accountable institutions at all levels (WSSD, 2002).

The sustainable development debate followed a new course after the 2012 United Nations Conference on Sustainable Development (UNCSD), commonly known as the Rio+20 Summit, conducted ten years after the WSSD. The conference focused on three themes: a green economy in the context of sustainable development, poverty eradication and the institutional framework for sustainable development (UNCSD, 2012; Pisano et al., 2013).

The conference finally produced a comprehensive document entitled “The Future We Want” with the obligations on member states to launch a process to develop a set of Sustainable Development Goals (SDGs) that would be integrated into the follow-up to the Millennium Development Goals (MDGs) after their 2015 deadline (Pisano et al., 2013; Griggs et al., 2013). Interestingly, the Rio+20 Summit re-emphasised that governments should develop National Strategies for Sustainable Development (NSSD) as key instruments for guiding decision-making and the implementation of sustainability goals and MDGs at all levels (Paragraph 98).

Between the UNCHE (1972) to UNCSD (2012), sustainable development has transitioned from being an interesting and contested ideal to a concept that is accepted by different actors from the national to the international level. Sustainable development is accepted as a guiding principle in decision-making in most countries. Various stakeholders adapted the concept to their own purposes and needs. The concept has received various interpretations which led to confusion

and compromised implementation, perhaps due to the lack of sufficient and efficient tools to assess the achievement of sustainable development goals (Drexhage & Murphy, 2010).

2.4 Integration of sustainable development dimensions with key aspects of sustainability

Integration of the sustainable development dimensions into decision-making is vital to promote sustainability (Hopwood et al., 2005; Gibson, 2006). Sustainable development can be integrative in many ways (Dovers, 2005). For instance, Gibson (2006) believes that sustainability integration can be designed to foster greater awareness of connections between global and local agendas. It also has great potential for encouraging stronger connections between policies, strategies, plans and projects. Moreover, it can be designed to promote more effective inclusion of usually disadvantaged voices, improved means of combining formal and traditional sources of data and insight, and more successful combinations of anticipation and adaptation. Conceivably, it can also be designed to foster more graceful coordination and collaboration among stakeholders as well as different institutions and authorities (Dovers, 2005; Gibson, 2006). The following sub-sections have focused on reviewing the integration of the five dimensions of sustainability with key aspects of sustainable development which impact assessment legislation should address.

2.4.1 Economic growth and benefit-sharing

Impact assessment legislation should create a clear link between poverty alleviation, economic growth and sustainable development (Betey & Godfred, 2013). In doing so, it should promote employment creation, improving people's livelihoods, the satisfaction of basic human needs and local economic development (Weaver, 2003; Duvail et al., 2006). The legislation should address the costs of increasing economic welfare on ecological and social issues, for instance the assessment of the impacts of economic growth on social and environmental systems, as well as indicate clearly how they can avoid and mitigate the impacts on these systems (Weaver, 2003; DEAT, 2007).

Moreover, the legislation should promote equitable growth and distribution of natural resources to the majority poor and vulnerable groups. Sharing of benefits should be a key prerequisite factor for addressing equitable growth. Benefit-sharing should be an element of all developmental projects, especially where these projects affect locals' land rights and livelihoods. There is a growing literature on mechanisms and case studies relating to this and a number of international organisations such as the United Nation Environmental Programme (UNEP) and the International Union for Conservation of Nature (IUCN) are exploring how to use this concept (UNEP, 2007; Lindhjem et al., 2011).

Schroede (2006: 2) defines benefit-sharing to mean "the action of giving a portion of the advantages/profits derived from the use of genetic resources or traditional knowledge to the

resource providers, in order to achieve justice in exchange". The definition encompasses human and non-human genetic resources. On the other hand, UNEP (2007) viewed benefit-sharing as a mechanism established to ensure that affected communities receive a share of the project benefits, over and above mitigation and compensation measures that are included in the project design (UNEP, 2007).

Benefit-sharing mechanisms can be either non-monetary or monetary. The former type is generally included in compensation policies and includes access to land and security of tenure; employment generated by the project; and improved access to markets and services. The latter type is based on the premise that developmental projects may generate a significant economic rent that can be shared with project-affected populations. These include development funds; taxes paid to regional or local authorities; preferential electricity rates or water-related fees; revenue sharing; and equity sharing (UNEP, 2007; Schroede, 2006; Lindhjem et al., 2011; Pham et al., 2013).

Mahanty et al (2009, cited in Tassa et al., 2010) explores benefit-sharing in two broad categories i.e. *benefit flow* and *benefit-sharing*. Benefit flow examines the role played by three key aspects of resource governance. These include property rights, permits and taxes or royalties, as well as the resource endowment (size, condition and productivity) in shaping the scale and timing of benefit flow. Benefit-sharing (community level distribution of benefits) focus on the influence of local governance (e.g. governance bodies and processes, participation) and community conditions (e.g. social rules and norms, internal differentiation) in mediating who gains (Tassa et al., 2010).

However, most of the legislation defines benefit-sharing mechanisms in the form of transfers of part of the revenues from developmental projects to municipalities or regional entities. The legislation does not directly address the project-affected people. The community may only benefit from the infrastructures and services put in place with the funds received from the projects. Nevertheless, this type of legislation can be considered as a positive step towards equitable sharing of benefits, provided that sound mechanisms are implemented to manage the funds received by municipalities or regional entities (UNEP, 2007; Pham et al., 2013).

Establishing partnership agreements between developers and local communities is probably the most innovative form of benefit-sharing. For the developer, a partnership provides an assurance of local acceptance of the project, thereby reducing the level of risk and the cost of lengthy feasibility studies and authorisation processes. On the part of local communities, it will be recognised that it is their entitlement to share the economic rent generated from the developmental projects as well as their right to have a say in the management of the local resources. Countries such as China, Canada and Ecuador are using this mechanism to ensure that developmental projects benefit the locals in the long-term (UNEP, 2007; Lindhjem et al., 2011).

Moreover, Corporate Social Responsibility (CSR) can be another way of enhancing benefit-sharing to the communities. Ideally, CSR could be a percentage of annual profit devoted to projects in the community. A CSR fund dedicated to community development can be incorporated into impact assessment legislation. Such integration would allow for a comprehensive assessment of not only the impacts of projects but also its benefits. The improvement of social wellbeing of the wider community that is through the internalisation of CSR by the government and corporate entities can minimise conflicts and enhance reputation as well as long-term viability of a company (Betey & Godfred, 2013).

2.4.2 Social equity, poverty alleviation, and cultural sustainability

Impact assessment legislation should ensure that society does not bear the cost of development that focuses on the benefit to a single individual or corporation. Legislation should safeguard the natural capital and build social capital for present and future generation (DEAT, 2007; Hüge, 2010). Legislation together with economic policies and other related laws should address the gap between rich and poor by improving fair access to benefits across social groups in the community. It should also make natural resources easily accessible to the disadvantaged groups; especially those communities surrounded by different natural resources (DEAT, 2007; Hüge, 2010).

Impact assessment legislation should take into account the issues of poverty, inequality and vulnerability of the people by ensuring an equitable supply of basic social services such as water, electricity, health facilities, education, food and housing (Betey & Godfred, 2013). It should consider the issue of urbanisation and the growth of informal settlements which should be addressed as part of the wider scope of poverty, inequality and vulnerability (Huchzermeyer, 2003). Instead of eviction and relocation, the assessment process should recognise the rights of squatters and upgrade these settlements by integrating them with the rest of the urban fabric (Right Based-Approach or red agenda of sustainability) (Abbott, 2001; Huchzermeyer, 2003).

Impact assessment legislation should also take into consideration the role of indigenous knowledge in the decision-making process. Culture, values, traditions and ethics should be embedded in the assessment process and sustainability goals should be assessed within the context of the particular locality or nation (Weaver, 2003). Cultural sustainability examines ways to enhance our cultural identity and sense of place through heritage, shared spaces, public art, social capital, educational opportunities, and public policies in ways that promote all five dimensions of sustainability (Scammon, 2012).

In doing so, impact assessment legislation should link with other laws and policies which address the protection of natural resources, as well as town and urban planning and land reform strategies which focus on upholding the security of tenure, the right to use and access the land, as well as equitable distribution. The policies and strategies which address rural development

through agricultural transformation, rural electrification and infrastructure development for poverty alleviation and socio-economic development should also link with impact assessment legislation (Turner, 2001; Duvail et al., 2006; Cousin, 2007).

Impact assessment legislation should also link with pro-poor policies and plans which articulate the relationship which exists between urban and rural areas. It should explicitly address the issues of rural-urban migration and natural urban population growth which accelerate the increase of informal settlements and urban sprawl (Martine et al., 2008). As such, the integration of Brown², Green³ and Red⁴ agendas of sustainability is necessary (UNEP, 2002a).

2.4.3 Governance and the rule of law

Good governance entails principles such as participation, transparency, compliance and enforcement and accountability. Under good governance, there are clear policy-making procedures at the level of public authorities, civil society and stakeholder's participation in decision-making processes, and the ability to enforce rights and obligations through legal mechanisms (Sachiko & Durwood, 2007; Huye, 2010). At the same time, the rule of law involves independent, efficient, and accessible judicial and legal systems, with a government that applies fair and equitable laws equally, consistently, coherently, and prospectively to the entire population (Sachiko & Durwood, 2007).

Good governance and adhering to the rule of law are essential for sustainable development. Lack of quality governance as well as weak legal and judicial systems where laws are not enforced and non-compliance and corruption are the norm, undermine respect for the rule of law. Therefore, building capacity for implementation, enforcement, and compliance with existing laws is vital. Without accountability, compliance and enforcement, as well as replacing the culture of corruption with law abidingness in institutional reforms, impact assessment laws and regulations are meaningless (Sachiko & Durwood, 2007; Sosovele, 2011).

² *The Green Agenda of sustainability focuses on reducing the environmental impact of urban-based production, consumption and waste-generation on natural resources and ecosystems, and ultimately on the world's life-support systems. In general, the Green Agenda, which focuses on the problems of affluence and over-consumption, is more pressing in affluent countries (UNEP, 2002a).*

³ *The Brown Agenda of sustainability focuses on the problems of poverty and underdevelopment. It emphasises the need to reduce the environmental threats to health that arise from poor sanitary conditions, crowding, inadequate water provision, hazardous air and water pollution, and local accumulations of solid waste. The Brown Agenda is therefore more pertinent in poor, under-serviced cities or parts of cities (UNEP, 2002a).*

⁴ *The Red Agenda of sustainability focuses on human right issues and social justice movement. These rights include socio-economic and political rights (which include cultural rights and civil liberties). Most of these rights are provided in different international and local instruments such as constitutions (UNEP, 2002a).*

Most of the efforts to strengthen good governance and the rule of law have concentrated on developing new laws and creating new institutions, rather than building capacity for ensuring compliance with existing ones. As a result, environmental quality, socio-economic growth, and public health continue to deteriorate due in significant part to lack of implementation, enforcement, and compliance with existing legislation (Sachiko & Durwood, 2007; Sosovele, 2011). However, introduction of good governance and the rule of law cannot be accomplished overnight. The process is often a gradual one, involving changes to long-standing practices, entrenched interests, cultural habits, sociological-psychological context and even religious norms (Sachiko & Durwood, 2007).

In that respect, impact assessment legislation should be able to address the institutional and administrative capacity and capability for enforcement and compliance. It should address the issues of transparency and accountability of those responsible for the enforcement and compliance with the laws, rules and regulations (Sosovele, 2011). It should establish procedures for combating corruption by government elites and the project proponents, including imposing penalties and court sanctions (Betey & Godfred, 2013).

Moreover, impact assessment legislation should foster a political system that secures meaningful public and stakeholder's participation in decision-making. It should address the way in which the information can be shared, including training of various social groups to allow them to participate effectively in the decision-making process. Legislation should be able to ensure that a participatory structure is established to secure the needs of disadvantaged groups such as women, the youth, people with disabilities and the poor (Weaver, 2003; DEAT, 2007; Betey & Godfred, 2013).

2.4.4 Physical sustainability (built environment and technology)

Impact assessment legislation should be integrated with legislation and policies relating to the built environment and technology. Physical sustainability entails the capacity and aptitude of the urban built environment and techno-structures to support human life and productive activities (Allen, 2001). It incorporate the brown, green and red agendas of sustainability which places the emphasis on recognising that all urban dwellers have the right for healthy and safe living (housing which are ecologically friendly/green housing) and working environments and the infrastructure and services (such as sustainable public transport and sustainable urban form, without sprawl) (Allen & You, 2002; Allen, 2001).

The built environment faces many pressures driven by population and economic growth, as well as climate change. An increasing urban footprint, poverty, increasing traffic congestion and increasing consumption are impacting on the liveability and environmental efficiency of cities and towns. The majority of the world's population lives in urban areas. It has been reported that

by 2050 the world population will increase from 6 to 9 billion people of which half to two-thirds will be living in cities, particularly in Asia and Africa (UN-HABITAT, 2008; Swilling & Anneck, 2012). This trend will accelerate the growth of informal settlements as well as the increased consumption of natural resources, including water, energy and land for urban space and buildings. Moreover, increasing traffic congestion as well as increasing consumption of resources and waste generation is affecting the liveability and environmental efficiency of the built environment. To address these challenges requires novel integrated approaches that fully incorporate existing and new scientific knowledge that will search for both adaptive and technological solutions (Allen & You, 2002; Glaser et al., 2011; Swilling & Anneck, 2012).

Sustainable development requires a technological system that can search continuously for new solutions as well as an international system that fosters sustainable patterns of science and technology (Weaver, 2003; WCED, 1987). The role of science and technology is vital in promoting sustainability. Scientific knowledge and appropriate technologies are central to resolve the political, socio-economic, and environmental problems that make current development paths unsustainable (Glaser et al., 2011).

Scientific knowledge and appropriate technologies should be applied to bring our patterns of production, reproduction and consumption into concert with the capacity of the ecosystem to perform life-giving functions in the long-run. That is, the capacity to regenerate raw material input and to absorb the waste outputs of the human economy; in such a way that the process fosters intra-generational as well as intergenerational equity (Pezzoli, 1997). This will require reconfiguration of our existing infrastructure to facilitate the resource flows and social metabolism in a way that the resource consumption of our cities takes into account the limit of the ecosystem while achieving social, political and economic development (Guy & Marvin, 2001; Swilling, 2004; Swilling & Anneck, 2012).

Moreover, radical policy change and contributions from different stakeholders are necessary to address these challenges. For instance, in Australia (State of the Environment Committee, 2011) the built environment is now a key component in the impact assessment process and the preparation of environmental reports. Recently, the Council of Australia initiated a call to reform capital city planning, and released the National Urban Policy, which seeks to address the built environment in the country (State of the Environment Committee, 2011). Moreover, the proposed Sustainable Development Goals (SDGs) to be adopted by the United Nations in 2015 incorporate the built environment among the sustainability goals. Specifically, goal 11 will oblige countries to make cities and human settlements inclusive, safe, resilient and sustainable by 2030 (SDSN, 2013). This is a turning point for countries to integrate this key dimension of sustainability into impact assessment legislation and planning initiatives.

2.4.5 Environmental sustainability

Impact assessment legislation should also be designed in a way that integrates environmental issues into the policies, plans, and programmes which are prepared at all levels of government (Lafferty & Hovden, 2003; Lehtonen, 2007). In doing so, it should facilitate the conservation of biodiversity as well as promote development and use of renewable natural resources in a way that does not endanger ecological integrity or exceed the rate of replacement (Duvail et al., 2006; DEAT, 2007; Huges, 2010).

Moreover, impact assessment legislation should be able to ensure and safeguard the integrity of ecosystems that protect communities from natural hazards. It should also address the process to be followed as well as criteria to be used in considering potential trade-offs between ecological integrity and other sustainable development goals (DEAT, 2007; Swilling & Annecke, 2012; Griggs et al., 2013). For successful integration of these pillars of sustainability, legislation should ensure effective coordination mechanisms among the institutions mandated to mainstream and implement the goals of sustainability in decision-making. In Europe, countries are integrating environmental sustainability into decision-making through the principle of Environmental Policy Integration (EPI) which also takes a form of vertical and horizontal mechanisms for coordination (Bass et al., 1995; Lafferty & Hovden, 2003; Pisano et al., 2013).

2.5 Integrating sustainable development with a strategic and long-term planning approach

Planning may mean several things depending on the context. It may mean the way planners plan by setting goals, specifying inputs and presenting a model of causality linking activities to goals (Maxwell & Conway, 2000). In development planning, Conyers and Hills (1984, as cited by Muller, 2014a: 1) define planning as a continuous process which involves decisions, or choices, about alternative ways of using available resources, with the aim of achieving particular goals at some time in the future. As such, a plan is required to operate as a road map for what has to be completed. In this regard, planning can be viewed as a pro-active approach to prevent problems from happening, unlike a reactive approach which aims to solve existing problems (Muller, 2014a).

On the other hand, Lawrence (2000) points out that planning involves a set of activities that marry process and substance. The process of planning includes communication and the collaboration of different actors and stakeholders. The substance of planning encompasses the integration of socio-ecological, political, physical as well as economic objectives, perspectives and knowledge in the planning process. From this point of view, “planning is a ‘value-full’ activity with ethical implications” (Lawrence, 2000: 620).

Over the past few decades, planning theories and practices evolved in different ways. One of the main theories is rational planning theory, in which initially the process of planning took the form of simple survey, analysis, and plan (Lawrence, 2000). It also took the form of comprehensive planning (based on reason, scientific, and value-free), and has also been referred to as blueprint or master planning (Lawrence, 2000; Muller, 2014b). The rational planning process “assumes orderly discrete steps (setting goals, generating alternative ways of attaining these goals, evaluation of means or resources, choosing best alternatives, but implementation not originally mentioned as one of the steps, nor was there a lot of attention to how implementation would take place)” (Muller, 2014b: 1). In this process, the planner was seen as an expert with no or limited public participation (Muller, 2014b).

By the 1960s, a paradigm shift in rational planning was necessary from directive planning towards enabling planning (World Bank, 1996). Key issues such as identification of problems, needs, or opportunities to be addressed; goals, objectives, and criteria; the generation and evaluation of alternatives; as well as explicit links to implementation were considered. By the 1980s the planning processes were applied beyond physical and spatial phenomena and incorporated economic, social and ecological aspects (Lawrence, 2000).

The impact assessment process evolved parallel to the rational planning approach. Impact assessment tools such as Environmental Impact Assessment (EIA) emerged and shared many of the characteristics of rational planning. The EIA process directly considers limits (through scoping), risks and uncertainties, synthesis and inequities, and stresses the need for monitoring and auditing (as an implementation strategy) (Lawrence, 2000).

At the same time, the weaknesses of rational planning such as inadequate consideration of the collective nature of planning; insufficient dialogue in the process of planning; inadequate integration of substantive issues such as social and ecological needs; and inadequate design to suit contextual characteristics, are embedded in the EIA process. This trend creates challenges for current EIA practice to be an effective tool for promoting sustainability (Lawrence, 2000).

Unlike rational planning, for sustainable development, planning is an important forum through which the sustainability concept is contested and defined, rather than a technical means by which it is implemented (Muller, 2014a: 3). This has important implications for the conception of forums for debate and the contesting of planning agendas. Sustainable development requires “...a continual social learning, reflection, debate, innovation, building resilience, co-evolution, adaptation, the application of technical tools to collect and analyse information, to be used in decision-making, policy-making and policy application (also linked to monitoring and evaluation (M&E))” (Muller, 2014a: 3).

The planning process for sustainable development also requires long-term, holistic, and strategic approaches, as well as an on-going process (Maxwell & Conway, 2000). These approaches are embedded with key issues such as participation, transparency, commitments and accountability as well as capacity and capability of the institutions mandated to oversee the planning process. In this regard, planning should be flexible, carefully sequenced, results-orientated, and based on partnerships (Lawrence, 2000; Maxwell & Conway, 2000).

Robinson (2014: 8, cited in Muller, 2014b: 4) views the strategic planning approach as a process used by private and public-sector organisations aimed at creating the best possible future by identifying opportunities and threats of major events and changes occurring outside the organisation or the government sphere's area of jurisdiction and by maximising a community's strengths and mitigating weaknesses. The process involves building organisations, identifying issues and trends, an analysis and forecasting phase, developing a vision and setting goals, followed by the development of strategies, action plans and budgets. The process is cyclical, not linear, with monitoring and evaluation following on implementation. Key characteristics of strategic planning include the fact that it is a focussed process that concentrates on selected key issues (the most pressing problems); explicitly considers resource availability (budget, staff, time, etc.); is action orientated with a strong emphasis on practical results; and it stresses the importance of stakeholders participation (Muller, 2014b)

As such, strategic planning can be embedded in collaborative planning which embraces the formation of social learning platforms (to plan by debate), as well as non-hierarchical organisations. Collaborative or communicative planning strongly criticises rational planning as being a top-down structured, technocratic and expert driven approach (Lawrence, 2000). Collaborative planning recognises planning problems as complex and interrelated. It stresses human potential, environmental sustainability, and societal guidance, as well as planning in small, formal and informal groups. It emphasises the integration of humanistic and environmental values and ethics in the planning process. In this respect, it recognises planners as social change agents, skilled in creative problem-solving and interpersonal relations (Beatley, 1989; Lawrence, 2000; Jepson, 2004; Muller, 2006; Wilkinson, 2012).

These approaches can be incorporated in the impact assessment legislation and address the issues of cumulative effects, socio-economic, physical and ecological impacts. It can mainstream key aspects such as biodiversity, social justice, human health, benefit-sharing, poverty alleviation, risk and uncertainty, and trans-boundary issues into the decision-making process (Lawrence, 2000; Duvail et al., 2006). In doing so, it can facilitate more transparency in decision-making, more creative problem solving, and a greater likelihood of public agreement, acceptance, and support. As such, it can help to explicitly integrate sustainable development goals in turbulent

environments characterised by complex and interrelated problems (Lawrence, 2000; Jepson, 2004; Wilkinson, 2012).

2.6 Integrating sustainable development into a systems and complexity perspective

Complexity thinking also emerged as one of the major critiques of rational thinking and planning. Complexity and system thinking involves considering various components which interact in the world as a system. It emphasises connections and relationships between the objects and the events, therefore, changes in one component of the system lead to changes elsewhere in the system due to the existence of different interactions. The interactions occur dynamically in a non-linear form and have feedback loops (Clayton & Radcliffe, 1996; Cilliers, 2000; Blewitt, 2008).

Complexity and system thinking tends to be 'pluralistic' in that it goes beyond the 'dualistic' approach in the interpretation of the sustainable development concept which centred on human needs (Nooteboom, 2007). Complexity appreciates intricacies, relationships and context (Gallopin, 2003; Cilliers, 2000). In fact, complexity and system thinking stresses that dualistic and fragmented thinking cannot allow us to reach the roots of contemporary problems. Contemporary environmental problems need a thinking that does not isolate the objects to be studied, but rather studies them in their auto-eco-organisational context (Morin, 1999).

Complexity and system thinking emphasises that environmental problems emanate from a direct relationship between many different dimensions. Addressing one element might impact other problems that may be caused by this aspect. For instance, addressing social challenges would also address ecological, economic, and political challenges. Complexity on the other hand considers that economic or ecological challenges neither result only from social challenges nor directly from political challenges. Social challenge might result from different causes and not necessarily only from ecological, physical or economic aspects. Therefore, to address a certain problem requires thinking of all the possible causes in the system studied (Morin, 1999; Blewitt, 2008).

In complexity, the capacity of a system to cope with disturbances while carrying out its normative functions is of paramount importance (Blewitt, 2008). For impact assessment to contribute to sustainable development, it can aim at improving the system's ability to adapt, and remain flexible and stable. This is due to the fact that all systems experience continuous changes (Cilliers, 2000). As far as an environmental problem such as climate change is concerned, it cannot be addressed alone or by a single nation because it is a condition that results from complex interactions as opposed to simple and linear interactions (Nooteboom, 2007).

Moreover, issues such as poverty, inequality, social exclusion and vulnerability are emergent and wicked problems⁵ resulting from the complex interactions of a system. Wicked problems require innovative, comprehensive solutions that can be modified in the light of experience and on-the-ground feedback (Australian Public Service Commission, 2007). The best action that can be taken is ‘muddling through’ by identifying multiple ways, and creating many possible means of addressing the problem. This certainly needs contributions from different disciplines and stakeholders (Blewitt, 2008). In this case, complexity and system thinking can facilitate finding new ways of coping with the hidden or emergent problems that characterise systems interactions. These include upholding resilience⁶ by integrating physical, political, ecological, socio-economic and cultural diversity to maximise alternatives when coping with changes (Blewitt, 2008).

It also requires strategic and long-term planning to plan for changes that are likely to occur in the system. Cautious analysis of information on current trends is vital for future planning. The specific system’s ‘memory’ together with this information could be utilised to increase the system capacity to cope with disturbances or change (Cilliers, 2000). Fear of the unknown calls for early and regular interventions. This implies that the interventions must be frequent but with short amplitudes, meaning, small but frequent solutions save many more situations than huge but infrequent solutions. Impact assessment legislation must integrate these systems in an anticipative, holistic, systemic and participative manner for the sake of promoting sustainable development (Cilliers, 2000; Nooteboom, 2007; Blewitt, 2008).

2.7 Integrating sustainable development with interdisciplinary and transdisciplinary approaches

Current environmental challenges and sustainable development require new ways of knowledge production and decision-making. Sustainable development requires the involvement of different actors inside and outside academia, who can find multiple ways of integrating the available knowledge, reconciling values and preferences, as well as creating ownership for problems and solution options (Lang et al., 2012). Bass et al (1995) noted that sustainable development is a

⁵ *Wicked problem was originally proposed by H. W. J. Rittel and M. M Webber in their landmark 1973 article (Rittel & Webber, 1973). They argued that many social planning problems cannot be solved with traditional linear, analytical approaches. They contrasted these wicked problems with ‘tame’ problems, which can be technically quite complex. However, tame problems can be defined and solved (Australian Public Service Commission, 2007).*

⁶ *“Resilience is the capacity of a system, be it an individual, a forest, a city or an economy, to deal with change and continue to develop. It is about the capacity to use shocks and disturbances like a financial crisis or climate change to spur renewal and innovative thinking. Resilience thinking embraces learning, diversity and above all the belief that humans and nature are strongly coupled to the point that they should be conceived as one social-ecological system” (Stockholm Resilience Centre, no date).*

challenging social process which requires mutual integration of socio-economic and environmental aspects to meet society's needs. These challenges demand new approaches to decision-making and action. As such, interdisciplinarity and transdisciplinary approaches are needed to handle the analysis of social, economic and environmental dimensions and their interactions; and coordination is required among the various authorities and interests.

Interdisciplinarity and transdisciplinary approaches, together with other methods such as community-based, interactive, and participatory approaches are often suggested as appropriate means to meet both the requirements posed by real-world problems and the goals of sustainable development. Transdisciplinary and interdisciplinary learning are necessary to combine indigenous and scientific knowledge for the quest of a better path to achieve sustainable development (Stokols et al., 2003; Lang et al., 2012).

Interdisciplinarity is "a process in which researchers (scientists) work jointly, but from each of their respective disciplinary perspectives, to address a common problem" (Stokols et al., 2003: 24). According to Rafols and Meyer (2010) interdisciplinarity is a process of integrating different bodies of knowledge to address a certain problem. This process is focused on the degree of integration (Miller & Mansilla, 2004; Wagner et al., 2010; Mobjork, 2010).

On the other hand, Hirsch Hadorn et al (2010) view transdisciplinarity as an approach in which academics and lay people share knowledge (a co-production of knowledge) which fits the societal needs for solving, mitigating, or preventing problems. This kind of knowledge strives to grasp the relevant complexity of a problem, taking into account the diversity of both the everyday world and academic perceptions of problems, linking abstract and case-specific knowledge, and developing descriptive, normative, and practical knowledge for the common interest (Hirsch Hadorn et al., 2010).

However, Bass et al (1995) have the view that these science-based approaches (interdisciplinarity and transdisciplinary) are helpful for defining socio-economic and environmental trade-offs, but are not adequate. These kinds of trade-off are value judgements. They need to be made with the participation of both "winners" and "losers", so that some sort of agreement and commitment is reached on the outcome. A people-centred approach is needed as a complement to these science-based approaches. Recognising this, policies, strategies and plans focusing on promoting sustainable development should be adopted with a wider societal participation at all levels of decision-making (Bass et al., 1995).

2.8 Coordination mechanisms for integration process

Integration for coordination mechanisms encompasses the procedural and organisational arrangements to enable environmental, socio-economic, political and physical aspects to be integrated at similar points in time (Bond et al., 2001). The process provides opportunities for

cross-sectoral learning and the way in which the government coordinates and integrates sustainability dimensions into strategies, plans and policies for sound decision-making (Pisano et al., 2013). The integration process can be conducted in different ways. Vertical and horizontal coordination are regarded as major ways for effective integration processes (Pisano et al., 2013; Gibson, 2006).

2.8.1 Vertical integration

Impact assessment legislation should provide a framework for vertical integration. This is the process of coordinating and integrating sustainable development dimensions into strategies, plans and policies across different levels of governance from international, national, through regional to local levels. Vertical integration includes the establishment of various mechanisms for cooperation and coordination such as councils, commissions, committees, and bodies at different levels. These institutions will help to coordinate and implement impact assessment activities between the different levels of the government through consultation, awareness raising and exchange of information (Pisano et al., 2013).

For instance, in European countries such as Switzerland, vertical integration is conducted by linking the federal, regional, and local levels of government through the framework of the sustainable development forum. In Latvia, the National Development Council (NDC) coordinates between the national and sub-national level. The Finnish National Commission on Sustainable Development in Finland coordinates and integrates sustainability dimensions at all levels of government. In Croatia the mechanism for vertical integration has been established by the Environmental Protection Act (OG 110/07) that set out responsibility for sustainable development and impact assessment at different political levels such as national government, countries, cities and other relevant stakeholders (Pisano et al., 2013).

In South Africa, the National Department of the Environment (DEA) is actively coordinating and integrating sustainability dimensions at different levels of government. The DEA develops and implements various environmental policies and legislation, and capacity building through training, communications, and awareness programmes at all levels of government (DEAT, 2004).

2.8.2 Horizontal integration

Impact assessment legislation should be embedded with the provisions for horizontal integration which can provide room for coordination and collaboration among different ministries, departments, agencies and administrative bodies at the national level. Ideally, this process involves the development of various forms of inter-ministerial and cross-departmental sectors for coordinating the implementation of sustainable development objectives and impact assessment activities. The established institutional structure should incorporate inter-ministerial

bodies at the political level and inter-ministerial bodies at the administrative level or a combination of both (Pisano et al., 2013).

For instance, in European countries such as Hungary both political and administrative bodies are used. The politicians and administrators are enriched by the participation and consultation process of societal stakeholders such as NGOs, corporate, civil society and academia. In Finland, the Finnish National Commission on Sustainable Development (which is also responsible for vertical coordination) is responsible for outlining and preparing an inter-ministerial secretariat which operates as a network and convenes 8-10 times a year. In Belgium, the process is conducted in the form of an advisory function in the preparation of policy drafts and reports on impact assessment and sustainable development issues (Pisano et al., 2013).

The horizontal mechanisms conducted by various inter-ministerial bodies are vital for policy coherence and the integration of sustainability dimensions. The mechanisms provide a supervisory function as well as a political guidance and steering function in the implementation of policies, laws, programmes and strategies, including the review of their implementation process for sustainable development (Pisano et al., 2013).

2.9 Conclusion

The concept of 'sustainable development' was discussed in this chapter from the historical perspective. It explored the meaning of the different dimensions (or pillars) of sustainable development and the integration of these sustainability dimensions into decision-making. The lack of universal acceptance of what sustainable development means in theory and practice creates significant challenges. However, key issues of sustainability were explored such as the need to take into account social equity; benefit-sharing; poverty alleviation and institutional sustainability. The theoretical framework also explored how sustainable development must be informed by strategic and long-term planning, taking note of complexity and system thinking, as well as interdisciplinary and transdisciplinary learning. Together with effective coordination mechanisms, these aspects are crucial in promoting the goals of sustainable development. The chapter builds a framework for the following chapter which explores further the decision-making tools for sustainable development, as well as impact assessment in other countries, to form part and parcel of this theoretical outline.

CHAPTER THREE: DECISION-MAKING FOR SUSTAINABLE DEVELOPMENT

3.1 Introduction

This chapter builds on the previous chapter which analyses the concept of sustainable development as well as the need to integrate sustainable development dimensions, and thereafter reviews the tools necessary for mainstreaming sustainable development goals into the decision-making process. These include Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA) and Sustainability Assessment (SA). These tools are decision-making instruments that have been developed to assess how policies, plans, programmes and projects promote social, environmental or sustainability goals, in order to improve project proposals and policy-making outcomes. Other supportive tools such as the use of National Strategies for Sustainable Development (NSSDs), Local Agenda 21 plans, sustainability indicators and State of Environment Reports (SoER) are also covered. Moreover, the review covers the best practices from the European Union (EU), the United Kingdom (UK), as well as South Africa on how they use impact assessment legislation to promote sustainability.

3.2 Impact assessment tools: background information

Rapid industrialisation and urbanisation in western countries before and after the First World War caused a rapid loss of natural resources and environmental degradation (Achieng Ogola, 2007). This trend continued until after the Second World War, giving rise to concerns for pollution, land degradation, diseases and quality of life. In the early 1960s project proponents and investors realised that the projects they were undertaking were affecting the environment, natural resources, and people's wellbeing. As a result, there was a need for impact assessment tools that could be used to safeguard the environment in the event of any development projects (Wood, 2003; Achieng Ogola, 2007; Lobos & Partidario, 2010).

Consequently, the "National Environmental Policy Act of 1970 (NEPA)" was enacted in the United States of America (USA) to address the state of the environment by authorising impact assessment tools such as EIA as a mandatory process for environmental assessment and planning. The Act was promulgated with the main objective of supporting decision-making by identifying and investigating the environmental consequences of proposed developmental projects (Kibbassa, 2003; DEAT, 2004; Achieng Ogola, 2007; Berger, 2007). However, at that time, the assessment processes were narrow, and focused on the "technical analysis, engineering feasibility and financial requirements of the proposed projects" (Weaver, 2003: 2). To a large extent, the integration of socio-economic, political and environmental features was neglected (Weaver, 2003; DEAT, 2004; Lobos & Partidario, 2010; Wood, 2003).

Currently, EIA is practised in more than 100 countries worldwide as a mandatory or discretionary requirement prior to the implementation of project proposals (Weaver, 2003; Sosovele, 2011). However, EIAs were limited to assessment of projects. As such, the need developed for a more strategic approach such as SEA, which integrates sustainability pillars earlier at the level of policies, programmes and plans (Lobos & Partidario, 2010). Recently, the expansion of impact assessment thinking has influenced the adoption of integrated forms of assessment which attempt to bring together multiple policy concerns for sustainable development. Thus, SA has emerged as a tool for policy integration. The aim of this assessment tool was to consider the broad socio-economic, physical, and environmental impacts of policies. It expanded the traditional sectoral analysis by providing integrated assessment procedures (Berger, 2007; Hüge, 2010).

For instance, Ness et al (2006) have developed a framework for sustainability assessment tools which incorporates different assessment tools which are categorised based on their approaches and focus areas. The sustainability assessment tools framework consists of three categories. These include ...“1) indicators and indices, which are further broken down into non-integrated and integrated, 2) product-related assessment tools with the focus on the material and/or energy flows of a product or service from a life cycle perspective, and 3) integrated assessment, which is a collection of tools usually focused on policy change or project implementation” (Ness et al., 2006: 499). The EIA, SEA and SA which are the main focus of this study, have been categorised under the third umbrella, the integrated impact assessment. Other tools which have been covered under the integrated impact assessment include cost benefit analysis (CBA)⁷, risk analysis⁸, multi-criteria analysis⁹, and life-cycle analysis¹⁰ (Ness et al., 2006; Abaza, 2003).

⁷*“Cost Benefit Analysis (CBA) is a framework that allows the monetisation of the costs and benefits of an activity, project, or policy. It is a useful way of converting all the information relevant to the assessment of a proposed action into a comparable and easily understood form. The main difficulty is putting a monetary value on environmental and social costs and benefits for which no market prices generally exist. The end product is a measure of the aggregate net benefit of the policy, discounted to the present” (Abaza, 2003: 7).*

⁸*“Risk assessment procedures aim to balance what is known for certain, what is estimated as a potential and probable threat, and what is unknown. A risk-based approach is likely to be useful in integrated assessments, since policy impacts can be subject to considerable uncertainties, including the difficulty of establishing causal relationships and the problems involved in the accurate measurement of scale effects” (Abaza, 2003: 7).*

⁹*“Multi-criteria analysis is used for assessments in situations when there are competing evaluation criteria. MCA identifies, in general, goals or objectives and then seeks to spot the trade-offs between them; the ultimate goal is to identify the optimal policy. This approach has the advantage of incorporating both qualitative and quantitative data into the process, as well as it take into account the preferences of stakeholders in the use of natural and environmental resources” (Abaza, 2003: 7).*

¹⁰ *“Life-cycle analysis (LCA) which analyses the use of environmental resources and the generation of emissions right through the production process, from the extraction of raw materials or cultivation, to processing, transportation, manufacture, use and disposal” (Abaza, 2003: 7).*

Currently, several international agencies are involved in impact assessment processes. There are also a number of guidelines, conventions and protocols on the use of different tools of impact assessment and planning. These include the World Bank which adopted different guidelines for conducting EIAs and SEAs, and the European Union which adopted impact assessment guidelines for its member states. In addition, a number of treaties and protocols contain provisions relating to impact assessment including the United Nations Law of the Sea Treaty (1982), the Convention on EIA in a Trans-boundary context (the Espoo Convention) (1991), the Protocol on Environmental Protection to the Atlantic Treaty (1991), the Biodiversity Treaty (1992), and the United Nations Framework Convention on Climate Change (1992), to mention a few (Agano, 2002; Wood, 2003).

3.2.1 Environmental Impact Assessment (EIA)

There is no unified definition of the meaning of EIA. However, most of the definitions are embedded with key issues such as the assessment of impacts at the conceptual/planning stage to be able to influence decisions in a timely manner; the evaluation of the environmental and social impacts as well as other relevant issues depending on the nature and scope of projects and actions; the application of participatory and consultative principles; as well as the evaluation and exploration of alternatives and mitigating measures (UNECA, 2005b). Most of these elements are recognised worldwide in the EIA process and practice.

The EIA process is conducted in different countries around the world (Wood, 2003). Most of the countries have enacted statutes and regulations which set out procedures and stages for conducting EIA (Sadler & Weaver, 1999). However, in practice the implementation period of EIA, as well as its scope and procedures vary according to country and agency, and each system has its own unique characteristics (Weaver, 2003; Macaulay & Richie, 2013). In fact, the EIA performance in developing countries (especially in Africa), generally falls far behind that of EIA in developed countries (Wood, 2003; Marara et al., 2010).

In developing countries, for instance in Asian countries, the EIA have been implemented since the 1980s, with many countries having EIA legislation put in place. Latin America however, did not enact legislation until the mid-1980s. The adoptions of the EIA tool in African countries have yet to become popular (Wood, 2003). EIA processes have been implemented in Africa since the early 1980s albeit without clear legal procedures and institutional setups. These processes were conducted due to the fact that multinational financing institutions have made it mandatory that all developmental projects should be subjected to the EIA process before they can be funded (Katima, 2003; Sosovele, 2011).

Betey and Godfred (2013) reveal that the EIA system in Africa, in terms of experience and practice, is based more on the systems of developed countries such as the USA, EU and the UK.

The EIA systems of various developing countries to a large extent consider the mitigating social effects of projects without having comprehensive mechanisms established to reduce poverty and promote sustainable development. The emphasis in EIAs is on mitigation rather than the improvement of existing conditions facing the community such as extreme poverty (Wood, 2003; Betey & Godfred, 2013). The UNCED declaration under principle 5 recognised the link between sustainable development and poverty eradication. In practice, there would be no sustainable development without reduction of poverty and social inequality (Betey & Godfred, 2013; Rahman, 2002; Weaver, 2003).

Poverty alleviation has been a major concern of the international community for many years. In most African countries, poverty reduction is the overarching priority for governments, which are of the opinion that major environmental problems facing the countries could be addressed by “alleviating poverty” and “meeting basic human needs” (Betey & Godfred, 2013; Rutasitara et al., 2010). Poverty in Africa has generally been linked to the colonial legacy of domination and exploitation of natural resources for the economic development of the north (Betey & Godfred, 2013; Rahman, 2002). Other writers link poverty to corruption, bad governance, and weak institutions in many independent developing countries (Wood, 2003). In most cases, these factors have contributed to continued poverty, as well as natural resource and environmental degradation in developing countries (Betey & Godfred, 2013; Andersson & Slunge, 2005).

However, the issues of corruption, bad governance, elitism and weak institutions have not been taken note of in EIA processes. Surprisingly, in most African countries there is no legislation or guidelines within the EIA system which directly address poverty alleviation (Betey & Godfred, 2013). The existing bureaucratic system of EIA processes adopted in most African countries undermines the realisation of sustainable development goals. Therefore, EIA as a decision-making tool can only help to achieve sustainable development if there is a clear link between poverty alleviation, governance and sustainability aspects in assessment processes (Betey & Godfred, 2013; UNECA, 2005a).

Sustainability requires long-term planning to meet socio-economic, political, physical and environmental needs of present and future generations. These five dimensions of sustainable development can be incorporated into EIA to achieve sustainability at the project level (Betey & Godfred, 2013). For EIA to become an effective tool to promote sustainable development in Africa, it must seek to shape, design and locate projects such that social value to communities which includes poverty alleviation, social equity and benefit sharing as well as economic value to investors can be met together with environmental caretaking (Betey & Godfred, 2013; Weaver, 2003).

However, it is argued that EIA cannot on its own achieve sustainability, but it can certainly help to meet some sustainability goals (Bruhn-Tysk & Eklund, 2002). This is due to the fact that EIA

has various shortcomings which make this tool ineffective in promoting sustainable development. Most of the studies conducted to evaluate the effectiveness of EIA in contributing to sustainable development have documented the shortcomings that emanate from the applicability and interpretation of the EIA process (Spinks et al., 2003). Most of them agree that EIA, being only applicable at the project level, tends to focus on a single developmental project. This led to insufficient consideration being given to cumulative impacts which resulted from a broader biophysical, socio-economic and ecological viewpoint (Alshuwaikhat, 2004). For this reason, cumulative impacts cannot be addressed at project level where EIA is targeted.

Moreover, lack of commitment and political willingness from the government and the developer to ensure effective compliance with regulations rendered this process ineffective (Sosovele, 2011). This challenge contributed to inadequate transparency and accountability which is the main component in adhering to the principles of good governance and the rule of law. In some cases, EIAs are not conducted within sociological and cultural contexts which will influence their outcomes and effectiveness (Sosovele, 2011). Furthermore, the EIA is viewed as a mandated document rather than a critical part of the project life cycle which leads to insufficient integration of sustainability dimensions at the project level (DEAT, 2004; Cashmore et al., 2009). This dualistic approach has accelerated the ineffectiveness of the EIA in achieving its intended objectives.

In addition, weakness in the regulations, stringent procedures and methodologies for conducting impact assessment, lack of public participation, inadequate coordination mechanisms, and conflicts between project flexibility and project details have weakened the effective application of EIA to achieve sustainability (Morrison-Saunders & Fischer, 2006; Bety & Godfred, 2013). These challenges are coupled with inadequate national capacity and capability to manage the EIA process (Sosovele, 2011; Bety & Godfred, 2013). The national capacity referred to, includes the capacity required at all levels where EIA is performed, reviewed, discussed, implemented, and monitored. This comprises central and local governments, decentralised agencies, the private sector, NGOs, CBOs and a network of individuals (Bety & Godfred, 2013). Taking these challenges into consideration, the need developed for a more strategic approach such as SEA which integrates sustainability goals in the higher levels of decision-making.

3.2.2 Strategic Environmental Assessment (SEA)

Strategic environmental assessment emerged in the late 1980s to complement project-based EIA procedures which were not applicable at policy, programme and plan levels (PPP) (Abaza et al., 2004). It was realised that the implementation of such actions at the PPP level could have significant environmental consequences. As such, SEAs were adopted to integrate the sustainable development dimensions early into the decision-making process at the PPP level (Alshuwaikhat, 2004; DEAT, 2007). Over time, various moves were initiated to introduce a policy

and legal framework for use in SEA processes. These include amending existing EIA laws, policies, plans and programmes or introducing new ones, focusing on SEA (Abaza et al., 2004).

Unlike project EIA, SEA extended the process of assessment to higher levels of decision-making (Lobos & Partidario, 2010). In doing so, SEA recognised a need for more proactive and strategic approaches in the decision-making process. A SEA integrates various components such as physical, social, economic, political, and environment aspects in order to promote sustainability at the PPP level. It is believed that the SEA and other strategic tools such as National Strategies for Sustainable Development and National Developmental Plans have the potential to promote sustainable development at the higher level of decision-making (Weaver, 2003; Alshuwaikhat, 2004; Ness et al., 2006; DEAT, 2007). See figure 3 below illustrating SEA potential to influence sustainable development.

Figure 3: The potential for SEA to influence sustainable development (Sources: Tarr, 1999; Weaver, 2003).



As shown in figure 3 above the SEA process increases the capacity to influence decision priorities and promote sustainable development the higher up in the pyramid one goes. For this reason, it is argued that SEAs are much more likely to promote sustainable development than project level EIAs (Weaver, 2003), despite the fact that it is still being largely applied according to ideological assumption and practices similar to those used in EIA at the project level (Lobos & Partidario, 2010).

There is no global agreement on the definition of SEA; however, the most widely agreed interpretation provided by Sadler and Verheem (1996) states that: “SEA is a systematic process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure they are fully included and appropriately addressed at the earliest appropriate stage of decision-making on par with economic and social considerations” (UNECA, 2005b: 7). From this definition SEA therefore focuses on integrating environmental aspects into higher levels of decision-making (Ahmed et al., 2005). The difference between SEA and EIA is the fact that, while EIA is a reactive tool to the development proposal, SEA is a proactive tool in a way that informs the development proposal early on at the PPP stages (DEAT, 2007).

Since the emergence of SEA, it has been widely accepted and recognised at national and international levels. At the international level, Agenda 21, adopted during the 1992 UNCED, recognised the application of SEA as a proactive approach to integrate environmental considerations into the higher levels of decision-making (UNECA, 2005b). Moreover, the WSSD strongly indicated a new impetus and direction for sustainability appraisals and strategic assessments in the decision-making process. The Johannesburg Plan for Implementation of the WSSD promoted the integration of the components of sustainable development and stressed the importance of adopting a holistic and inter-sectoral approach to impact assessment (Abaza et al., 2004). Specifically, SEA is provided for in the SEA protocol to the Espoo Convention on Environmental Impact Assessment in a Trans-boundary context¹¹ as well as the European Union SEA directive (Ahmed et al., 2005). Since 2004 SEA has become a legal requirement in all member states in the European Union (Abaza et al., 2004).

A number of countries have enacted national SEA legislation which mostly fall under environmental impact assessment legislation and extends the use of EIA to policies, programs and plans (Ahmed et al., 2005). In developing countries such as Ethiopia and Kenya, the EIA legislation also addresses SEA. However, some countries without explicit SEA legislation use SEA extensively. In practice, most principles and procedures used in EIA are also applied in the SEA process (Ahmed et al., 2005; Weaver, 2003; Ness et al., 2006). In most of the countries, the SEA process placed emphasis on gathering information and conveying the information to decision-makers through reports and public consultations.

¹¹ *Espoo convention was adopted by UN in 1991 and it sets out the obligations of member states to assess the environmental impact of certain activities at an early stage of planning. It also lays down the general obligation of States to notify and consult each other on all major projects under consideration that are likely to have a significant adverse environmental impact across boundaries (UN, 1991).*

These involve key steps such as initial stakeholder consultations for scoping and screening; knowledge-based development through the use of relevant analytical tools; prioritisation of issues and analysis of alternative approaches, using stakeholder and expert input; creation of an action plan and management framework that includes the approach to further consultations; knowledge gaps, options assessment, and implementation; as well as development of an implementation and monitoring framework (Ahmed et al., 2005; World Bank, 2005).

However, it has been noted that because the SEA process is conducted at the level of policies, programmes and plans, the policy formulation process often informally extends over a much longer period of time unlike programmes and plans (Ahmed et al., 2005). In most cases, in developing countries this is caused by an inherent government mechanism of top-down policy formulation which is very different to that of the western countries, where policy formulation results from the demands of the general population (Weaver, 2003). In response, a study conducted by the World Bank (2005) stressed the adoption of a continuous approach in SEA which goes beyond formal policy formulation to the policy implementation process. The approach emphasises the importance of continuous improvement in the design of policies for environmentally sustainable and socially equitable growth. The approach formulated key institutional elements to be embedded in the SEA processes (Ahmed et al., 2005; World Bank, 2005). These include:

- Prioritisation of environmental issues in terms of their effect on economic development and poverty reduction, using both quantitative and qualitative techniques;
- Mechanisms that bring together different viewpoints during the policy formulation and implementation process, particularly the viewpoint of the most vulnerable groups, being those most affected by environmental degradation;
- Mechanisms that ensure social accountability and transparency;
- Mechanisms through which social learning can occur; and
- Mechanisms for monitoring and evaluation of the policy implementation (World Bank, 2005).

On the other hand, Bina (2007) emphasises the need to re-direct SEA to act as an evaluation tool in the decision-making process. This process goes beyond the current practices which focus on the results. In this regard, various authors have called for a change in focus in SEA, to move away from environmental impact evaluation and instead to focus on the decision-making process as the object of analysis and reflection (Lobos & Partidario, 2010; World Bank, 2005). As such, the administrative and institutional dimension of the planning process should significantly influence the purpose, method and the effectiveness of every SEA (Bina, 2008).

An SEA must not only adapt itself to its context but also affect the way decisions are made, contributing to long-term changes in values, worldviews, conducts and behaviours of actors and institutions (Lobos & Partidario, 2010; Alshuwaikhat, 2004). It must strengthen the institutional and government capacities that support PPP processes. It should underscore the learning and continuous improvement in the design and implementation of public policies (World Bank, 2005; Stoeglehner et al., 2009). For this reason, therefore, the objectives of assessment in SEA should move beyond PPP, with the purpose of including the capacities of the government's environmental institutions and organisations in the planning process.

Furthermore, SEA should recognise that planning processes are socially interactive processes, dealing with decisions relating to problems of high uncertainty and conflict in relation to content, causes, effect and solutions (Bina, 2007). This approach will further advance the potential of SEA to contribute to collaborative dialogues in planning processes. The dialogues facilitated by SEA can contribute to improving the quality of the decision-making processes, leading stakeholders to work together collaboratively to make decisions. From this point of view, this tool could be seen as an instrument with the capacity to promote dialogues among actors participating in decision-making processes. It can enable information sharing as well as convergence of multiple perspectives and wisdom (Bina, 2008; Lobos & Partidario, 2010).

Lobos and Partidario (2010) argue that the current SEA practices are based on the technical-scientific guidance model which assumes the existence of two dimensions in the decision-making process. These include a technical dimension (environmental) and a decision dimension (political). With the technical dimension model, the consultants have the responsibility to evaluate environmental matters in a meticulous and systematic way, while with the decision dimension model the politicians have to respond to that evaluation through their decisions. They further revealed that by focusing on this model, environmental assessment is regarded as a technical analysis of the possible environmental impacts and the establishment of measures of reporting, mitigation and monitoring. This is the dualistic approach on which the current practice of strategic-based SEA relied, which is not far from being a project-level EIA tool (Lobos & Partidario, 2010).

The adoption of the EIA model (which involves gathering environmental information for decision-making) to SEA application have created serious barriers to a clearer understanding and a smooth implementation of strategic-based SEA. Strategic environmental assessment as a conceptual and technical extension of the EIA tool limits the added value that SEA can bring to decision-making, leaving out its facilitating nature and reducing its influence in achieving sound decisions (Morrison-Saunders, & Fischer, 2006; Bina, 2007). It is a big challenge for SEA to overcome the technical paradigm that has dominated environmental assessment in recent decades, whereby

any impact assessment is about feeding environmental information into the decision-making process (Abaza et al., 2004; Lobos & Partidario, 2010).

Therefore, it can be argued that for SEA to contribute to sustainable development a paradigm shift of SEA as a tool for gathering environmental information, towards an integrated political approach is required (Lobos & Partidario, 2010). A SEA should be a tool capable of integrating sustainable development goals into the higher level of the decision-making process. This will require SEA to be a catalytic instrument capable of strengthening institutional capacity and capability for effective implementation. A SEA should be an instrument fostering a policy learning process by generating positive long-term cultural effects and visions within the institutions where it evolved (Lobos & Partidario, 2010).

In doing so, SEA should be integrated with local surroundings, traditions, customs, values and ethics in the particular context of nation, region, municipality or village (Fischer, 2002; Alshuwaikhat, 2004). This perspective conveys the need to come up with mechanisms for the development of appropriate methodologies for strategic-based SEA, and appropriate forms of carrying out effective assessment beyond PPP processes (Lobos & Partidario, 2010). Significantly, this achievement will facilitate the proper implementation of this tool and realise sound environmental management and sustainability in most of the countries.

3.2.3 Sustainability Assessment (SA)

Sustainability assessment is the third generation in the ‘family’ of impact assessment processes which extends both EIA and SEA to full assessment of sustainable development aspects (Pope, 2012). From the early 1990s, recognition of the need for an integrated impact assessment became predominant, especially in the context of policy integration (Berger, 2007). This was due to the fact that, despite the development of various impact assessment tools such as EIA and SEA with the aims of achieving sustainability, in most cases impact assessment processes focused on a specific policy sector or project (Berger, 2007; Hüge 2010). This was the context within which SA evolved to integrate sustainable development goals into decision-making processes by taking into account the process of policy integration (Hüge, 2010). See the differences between EIA, SEA and SA in table 1 below.

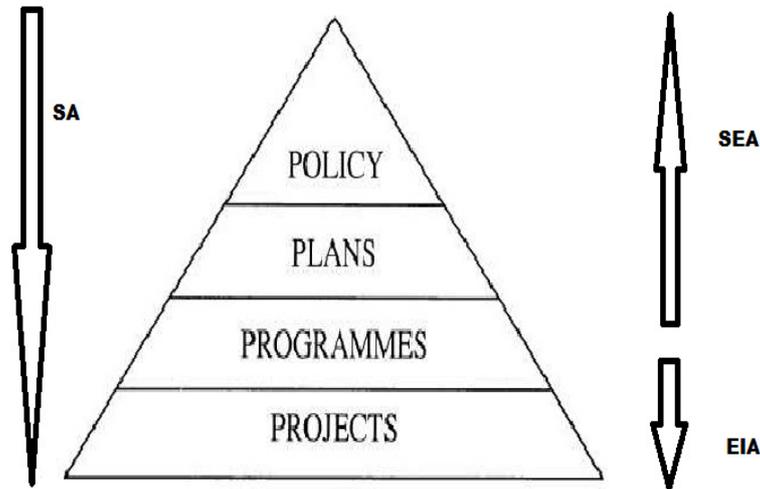
There is no unified agreed definition of what SA mean. However, Devuyst et al (2001: 1) define SA to mean “a tool that can help decision-makers to decide what actions they should take and should not take in an attempt to make society more sustainable”. On the other hand, Pope (2012) defines SA as embracing a range of processes that all have as their broad aim the integration of sustainability concepts into decision-making, processes that may carry the labels of sustainability appraisal (in the United Kingdom), sustainability impact assessment (in the European Union), and integrated assessment, amongst others. Similarly, SA can also be defined as “a formal process of

identifying, predicting and evaluating the potential impacts of a wide range of relevant initiatives and their alternatives on the sustainable development of society” (Huge, 2010: 2).

	EIA	SEA	SA
Subject of assessment	Projects with potentially significant environmental impacts.	Plans and programmes (sometimes policies) with potentially significant environmental impacts.	Strategies, policies, plans, programmes and projects with potentially significant SD impacts.
Frame of reference	Environmental policy and legislation.	Environmental policy and legislation.	NSSDs and/or SD policy frameworks.
Scope of assessment	Environmental aspects.	Environmental aspects, sometimes also including socio-economic aspects.	SD issues (economic, social and environmental), policy integration as focus.
Implementation by governments	Established in a majority of national and regional governments.	Established in an increasing number of national and regional governments.	Introduced at the EU level and in few European countries, mostly on an experimental basis

Table 1: Difference between EIA, SEA and SA (Sources: Berger, 2007; Dalal-Clayton & Sadler, 2004)

Sustainability assessment in general is a process that aims to integrate all the different aspects of sustainability into decision-making by identifying sustainable impacts as well as fostering sustainability objectives to be achieved over a long period of time. It reflects a desire to achieve defined sustainability objectives, by assessing the extent to which the implementation of developmental policies contributes to those objectives when compared with baseline conditions (Pope et al., 2004). As such, SA requires an assessment of the future impacts of decisions on a wide range of societal aspects and dimensions, and thus emphasises the need for well-informed decisions in order to avoid mistakes and foster truly sustainable development (Verheem, 2002; Huge, 2010). Figure 4 below illustrate the SA process.

Figure 4: Sustainability assessment process (Source: Pope, 2012)

However, Gibson (2006) argues that the minimisation of negative impacts is not enough; therefore, SA must encourage positive steps towards greater community and ecological sustainability as well as towards a future that is more viable, pleasant and secure. In doing so, SA must deliver positive socio-economic, political and physical outcomes; and contribute to healthy and resilient eco-systems (Pope, 2012). In addition, SA must reverse the trends of prevailing practices which are not sustainable and make sure that every policy, plan or project makes a positive contribution to sustainable development. It must integrate all the key intertwined factors of sustainability, minimise trade-offs, and respect the context as well as broadly engaging stakeholders in a transparent and accountable manner (Gibson, 2013).

Taking that into consideration, SA should be supported by good governance principles, which will in turn lead to more participatory exercises and transparent decision-making (Huge, 2010). The good governance aspect should form an integral part of SA by realising meaningful stakeholder involvement, interaction between lay people and experts, agreement about policy problems, and investigation of alternative solutions and their effects (EEAC, 2006). The outcome contribution of SA can be assessed against the goal of socio-economic, physical, and environmental objectives, while the process contribution of SA can be assessed in terms of the principles of good governance. In this context, therefore, SA can be viewed as an integration instrument for policies and sustainability dimensions (Huge, 2010; Pope et al., 2004; EEAC, 2006; Ecologic et al., 2007; Berger, 2007).

The literature reveals that sustainability assessment should be more than the process of sectoral, economic, socio-political, physical and environmental integration (Pope, 2003). Sustainability assessment demands addressing as much as possible the full suite of requirements for sustainability, interconnections, feedback loops and uncertainties that characterise complex

socio-ecological systems on multiple scales for improved decision-making processes (Gibson et al., 2005). Taking that into consideration, Dalal-Clayton and Sadler (2004) argue that the SA process should answer a number of questions regarding institutional and methodological aspects. In terms of institutional issues, the establishment of appropriate provisions (in the legislation) and arrangements for SA within policy-making and planning processes is of paramount importance. By doing so, SAs should be made a fundamental element of the decision-making process for proper integration of sustainability goals (Pope, 2003).

On the other hand, Buselich (2002) argues that the most critical issue of SA is how sustainability information is analysed, integrated and presented to decision-makers. If SA intends to integrate different policy issues and sustainability dimensions into one assessment process, procedural and organisational provisions such as a responsible ministry and institution should be put in place. Moreover, the question of the kind of stakeholders to be consulted in the process of the assessment should be pursued. To make the process more efficient, taking note of interdisciplinary approaches, system thinking, and traditional knowledge are of paramount importance (Pope, 2013). In reality, the single disciplinary approach will not suffice in the application of SA processes with its focus on sustainability policy integration (Bond et al., 2001).

Sustainability assessment is widely used in developed countries such as the UK, EU, Canada, and Australia (Pope, 2012). In developing countries, the SA tool is not as widely applied in environmental assessing such as the dominant EIA and SEA tools. However, it is argued that the integrated impact assessment and planning approach can fruitfully be used in developing countries in decision-making processes (Bond et al., 2001; Abaza, 2003). This is due to the fact that developing countries and countries with economies in transition, found it challenging to integrate the component of sustainable development while at the same time alleviating poverty and enhancing economic growth. Integrated impact assessment is the convincing approach which can provide a systematic, inter-disciplinary method to inform policy decision-making for sustainable development (Abaza, 2003).

Integrated impact assessment is a method of assessing all five components of sustainability by combining impact assessment tools in an integrated manner (Pope et al., 2004). It can be applied at a number of stages in the policy-making process from the level of policies, programmes and plans to the level of projects, both in *ex-ante* and *ex-post* assessments (Pope et al., 2004; Gibson et al., 2005; Devuyt, 2000). '*Ex-post* assessments' is a retroactive process for assessing the environmental, socio-economic, political and physical impacts of a given policy. It can also identify those impacts that should be either mitigated or fortified through the enactment of alternative policies. The benefit of '*ex-post* assessments' is that they can often draw on large data sets and simplify the assessment process (Abaza, 2003; Ness et al., 2006).

On the other hand, 'ex-ante assessments' are conducted prior to policy formulation. They provide policy-makers with comprehensive information that will allow them to come up with a comprehensive and unified set of policies. The assessments help to develop approaches that respond systematically to a range of highly interdependent factors (Gibson et al. 2005; Devuyt, 2000). They can help to identify potential negative impacts before they occur, rather than proposing response measures to mitigate the impacts (Abaza et al., 2004). Such assessments can also be used to help clarify policy goals, identify integrated policy proposals, build support for those policies, and prepare the ground for future assessments (Abaza, 2003).

Moreover, policy-makers can utilise the integrated approach and respond effectively to new challenges and develop more integrated policies (Abaza, 2003). Integrated impact assessment moves beyond responding to the effects of a change in economic policy with environmental or socio-political measures. It allows policy-makers to proactively design socio-economic, political, physical, environmental and other related policies as part of a fully integrated approach as well as a policy learning process (Abaza, 2003).

Integrated assessment extends beyond identifying mitigating negative impacts, to assisting policy-makers to design coherent policies, programmes, plans or project proposals that integrate sustainability dimensions into decision-making (Bond et al., 2001; Abaza, 2003; Pope et al., 2004; Gibson et al. 2005). It can help explore the links between a particular policy, the economy, society and the environment and indicate clearly how they should be evaluated for sustainable development. It can increase transparency and encourage good governance by fostering accountability and stakeholders' participation (Bond et al., 2001; Abaza, 2003). However, Abaza (2003) emphasises that this approach should take into account the context of countries, including their development priorities, stage of development, national capacities of institutions and social, cultural, ecological and economic situations.

3.3 Other supportive tools

The above reviewed tools, by themselves, cannot facilitate the achievement of sustainable development. Other strategic and forward planning tools are required to facilitate the process of integration of sustainable development dimensions and planning at all levels. This includes the use of NSSD (for policy integration at the national level), Local Agenda 21 plans (to enhance planning and decision-making at the local level), sustainable development indicators and criteria, as well as State of Environment Reports (SoER).

3.3.1 National Strategies for Sustainable Development (NSSDs)

Together with impact assessment tools, NSSDs are considered as key instrument for policy integration as well as mainstreaming of sustainable development dimensions into policy-making actions (Berger, 2007; Pisano et al., 2013). Agenda 21, which set up the action plan from the Rio

1992 conference, obliged governments not only to adopt impact assessment legislation but also NSSDs. Most countries have adopted NSSDs, while others have linked the process with promulgation of Poverty Reduction Strategy Papers (PRSPs) (Death, 2014). PRSPs are required by the World Bank and International Monetary Fund before countries can be considered for debt relief.

National Strategies for Sustainable Development ensure socially, politically and technologically responsible economic growth while protecting the resource base and the environment for the benefit of current and future generation (Pisano et al., 2013). These strategy documents are also regarded as a form of good governance which is designed at least in part to improve the legitimacy of policy-making from an environmental point of view (Death, 2014). They aim at mobilising a society's efforts to achieve sustainable development by providing a forum for societal articulation of a vision of a sustainable future. They provide a framework for negotiation, mediation and consensus, as well as capacity building in order to achieve sustainable development (Pisano et al., 2013).

It is a strategic document aimed at achieving better policy coordination and integration in several dimensions. This includes, horizontally (cross policy sector), vertically (across political-administrative levels as well as territorially), temporally (across time) and across societal sectors (public, private, academia, civil society). Bass et al (1995) emphasised that the NSSDs must be developed through the widest possible participation and build upon the harmonised sectoral policies and plans that are operating in the country. The NSSDs can be grounded on a comprehensive impact assessment process of present circumstances and initiatives (Berger, 2007; Pisano et al., 2013).

It is encouraging to note that NSSDs together with impact assessment tools improve the knowledge process related to decision-making so that decisions are made on the basis of sound evidence and an integrated understanding of the effects of the decision and the trade-offs involved. Specifically, they are characterised by increasing integration of socio-economic, physical, and environmental goals as well as governance issues such multi-stakeholder participation, effective partnership, transparency and accountability (UNDESA, 2004; Pisano et al., 2013).

The NSSDs provide a sense of country ownership, shared vision with a clear time-frame on which stakeholders can agree as well as increased commitment and continuous improvement. The strategies focus on priorities, outcomes and coherent means of implementation with effective capacity development and an enabling environment, building on existing knowledge and process. Specifically, NSSDs should link the budget and investment process with continuous monitoring and evaluation (Pisano et al., 2013; Meadowcroft, 2007).

The NSSDs should explicitly link with impact assessment legislation and other planning documents operating in the country. This aspect adds value to the impact assessment and planning process in terms of timing and channelling resources and funds, as well as avoiding duplication of efforts. The use of NSSDs, impact assessment legislation, and other planning policies can help the countries to implement different initiatives concerning sustainable development at all levels of government (Pisano et al., 2013).

3.3.2 Local Agenda 21 plans

Local Agenda 21 (LA21) planning was adopted during the Rio 1992 conference. It is a programme implemented by municipalities that plan for socially, economically and environmentally sustainable development. It must be implemented at local authority level. This is due to the fact that local authorities construct, operate and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and sub-national environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilising and responding to the public in order to promote sustainable development (UNCED, 1992).

In adopting LA21 plans, local authorities were obliged to enter into a dialogue with their citizens, local organisations, private enterprises and other key stakeholders. Through consultation and consensus-building, local authorities would learn from citizens and from local, civic, community, business and industrial organisations and acquire the information needed for formulating the best strategies. The process of consultation would increase household awareness of sustainable development issues. Local authority programmes, policies, laws and regulations to achieve Agenda 21 objectives would be assessed and modified, based on local programmes adopted. Strategies could also be used in supporting proposals for local, national, regional and international funding (UNCED, 1992).

Therefore, LA21 plans could be seen as a strategic and forward planning tool which can integrate and assess environmental impacts at the local level. The LA21 plans (as a participatory, multi-disciplinary and integrated process with a focus on sustainability) should be incorporated into present impact assessment legislation and linked to existing planning documents such as Integrated Development Plans (IDPs), National Environmental Action Plans (NEAPs), State of Environmental Reports (SoER), National Development Plans, Spatial Development Frameworks (SDFs), as well as Environmental Management Plans (EMPs) (Coetzee, 2002). The LA21 plans can promote the importance of integrated environmental and development decision-making and the use of impact assessment tools and other policy instruments at the local level for the sake of promoting sustainable development.

3.3.3 Sustainability indicators and criteria

Sustainability indicators and criteria can be integrated into the impact assessment system and provide qualitative output during the assessment process (Abaza, 1996). Sustainability indicators and criteria have the ability to enhance understanding of complex systems and integration between the main pillars of sustainability and assist environmental decision-making to become more rational (Summers, 2011). Indicators do not explain problems, but do expose them. They show trends in examples but do not tell what has to be done. Indicators are not answers but a means for a society to reflect, experiment, learn, and improve. For instance, they can provide the distributed intelligence needed to ensure that cities can become self-organising learning systems that can be creative and sustainable (Innes & Booher, 2000).

In relation to policy-making, sustainability indicators are used to supply information on socio-economic and environmental problems, in order to enable policy-makers to value their seriousness. They are also used to support policy development and priority setting, by identifying key factors that lead to pressure on the environment; as well as monitor the effects of policy responses. In addition, sustainability indicators may be used as a powerful tool to raise public awareness on environmental issues. Providing information on driving forces, impacts and policy responses, is a common strategy to strengthen public support for policy measures (Smeets & Weterings, 1999).

Abaza (2003) points out that there are many sets of indicators produced by international agencies that provide useful bases for creating tailor-made sets. However, caution should be exercised when using existing indicators since they were constructed for specific purposes over a particular period of time. Efforts to develop indicators and incorporate them into impact assessment legislation can be undertaken by NGOs as well as by national and local bodies (Summers, 2011; Abaza, 2003).

Indicators are area specific and each region, city or municipality should develop their own with communities bringing together stakeholders, agency players, experts and citizens to establish a process for generating a key limited set of relevant indicators. Difficult and controversial issues must be tackled in establishing the indicators as this ensures the opportunity for greatest learning and change. The indicator system must ultimately help the respective sector become more adaptive and sustainable. The point of indicators in a complex world is to help make adjustments and to adapt actions to rapid change, to fine tune policies to fit local conditions, to identify opportunities, and to become creative about new opportunities. The adopted indicators must be incorporated into present planning initiatives such as town planning schemes, NSSDs and impact assessment legislation (Innes & Booher, 2000).

3.3.4 State of Environment Reports (SoERs)

The current global and national environmental challenges have necessitated an integrated environmental assessment and reporting that is cross sectoral, participatory and consultative in nature. The 1992 Earth Summit prompted countries to adopt SoERs as a tool for reporting and addressing the national environmental and sustainable development challenges through an informed perspective. The need for such comprehensive integrated environmental assessment and reporting was necessary in order to provide a comprehensive and informed approach to address the environmental challenges for the sake of achieving sustainability (UNCED, 1992; URT, 2006; Bob et al., 2006).

Most of the countries incorporate SoERs as a mandatory requirement by law and obliged the government to report the state of the environment after a particular period of time. The SoER provides useful information and data which can be used to develop and monitor sustainable development strategies, programmes and projects that will lead to the achievement of the sustainability goals and poverty eradication initiatives. The SoER also provides an environmental trend in each of the key sectors and areas taking into consideration the widest possible range of social, economic, political, physical as well as cultural drivers and root causes –demographics, production and consumption, poverty , trade, globalisation, financing, and others (URT, 2006; Bob et al., 2006).

Thus, for consistence and clarity, the SoER should be prepared in such a way that it provides access to environmental information that has been integrated, analysed, and interpreted for government and other stakeholders to enhance decision-making at all levels. It must provide information for environmental monitoring and additional assessments in areas of priority; increase public awareness and understanding of environmental issues and challenges as they relate to sustainable development. The interconnections between environment, community actions and government policies and strategies are necessary in order to engage in different actions that can improve the quality of life for everyone. The SoER should also integrate the environmental indicators (Smeets & Weterings, 1999), as well as key planning strategies and policies such as Integrated Development Plans, Spatial Development Frameworks and Environmental Plans operating in the country (URT, 2006; Bob et al., 2006).

3.4 Procedures and methodologies for the impact assessment

For impact assessment tools to be effective in facilitating the integration of sustainability dimensions, simple procedures and methodologies need to be embedded in the impact assessment legislation. However, there are no agreed procedures and methodologies for conducting impact assessment therefore the specific context of the nation, region, project locality or nature of the policy is vital (Abaza, 2003). Most of the impact assessment legislation incorporates procedures such as screening, scoping, impact assessment, environmental and

social mitigation plans, reviewing, public participation, decision-making and implementation, monitoring and evaluation. Most of these procedures are used during EIA and SEA studies (Weaver, 2003; Ness et al., 2006).

Three stages are applied in the integrated impact assessment process. These include: a preliminary assessment of linkages and impacts is undertaken using available qualitative information; second, the causal relationships of the impacts are modelled, using micro- and macroeconomic models and other tools; and third, valuations of the impacts are performed (Abaza, 2003). For instance, in the policy reform process the integrated assessment shall consider the full range of impacts on the environment, economy and society –both direct and indirect. As such, mixed methodologies can be used depending on the type of policy being reformed, the impacts being measured as well as the availability and type of data being analysed (Abaza, 1996; Abaza, 2003).

Moreover, macro-economic and micro-economic methods are used to model the causal relationships of the impacts. Under the macro-economic method, the first step is to define the scope of the system to be studied. This will help to determine the boundary of the analysis in a certain sector or ecosystem. For instance, if the analysis is to be restricted in one sector or ecosystem, then a *partial equilibrium*¹² model will be used. But if the aim is to study the impact of a policy on one or more countries, or the world as a whole, then a *general equilibrium*¹³ model can be used (Abaza, 2003). In addition, if the impacts are localised, then a national model may be sufficient, but where there are significant cross-country effects, a regional analysis may be more appropriate, such as SEA (Abaza, 2003).

On the other hand, with the micro-economic method, several models will be used to analyse the impacts for sector-based policies, programmes, plans and projects. Under this method partial equilibrium models, EIA, cost benefit analysis (CBA), risk assessment procedures, multi-criteria analysis, life-cycle analysis and the sustainable livelihood approach¹⁴ for poverty assessment can be used (Kirkpatrick et al., 1999; Abaza, 2003; Ness et al., 2006).

¹²“Partial equilibrium models calculate the effects of policy changes on one good (or sector or ecosystem), while ignoring the effects on other goods, on the assumption that the good being examined is too small to have any significant impact on the rest of the economy” (Abaza, 2003: 6).

¹³General equilibrium models (GE) generally define a stable economic situation, where demand and supply are equalised in all sectors. GE models focus on the interconnectedness of markets (Abaza, 2003).

¹⁴“Sustainable livelihood approach assesses interventions on the basis of their impact on poverty” (Abaza, 2003: 7).

3.4.1 Timing for assessment process

For the effective implementation of impact assessment methods and procedures, the regulations should provide a framework for timing as well as consultation and public participation. Timing is very important to ensure carefully planning of the assessment to meet the intended objectives on time and in a cost-effective way. However, the assessment should not be viewed as an end process. As such, the timing scale should incorporate the mechanisms for monitoring and evaluation to ensure that policies, programmes or projects meet their intended goals (Kirkpatrick et al., 1999; Abaza, 2003; EEAC, 2006).

3.4.2 Stakeholder and public participation

Stakeholder or public participation involves identification of people and institutions with an interest in the outcome of the project whether positively or negatively and who participate in the decisions, planning and management of the proposed development. Stakeholders share information and knowledge, and may contribute to the project activities. Most of the literature and impact assessment reports often synonymously use terms such as ‘stakeholder involvement’, ‘consultation’ and ‘participation’ in the assessment process (Hughes, 1998; NEMC, 2014).

There is a need to understand the distinctions between these terms to avoid confusion regarding the current EIA literature and practice. In most cases, these terms are used interchangeably which leads to different interpretations between user groups. In fact, ‘*stakeholder involvement*’ incorporates the full range of interaction between stakeholders (governmental authorities, NGOs, business/private sector, service providers, civil societies, CBOs, the public etc.) in the decision-making process. The term includes both ‘*consultation*’ and ‘*participation*’ (Hughes, 1998).

On the other hand, ‘*Participation*’ encompasses a process by which stakeholders influence decisions which affect them. This term is distinguished from ‘*consultation*’ by the degree to which stakeholders are allowed to influence, share in or control the decision-making process. ‘*Consultation*’ infers a process with little share in or control over the process for the people who are consulted (Hughes, 1998).

Unlike the interactive empowering process, the terms ‘consultation’ and ‘participation’ are commonly used to describe information collection from the stakeholders concerning the policy or project proposals (Hughes, 1998). As such, the process is accompanied by two way consultation which involves the exchange of information between the government officials or project proponent and stakeholders. This process provides the opportunity for the stakeholders to air their views on issues related to the proposals. In some cases, perhaps the views may not be taken into account. Sadly, this process remains the norm in the current impact assessment and decision-making methods (Abaza, 1996; Hughes, 1998; Abaza, 2003).

In most cases, meaningful stakeholders' participation of different actors and the public are overlooked. In this category parties discuss and reach a decision by means of an agreed process –for instance, 'consensus building' or 'mediation'. This process takes the form of interactive or collaborative participation whereby stakeholders and the public identify their own needs, and the assessment team assists in finding solutions to potentially negative impacts and improving positive effects. The advantage of this process is that new institutions may develop at the local level, which might then play a role in the management of their own project and its impacts for long-term sustainability. It also contributes to the emergence of new insights and information that are not available to an assessment team working in isolation or in a conventional process of consultation (Hughes, 1998; Abaza, 2003).

Moreover, meaningful interactive participation provides opportunity for cooperation and coordination within and between government and other actors. It helps to harness traditional knowledge, improve information flow between actors, and contributes to understanding, empowerment and ownership of a project. It improves the implementation process for example quality of mitigation and monitoring plans, as well as enhancing transparency, capacity building, and good governance principles (Abaza,2003; Cashmore et al., 2004; Huge, 2010; Betey & Godfred, 2013).

3.5 Impact assessment in other countries

Impact assessment laws and policies have been used as the main engine to promote sustainable development in most of the countries for many years. The use of impact assessment legislation differs from one country to another, depending on the context. Despite the existence of the variations in applicability, it is widely accepted that the adoption of impact assessment legislation is necessary if a country wants to achieve sustainability (Cashmore et al., 2004; Pallangyo, 2007; Sosovele, 2011; UNEP, 2012).

3.5.1 Impact assessment in the European Union and the United Kingdom

The European Union (EU) and the United Kingdom (UK) are regarded as leading examples in the implementation of different initiatives for sustainable development (Pisano et al., 2013). Impact assessment policies and laws (including the use of different directives and guidelines) are used by the EU and the UK to promote sustainable development. These include the use of Sustainability Assessments (SAs), integrated assessments, Environmental Policy Integration (EPI), and National Strategies for Sustainable Development (NSSDs) for integrating policies and sustainability dimensions into decision-making processes (Pisano et al., 2013).

3.5.2 Promoting sustainability through the use of the Sustainability Assessment (SA) legislation

In the EU and the UK it is noted that SA is widely applied through the promulgation of different directives and policies to promote sustainability. In the UK, the SA process is commonly known as Sustainability Appraisal and as Sustainability Impact Assessment (SIA) in the EU (Pope, 2012). In the EU, the SA tool started being implemented more than three decades ago. It is the key tool for integrating sustainability dimensions at the higher level of decision-making. It is also used as a tool for policy integration in all policy areas including the major trade organisation agreements for the EU (Pope et al., 2004; Ecologic et al., 2007; Berger, 2007).

Sustainability appraisal¹⁵ in the UK was developed from the EU concept of integrated impact assessment and policy integration (Bond & Morrison-Saunders, 2009). The UK Planning and Compulsory Purchase Act of 2004 imposed a legal requirement for local authorities to conduct sustainability appraisal of development plans (Regional Spatial Strategies and Local Development Frameworks) (Pope, 2012).

Sustainability appraisal processes complies with the EU Strategic Environmental Assessment Directive which requires plans and programmes to undergo SEA. To avoid duplication, the government adopted a guidance document indicating how to conduct sustainability appraisal while at the same time meeting the obligations of the SEA directive (Bond & Morrison-Saunders, 2009). In this approach, sustainability objectives are established early in the assessment process and are normally conducted in parallel with plan development (Pope, 2012).

The study conducted by the Royal Town Planning Institute in 2008 revealed that for the sustainability appraisal to be effective in integrating sustainability dimensions, it must take into account the following through the planning process. It must deliver sustainable outcomes; skills and training; an evidence base; effective consultation; assess significance; integrate with other assessment procedures; and effectively use the SA in decision-making (Bond & Morrison-Saunders 2009).

Based on these findings, the authors suggested that the inherent flexibility of sustainability appraisal facilitates outcomes that often do not adhere to the goals enshrined in most definitions of sustainable development. Therefore, “practitioners must carefully and transparently review the frameworks applied during sustainability appraisal to ensure that outcomes will meet

¹⁵ *Sustainability appraisal is a specific procedure implemented in England, which has similar elements to many other forms of sustainability assessment practice elsewhere (Bond & Morrison-Saunders, 2009).*

sustainability goals, rather than focusing on a discourse that emphasises one or more goals at the expense of the other(s)” (Bond & Morrison-Saunders 2009: 327).

It is worth noting that, since the adoption of sustainability appraisal in UK, several hundred assessments have been done up to July 2005 (Bond & Morrison-Saunders 2009). Among the projects conducted by using this approach was the Walker Riverside Area Action Plan for Newcastle City Council in England. Despite the existing challenges in applying the SA tool, most European countries have successfully applied it and integrate sustainability dimensions into the higher level of decision-making.

3.5.3 Promoting sustainability through the use of integrated impact assessment

Sustainability assessment is also applied in form of integrated impact assessment in the EU and the UK to promote sustainability (Bond et al., 2001; Abaza, 2003). In the UK, integrated assessment was conducted to assess the Acidic Water Problem (AWP) in Wales. Large areas in upland Wales have become acidified due to atmospheric deposition, with consequential adverse effects on soil, water quality and biota assessed. In Asia, the approach was adopted in many major development schemes, including the Area-Based Growth with Equity Programme (ABGEP) in Sri Lanka. The programme was intended to integrate the activities of government agencies, NGOs and the private sector, over a five year period to boost regional development in Sri Lanka (Bond et al., 2001).

In the EU, the integrated impact assessment was evolved together with EU’s Strategy for Sustainable Development. This approach integrates all the pillars of sustainability into one assessment procedure for decision-making beyond policies, programmes and plans. For instance, some of the EU member countries such as Belgium, Finland, and Switzerland applied this tool in the process of formulating their National Strategies for Sustainable Development (NSSDs) (Berger, 2007, Pisano et al., 2013).

In recent times, it has been reported that around 180 integrated impact assessments have been conducted and published. These range in depth, with the biggest examples often being in the environmental arena. A good example is the Thematic Strategy on Air Pollution, which was accompanied by an impact assessment that used state-of-the-art modelling of economy-environment interlinks, built upon three years of analysis costing several million Euros. It was peer-reviewed and contained extensively quantified and monetised policy effects (Ecologic et al., 2007).

3.5.4 Promoting sustainability through the use of NSSDs and Environmental Policy Integration (EPI)

Together with the integrated impact assessment tool, NSSDs are considered to be key instruments for the integration of sustainability goals into policy-making actions across the Europe. Article 11 of the treaty establishing the EU provides for the principle of integration of sustainability dimensions. It states that environmental protection requirements must be integrated into the definition and implementation of the EU policies and activities, in particular with a view to promoting sustainable development. Among the instruments used to facilitate such integration are impact assessment tools, NSSDs, and Environmental Policy Integration (EPI) (ClientEarth, 2011).

At the national level, most of the European countries have formulated their own NSSDs. These include the UK (1994), Switzerland (1997) and Finland (1998) (Pisano et al., 2013). The process of adopting these strategies started after the 1992 Rio Summit and was improved in 2000 and 2001, shortly before the 2002 World Summit for Sustainable Development (WSSD). The momentum for adopting NSSDs increased tremendously after the Rio+20 Conference in 2012. Currently, 23 countries out of 26 have adopted NSSDs as a single policy strategy document (UNDESA, 2004). As noted in the previous section, NSSDs are key instruments to promote sustainable development by setting up long-term goals of sustainability at different levels of decision-making.

Moreover, Environmental Policy Integration (EPI) is a key defining feature of sustainable development and is widely used by European countries to achieve better policy coordination and integration at different levels of decision-making. This concept was developed to ensure that environmental problems are mainstreamed in non-environmental policy areas. The Amsterdam Treaty of 1997 incorporated the EPI principle under article 6 in the Consolidated Version of the Treaty Establishing the European Community, and gave a legal basis for EPI in the European Union (Lafferty & Hovden, 2003; Lehtonen, 2007; Persson, 2004).

There is no agreed definition of what EPI means. The principle takes on different meanings in different policy-documents and academic texts. Lafferty and Hovden (2003: 9) define the concept of EPI to mean “the incorporation of environmental objectives into all stages of policy-making in non-environmental policy sectors, with a specific recognition of this goal as a guiding principle for the planning and execution of policy”. They go further and say that EPI should be “accompanied by an attempt to aggregate presumed environmental consequences into an overall evaluation of policy, and a commitment to minimise contradictions between environmental and sectoral policies by giving principled priority to the former over the latter” (Lafferty & Hovden, 2003: 9).

The overriding goal of EPI is, to avoid situations where environmental issues become subordinate to other developmental agendas. Also, as far as sustainable development is concerned, EPI aims to ensure that the long-term carrying capacity of nature becomes a principal or overarching societal objective. It takes the form of vertical and horizontal integration to implement environmental objectives (Lafferty & Hovden, 2003; Lehtonen, 2007). The use of NSSDs, EPI, as well as impact assessment legislation makes the European countries the leading examples in the implementation of different initiatives for sustainable development (Pisano et al., 2013).

3.5.5 Impact assessment in South Africa

In most African countries, impact assessment legislation was not clearly understood and accepted as an instrument to facilitate sustainable development. Governments and project proponents resisted adopting impact assessment tools and argued that they were anti-development because laws and policies supporting them, dictated that socio-economic developments causing negative impacts should be discontinued (Achieng Ogola, 2007).

Moreover, impact assessment legislation was considered just another bureaucratic stumbling block in the path of development. “It was conceived as a sinister means by which industrialised nations intend to keep developing countries from breaking the vicious cycle of poverty” (Achieng Ogola, 2007: 2). Also, experts conducting impact assessments in developing countries were foreigners, who were viewed as agents of new colonialism (Weaver, 2003; Achieng Ogola, 2007: 2). As a result, for most of the developmental projects, EIA were conducted according to donor’s requirements –albeit without impact assessment legislation and institutional setups being in place (Katima, 2003; Sosovele, 2011).

Nonetheless, in recent years the need for impact assessment legislation has become increasingly important and is now a statutory requirement in many African countries. This positive development has been influenced by international cooperation and major events such as UN conferences in which African countries participated. The context of impact assessment legislation adopted in Africa differs from country to country due to socio-economic, political and ecological factors (Wood, 2003).

In South Africa, the country’s experience of impact assessment legislation dates back to the 1970s when the less-structured British-style EIA was adopted for some large scale and often unique or controversial projects. New approaches in impact assessment were required. The term ‘Integrated Environmental Management’ (IEM) was adopted in the early 1980s as an approach that sought to integrate impact assessment tools and sustainable development aspects into all stages of decision-making and implementation (DEAT, 2004; Murombo, 2008).

Following the democratic election conducted in 1994 and the enactment of the Constitution of the Republic of South Africa in 1996 different reforms were instituted. These included the

promulgation of the National Environmental Management Act (NEMA) of 1998 (Act No. 107 of 1998). NEMA together with subsequent EIA regulations and their amendments, as well as the SEA guidelines of 2000 and 2007 outline procedures for impact assessment and sustainability in South Africa (Nugent, 2009; Summers, 2011; Betey & Godfred, 2013).

Importantly, impact assessment in South Africa is developed in line with the formulation of sustainable development strategies aimed at integrating sustainability dimensions at all levels of decision-making. In 2008 the government of South Africa adopted a National Framework for Sustainable Development (NFSD). The framework aimed to articulate South Africa's national vision for sustainable development and indicated strategic interventions to re-orientate the country's development path in a more sustainable way. The framework provided the basis for a long-term process of integrating sustainability as a key component of the development concerns and showed the government's commitment to the principles agreed at international summits and conferences (DEAT, 2008).

The NFSD was followed by a NSSD, which has been formulated as an action plan to identify and prioritise specific government interventions. This action plan is used as a roadmap to ensure the effective implantation of the NFSD. The NSSD and action plan was approved in November 2011. According to the government, this strategy is a proactive one that honours sustainable development as a long-term vow, and which integrates sustainability dimensions with the vision and values of the country (DEAT, 2011). South Africa is used as a comparative case in the African context due to the fact that the Betey and Godfred (2013) study found this country to be the leading example in Africa in the use of impact assessment legislation and NSSDs to address various actions for sustainable development.

3.6 Conclusion

The understanding of the concept of sustainable development marked the foundation for the review of the evolution of impact assessment tools (such as EIA, SEA and SA). These three tools are regarded as sufficient instruments to facilitate sound decision-making for sustainable development. It is noted that NSSDs, Local Agenda 21 plans, indicators and SoERs are pro-active tools which can facilitate the process of policy integration (linking with key planning strategies and policies such as Integrated Development Plans, Spatial Development Frameworks and Environmental Plans) and mainstream sustainability goals at the higher level of decision-making. For these instruments to be effective in facilitating the integration of sustainability dimensions, simple procedures and methodologies need to be embedded in the impact assessment legislation. The procedures and methods should take into account the issue of timing and the need for engaging with different stakeholders in the assessment process.

The best practices from the EU, UK and South Africa on how they promote sustainable development through impact assessment legislation have also been covered. Most of these countries are promoting sustainable development through the established impact assessment legislation which provides for integrated approaches as well as the use of NSSDs and Environmental Policy Integration (EPI) as tools for achieving better policy coordination and integration at different levels of decision-making. Together with chapter two, this theoretical outline builds a framework on the analysis of the requirements of impact assessment legislation to contribute to sustainable development. The main themes which discussed in this theoretical framework were used to assess the Tanzanian legislation, as well as the examples of EIAs and SEAs cases, and examined the extent to which they contribute to sustainable development. The research methodology chapter is next and describes the methods which are used to explore the Tanzanian case study as well as data analysis and presentation of findings.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

The previous chapters presented the theoretical framework of this study and unpacked the meaning of the concept of sustainable development as well as different ways of integrating sustainability dimensions and key aspects of sustainability into decision-making. The decision-making tools for sustainable development, as well as how other countries are promoting sustainability through the use of impact assessment legislation have also been discussed. This chapter aims to introduce the research methodologies and methods adopted in this study. The research design is presented to show the logic of how the entire study was conducted. The case study approach was used, with Tanzania and its context as a case study, focussing on describing impact assessment policies and laws as well as examples of Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) which were conducted in the country. To complement the case study approach, different tools for data collection were employed.

4.2 Research design

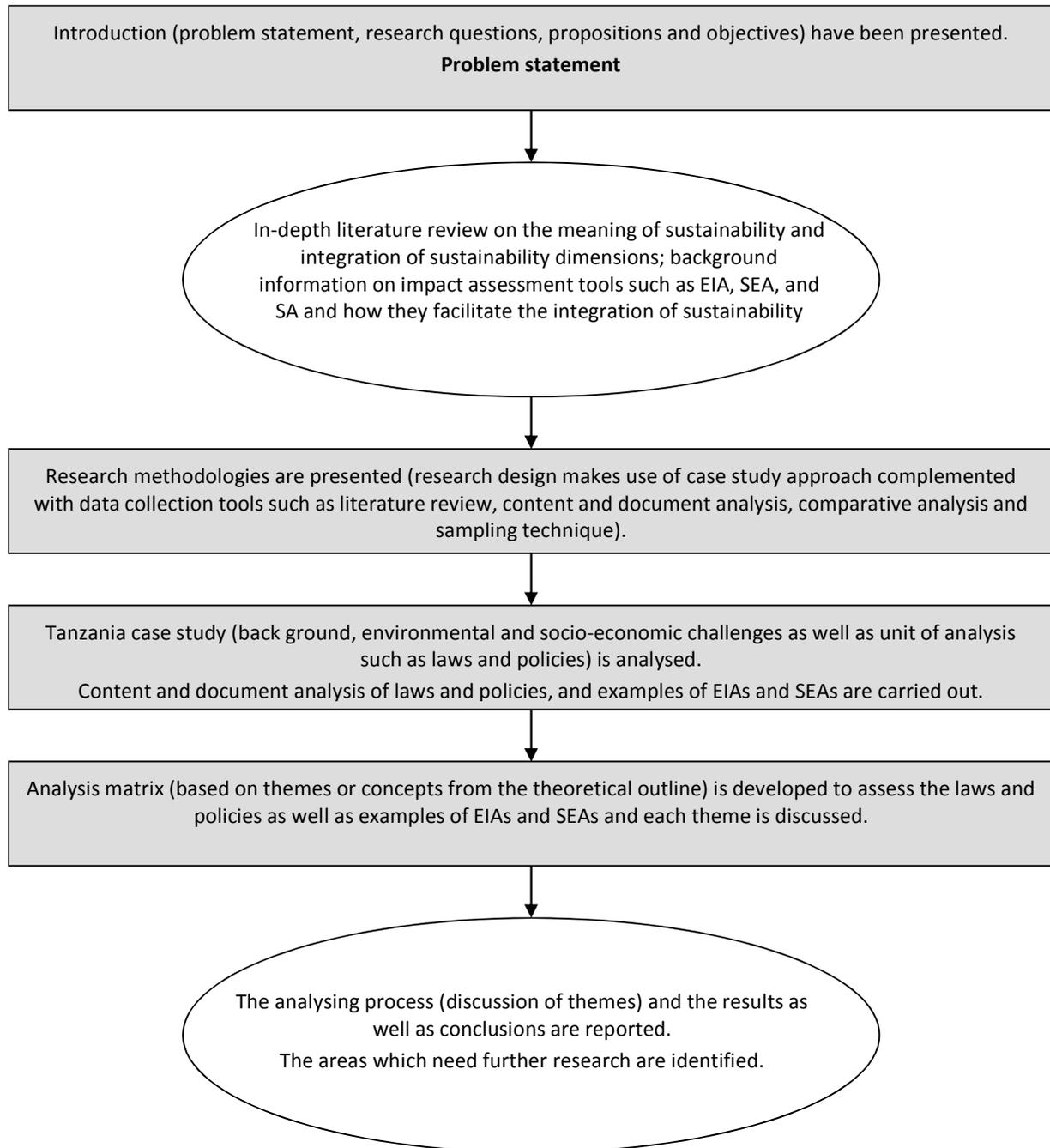
According to Yin (2009) a research design is the logic that links the data to be collected as well as the conclusions to be drawn to the initial questions of the study. It provides a conceptual framework and an action plan for getting from questions to sets of conclusions. On the other hand, Bless and Higson-Smith (2000) show that the research design relates directly to the testing of hypotheses. The research design is a specification of the most adequate operations to be performed in order to test specific hypotheses under given conditions.

Kumar (2011) views research design as a plan and strategy of investigation so conceived as to obtain answers to research questions or problems. The plan is the complete scheme or programme of the research. It includes an outline of what the researcher will do from formulating the hypotheses and their operational implications to the final analysis and presentation of the data. The design should reveal how the research is conducted, including how sampling strategies, data collection and data analysis have been employed. Accordingly, the design should conceptualise an operational plan to undertake the various procedures and tasks required to complete the study, as well as ensuring that the procedures are adequate to obtain valid, objective and accurate answers to the research questions (Kumar, 2011).

Every empirical study either quantitative or qualitative has an implicit and explicit research design. Therefore, articulating the concepts about what is being studied and what is to be learned helps to operationalize research designs and make it more explicit (Yin, 2009). A research design in quantitative study tends to be formal and systematically designed to obtain quantifiable about the world. It is presented in numerical form and analysed through the use of statistics. It enables the researcher to describe and test cause and effect relationships of what is to be studied (Yin,

2009). One advantage of quantitative data is its relative precision and lack of ambiguity. Another advantage is the opportunity that quantitative data affords for summarisation and analysis using statistical tools. Thus quantitative data is particularly appropriate for representative studies. However, it is generally not very helpful if the study is focused in testing the causes and effects of a certain phenomenon (Gilbert, 2008).

Figure 5: Research approach and strategy



On the other hand, Clissett (2008) pointed out that qualitative research design is grounded on understanding, explaining, exploring, and clarifying situations, feelings, perceptions, attitudes, values, beliefs and experiences of people, group of people or organisation. As such, qualitative research design should be fairly loose and flexible. This is due to the fact that the study design are based on deductive rather than inductive reasoning, are emergent in nature, and are often non-linear and non-sequential in their operationalization (Kumar, 2011).

Bless and Higson-Smith (2000) argues that the first step in conducting a good research design require the researcher to answer several fundamental questions about the research. These relates to the focus, the unit of analysis and the time dimension of the problem at hand. The unit of analysis may be a person, group of person, object or documents from which the researcher collects data. However, Baxter and Jack (2008) reveal that it is challenging to determine the units of analysis in both qualitative and quantitative research. Yet, identifying the unit of analysis is vital to make the research focused and determine the boundaries of the study to remain reasonable in scope (Baxter & Jack, 2008).

As far as this study is concerned, a qualitative research design was used (as opposed to a quantitative research design which tends to be formal and systematically designed). This kind of design was adopted because it is more relevant and enabled the researcher to explore the different elements of the case study and find out whether the impact assessment legislation is designed in a way that it facilitates sustainable development in the country. Figure 5 on the previous page presents the overall research approach and strategy adopted in this study.

4.3 Case study approach

This research makes use of a case study methodology, based on a single case study of the Tanzanian EIA system. A case study is a research method which allows for an in-depth examination of events, phenomena, or other observations within a real-life context for purposes of investigation, theory development and testing, or simply as a tool of learning (Yin, 2009). Case studies are intensive analyses of individual units and focus on context, depth and details (compared to surveys that focus on a large number of units so that they can be used to generalise). They can also be empirical units, theoretical constructs, and subject to evaluation due to the fact that scientific and practical interests are tied to them (Scholz, 2002). They can employ documents, artefacts, interviews, and observation during the course of the study (Yin, 2009).

Other methods available include experiments, surveys, archival and historical analysis. Each is a different way of collecting and analysing empirical evidence, following its own logic. Many social scientists still believe that case studies are only appropriate for the exploratory phase of an investigation, that surveys and histories are more appropriate for the descriptive phase, and that

experiments are the only way of doing explanatory or causal inquiries. This hierarchical view, however, is open to critique as each method (including a case study method) can be used for all three purposes- exploratory, descriptive, or explanatory- depending on the study investigated (Yin, 2009).

As such, there are different types of case studies which can either be explanatory, exploratory, or descriptive. Baxter and Jack (2008) pointed out that the selection of a specific type of case study will be guided by the overall study purpose. The selection will depend on the research questions which seek to explain some present circumstance. For instance, questions starting with “how” or “why” tend to be explanatory case study and those starting with “what” or “who” tend to exploratory case study, while other studies combined both (Yin, 2009). Also, it is suitable where the questions require an extensive and in-depth description of some social phenomenon works. Therefore, a case study approach can be adopted in qualitative or quantitative studies or the combination of both (Yin, 2009).

A case study may be single or multiple case research approaches to explain a certain phenomenon. It could be an individual, a group, a community, an instance, an episode, an event, a subgroup of a population, a town, a city, an institution, company or even a country (Kumar, 2011). A single case study represents a critical test to existing theories –occasional or unique events. It is often used as a theory confirming or infirming analyses based on a country’s history with a specific focus derived from the research questions in use (Yin, 2009). On the other hand, multiple cases are used if replication logic is supposed to: (a) predicts similar results (a literal replication) or (b) predicts contrasting results but for predictable reasons (a theoretical replication) (Yin, 2009). In this situation, theoretical framework must identify clearly the conditions, when a particular phenomenon is likely or not likely to be found. Therefore, in multiple case studies theoretical framework is the vehicle for generalizing to new cases (Yin, 2009).

A case study methodology was used in this study (as opposed to experiment, survey, archival or historical analysis), as the purpose was to explore and reveal more detail on the Tanzanian impact assessment system in all its complexity. A survey based on questionnaires is more suitable in quantitative studies, while archival and historical analyses are more suitable in descriptive studies. A case study methodology can provide rich raw materials for advancing theories and ideas and provides insight at all stages of the theory development process (inductive reasoning) as well as being most valuable in testing existing theories (deductive reasoning). This study adopted a deductive kind of reasoning by studying the existing theoretical foundation on this topic from the literature and then applying it to the Tanzanian case. Moreover, the case study approach provides context-dependent (practical) knowledge as opposed to context-independent (theoretical) knowledge. It also offers a degree of openness or freedom of navigation in the

process of conducting the study (Flyvbjerg, 2006). However, this approach may encounter difficulties in establishing validity or reliability and data is often unique to the studied events or processes (George & Bennett, 2004). As such, different methods such as content and document analysis, as well as comparative analysis, have been used to explore the case study and promote the validity and reliability of the data.

Tanzania is used as a single case study, exploring its context, its legislative framework, as well as an analysis of a number of examples of EIAs and SEAs which were conducted in the country. Although these examples are not necessarily representative of all EIAs and SEAs conducted in the country, they were used to illustrate the challenges of facilitating sustainable development in the country. This case study is explored by making use of a number of different research methods mentioned below.

4.4 Methods of data collection

There are many possible ways of gathering information in both qualitative and quantitative research. These include primary and secondary data collection methods such as survey and interviews, questionnaires, focus group discussions, observation, sampling, content analysis, comparative analysis, desk study and internet search (Bless & Higson-Smith, 2000). This study adopted a literature review, sampling, content and document analysis, and comparative analysis as the main methods of data collection.

4.4.1 Literature review

An in-depth literature review was undertaken on the meaning of sustainable development and the integration of five pillars of sustainability (social, economic, political, physical, and environment); how sustainable development is informed by interdisciplinary and transdisciplinary approaches; complexity and system thinking; strategic and long-term planning; as well as the need for effective coordination mechanisms. The background information on impact assessment tools such as EIA, SEA, SA and other supportive tools such as the use of National Strategies of Sustainable Development (NSSDs), Local Agenda 21 plans, State of Environment Reports (SoERs) and indicators, as well as how other countries promote sustainability through legislation are also reviewed. The literature review has guided the development of this research. The main themes which discussed from the theoretical outline have guided the analysis of the legislation as well as examples of EIAs and SEAs case studies and presentation of the results.

4.4.2 Sampling

Sampling refers to procedures for selecting information which involve some form of random selection of elements from a target population. The aim of sampling is to produce representative selections of population elements. The key concept in sampling is representativeness (Mouton,

2002). According to Bless and Higson-Smith (2000) sampling is a practical way of collecting data when the population is infinite or extremely large, thus making a study of all its elements impossible. For this reason, sampling may be the only practical method of data collection.

There are different types of sampling such as probability and non-probability sampling. Probability sampling includes simple random sampling, interval or systematic sampling, stratified sampling and clustered or multistage sampling. Non-probability sampling includes accidental or availability sampling, purposive or judgmental sampling, and quota sampling (Bless and Higson-Smith, 2000). In this study, purposive or judgmental sampling has been used. This is due to the fact that purposive sampling is suitable for research informed by an existing body of social theory. Also, the results of purposeful sampling are usually expected to be more representative of the population than those achieved with an alternative form of sampling (Curtis et al., 2008).

Purposive sampling is based on the judgment of a researcher regarding the characteristics of a representative sample. A sample is chosen on the basis of what the researcher considers to be typical units. The strategy is to select units that are judged to be the most common in the population under investigation (Bless and Higson-Smith, 2000). The sampling strategy should be relevant to the conceptual framework and the research questions addressed by the research. The sample should be likely to generate rich information on the type of phenomena which need to be studied. The sample should enhance the 'generalizability' of the findings. However, this type of sampling the sample population used may not necessarily be entirely the population that the researcher is trying to reach. As such, since such a small sample population is often used, a small variation in the sample will cause deviance in the results (Curtis et al., 2008).

For the purpose of this study, purposive or judgmental sampling was used in the selection of laws, policies and examples of EIAs and SEAs undertaken in Tanzania. The laws and policies selected were purposively those related to impact assessment and environmental management which address socio-economic, political and ecological development. The examples of EIAs and SEAs were also purposely selected, with some selected among those conducted before and some after the promulgation of the Environmental Management Act (EMA) of 2004. Specifically, those conducted due to the requirements of multilateral cooperation such as the World Bank for funding purposes, as well as those conducted and approved by government despite having significant negative impacts on the environment (controversial EIAs) were selected.

Microsoft Excel software was used to analyse the numbers of EIAs and SEAs conducted before and after the enactment of EMA. (See figures 12 and 13, as well as Appendix B for percentage numbers of EIA certificates issued in different sectors). The examples selected are not necessarily representative of all EIAs and SEAs conducted in the country, but do illustrate controversial cases where impact assessments were approved despite significant negative environmental and social

consequences. This case study is analysed in detail in the following chapters of Tanzania policy and legal framework and EIAs and SEAs examples.

4.4.3 Content and document analysis

The qualitative content analysis method is used in this study. This method involves analysing written, verbal or visual communication messages. It is used to describe the phenomena (laws, policies and examples of EIAs and SEAs in this case) to test theoretical issues to enhance understanding of the data. The aim is to attain a condensed and broad description of the phenomenon. The outcomes of the analysis are concepts or themes describing the phenomenon. The purpose of the concepts or themes is to build up a model, conceptual map, conceptual system or categories. Under this method, identifying the unit of analysis is of paramount importance (Elo & Kyngas, 2008; Dade, 2013). As such, the units of analysis were identified. These include impact assessment laws, policies, as well as EIAs and SEAs reports.

On the other hand, document analysis refers to the investigation of documents that contain information about the phenomenon that ought to be studied (Bailey, 1994). In this method data must be handled scientifically, though each source requires a different approach. Scott (1990: 1-2, cited in Mogalakwe, 2006: 224-228) has formulated quality control criteria for handling documentary sources. These are authenticity, credibility, representativeness and meaning (Mogalakwe, 2006).

Authenticity: refers to whether the evidence is genuine and of reliable and dependable origin. The researcher therefore has a duty and a responsibility to ensure that the documents consulted is genuine and has integrity. Also, a researcher need to satisfy himself that the documents being analysed are not forgeries and are indeed what they purport to be (Mogalakwe, 2006). In this study most of the documents analysed were official documents (government policies, laws and consultancy reports (EIAs and SEAs) collected from different ministries and institutions; and others were downloaded from different internet sources). The researcher therefore takes for granted that they are original, also based on the names of the authors inscribed on the documents.

Credibility: refers to whether the evidence is free from error and distortion. In this study all the documents used were prepared independently and beforehand. None of the documents were produced or altered to benefit or mislead the researcher.

Representativeness: refers to whether the documents consulted are representative of the totality of the relevant documents. However, it is difficult to tell whether the documents represent the totality of documents pertaining to a specific issue under investigation (Mogalakwe, 2006). In this study most of the documents analysed were prepared by professionals using generally accepted

methodologies and procedures of preparing official documents. Also, to a large extent they represent most of the issues which were investigated.

Meaning: refers to whether the evidence is clear and comprehensible. The ultimate purpose of examining documents is to arrive at an understanding of the meaning and significance of what the document contains. Documents contain either a literal or an interpretative meaning. Literal meaning gives only its face value meaning, from which its real significance must be reconstructed; while with an interpretative meaning, the researcher relates the literal meaning to the contexts in which the documents were produced in order to assess the meaning of the text as a whole (Scott, 1990; Mogalakwe, 2006). Another key issue to note in document analysis is on how to decide which inference to make from a document about matters other than the truth of its factual assertions. As such, some information can only make sense if it supported by literature (Mogalakwe, 2006). In this study, the themes discussed in chapter 7 were supported by literature and examples were also compared with other countries in order to clarify the data/information.

4.4.4 Comparative study

Comparative research or analysis is a broad term that includes both quantitative and qualitative comparison of social entities. Social entities may be based on many lines, such as geographical or political ones in the form of cross-national, regional or international comparisons. The underlying goal of comparative analysis is to search for similarity and variation, particularly in cases. The comparisons uncover differences between social entities and reveal unique aspects of a particular entity that would be virtually impossible to detect otherwise (Mills et al., 2006).

The comparative approach must be elaborated in terms of its theoretical design and its research strategy on the basis of a goal-oriented point of reference, namely what exactly is to be explained. There can be no comparative research without an extensive theoretical argument underlying it or without a methodologically adequate research design to undertake it. Therefore, a first and vital step in the process is to ponder over the relationship between the cases under review and the variables employed in the analysis (Landman, 2003).

Due to the fact that this research made use of a single case study (which is Tanzania), it was vital to compare the case with other countries to acquire insights on how they promote sustainable development through legislation. Therefore, good practices and procedures from other countries such as South Africa, the United Kingdom (UK) and the European Union (EU) were compared with the Tanzanian case. This has enabled the researcher to identify gaps in the current Tanzanian policies and legal framework for impact assessment and recommended the necessary aspects to be adopted to improve the system within the Tanzanian context. The examples from these countries are recommended to be applied to fit the Tanzanian context due to the fact that Tanzania is a low-income country, with less expertise unlike EU, UK or South Africa.

4.5 Data analysis

Data analysis involves clustering together related types of narrative into a coherent arrangement. This process can be facilitated with the use of computer programmes to assist the analysis. In document analysis analysing the data can be a challenging process. There are no accepted universal rules for analysing and summarising the data. The goal for data analysis is to go beyond description and become interpretive. This means that the researcher looks beyond what has been written to try to understand and interpret the meaning behind it as well as the attitudes and values that influence the meaning. An analysis can be difficult as words and phrases have different meanings to different people. As such, the researcher may make assumptions that others are unaware of (Clissett, 2008). In this study, data collection and analysis are conducted simultaneously.

Due to the fact that in document analysis there are no systematic rules for analysing data, Elo and Kyngas (2008) suggests that a structured or unconstrained matrix may be adopted in the analysis process. An unconstrained matrix is used whereby different categories are created within its bounds, following the principle of inductive content analysis. A structured matrix is used when only aspects that fit the matrix of analysis are chosen from the data (Elo & Kyngas, 2008). For this reason, a structured matrix can be employed to make content analysis more manageable and ordered.

A structured matrix was prepared and the legislation as well as EIAs and SEAs reports were assessed according to the themes which emerged from the theoretical framework. These themes include: perceptions of sustainable development; integration and coordination mechanisms; impact assessment processes; public and stakeholder participation; governance and the rule of law; addressing poverty, inequality and benefit-sharing; strategic and long-term planning as well as system thinking and complexity. These themes were selected among those which appeared frequently in the sustainability literature and, to a large extent they address the research questions. At the end, the analysis process (discussion of the themes and comparison with other countries) was conducted and the results were presented and discussed.

4.6 Challenges faced during data collection

During data collection certain challenges were experienced, as discussed hereunder:

- Public institutions are complex in nature. There was a lack of accessibility to some official documents and information. For instance, the reports of compliance and monitoring of EIAs were not accessible to the researcher for different reasons, such as the absence of a specific person (official) who is the custodian of the documents.

- Lack of databases or central systems for storing official data and information. This problem created challenges in accessing some of the official information from government institutions and ministries.
- Lack of research grants to cover different costs associated with thesis editing as well as transport and stationary costs. All these costs were incurred by the researcher.

4.7 Conclusion

This chapter presented the research methodology adopted in this study. It presented the research design which described how the research was conducted, including how sampling strategies, data collection and data analysis were carried out. Moreover, the case study approach was discussed using Tanzania as a single case study, exploring its context, the legislative framework, as well as examples of EIAs and SEAs conducted in the country. To complement the case study, different tools for data collection were employed. These include an in-depth literature review and desktop study, content and document analysis, a comparative analysis, and sampling techniques. Certain challenges faced by the researcher during data collection were also outlined. This chapter has built a framework for presenting the Tanzanian case study as well as data analysis and presentation of results which are discussed in the following chapters.

CHAPTER FIVE: TANZANIAN CASE STUDY

5.1 Introduction

In the previous chapter, the methodology adopted in this study was discussed in detail. This chapter presents the Tanzanian case study and its context, exploring the background of the case study, as well as the socio-economic, and environmental conditions. The major environmental challenges and different initiatives conducted by the government to address them are also explored. The main theme of the study, the legal and policy framework adopted for impact assessment is described, which to a large extent addresses the environmental challenges facing the country. The institutions involved in the implementation of impact assessment legislation are also presented. This chapter builds up a foundation for presenting the examples of EIAs and SEAs in the following chapter to demonstrate to what extent the impact assessment legislation promotes sound decisions for sustainable development.

5.2 Background

Tanzania is located south of the equator in East Africa. The country borders on the Indian Ocean to the east, and has land borders with eight countries, anticlockwise from the north: Kenya, Uganda, Rwanda, Burundi, Democratic Republic of Congo (across Lake Tanganyika), Zambia, Malawi and Mozambique. The country covers a total area of 945,000 km² including the three major coastal islands of Mafia, Pemba, and Zanzibar. The Tanzanian geography includes plains along the coast, a central plateau, and highlands in the north and south. In the northeast of Tanzania is a mountainous region that includes Mount Meru (14,979 ft/4,566 m) and Mount Kilimanjaro (19,340 ft/5,895 m). The latter is the highest point in Africa. The northwest of the country encompasses approximately one-half of Lake Victoria, which is the second largest freshwater body in the world. On the south-western border is Lake Malawi (previously Lake Nyasa), the third largest lake on the continent (see figure 6) (Tripathi, 2012; URT, 2013).

The Tanzanian state was formed by the union of the former German colony of Tanganyika on the mainland, and the islands of Zanzibar, a British protectorate. After World War I when Germany was defeated, Tanganyika was mandated to Great Britain by the League of Nations. Following World War II, the mandate became a United Nations trusteeship till 1961, when the country became independent. Tanganyika became a republic in December 1962 with Mwalimu Julius Kambarage Nyerere as the first president. The union of Tanganyika and Zanzibar took place on 26th April 1964 after a change in governance due to a revolution which took place on the islands on 12th January 1963 when Zanzibar became the Revolutionary Government of Zanzibar under the presidency of Abeid Amani Karume. The current president of the United Republic of Tanzania (the fourth president) is the honourable Jakaya Mrisho Kikwete who took over from president Benjamin William Mkapa in 2005 (Dagne, 2011; Tripathi, 2012).

Tanzania is divided into thirty-four regions, twenty-nine on the mainland (including four new regions announced in 2012 under Government Notice (GN) No. 72) and five in Zanzibar. It is administered by two government levels, namely the central and local governments. On the Tanzanian mainland, local government authorities are divided into 188 districts (including 19 new districts announced in 2012 under GN No. 73), where thirty four (34) are urban units, which are further classified into the five city councils of Dar es Salaam, Arusha, Tanga, Mbeya, and Mwanza (Tripathi, 2012).

The state authority of Tanzania is divided into three branches, namely the executive, the judiciary and the legislature. All legislative power (law making) relating to mainland Tanzania and union matters is vested in the National Assembly, while the policy making process is conducted by government departments and ministries under the executive branch of the state. The judiciary or court system remains as an important organ for dispensing justice, as well as interpreting and applying laws in the name of the state (URT, 1977). For the purpose of this research, the focus will be on the Tanzanian mainland.

Figure 6: Map of Tanzania (Source: Climate-zone.com, 2004)



5.2.1 Socio-economic conditions

Tanzania is a low-income developing country with a GDP of USD 28.24 billion, with 7 percent average growth rate; and a population of about 47.78 million (World Bank, 2012). Agriculture still plays an important role in the Tanzanian economy, accounting for nearly half of the GDP and employing 80 percent of the labour force. However, the sectors that recorded growth rates of more than 10 percent in 2010 were the communication sector (22.1 percent), followed by the construction, electricity and gas sectors (10.2 percent), and the financial intermediation sector (10.1 percent). Export also plays an important role in the Tanzanian economy and its contribution to the economy has increased from 13.36 percent to 30.18 percent of the GDP in the last 10 years (URT, 2012b; Tripathi, 2012; URT, 2013)

Tourism is also growing and ranks as the second highest foreign exchange earner after agriculture. Gas and oil were recently discovered, and mineral production, such as gold, diamonds and tanzanite has grown significantly in the last decade. Mineral production represents Tanzania's biggest source of economic growth, providing over 3 percent of GDP and accounts for half of Tanzania's exports. The country has maintained consistency in its economic growth with GDP growth varying between 6.5 and 7 percent per annum during the last five years (6 percent in 2009 and 7 percent in 2012) (World Bank, 2012; Tripathi, 2012; URT, 2012b). Table 2 below summarises some of the important demographic, geographic and economic indicators for Tanzania.

Parameter	Description
Population	47,783,107 (World Bank, 2012)
Total geographical area	945,454 km ² (Tripathi, 2012)
People	Some 120 ethnic groups on the mainland, none exceeding 10 percent of the population (Tripathi, 2012)
Currency and exchange rate	1 USD is approximately to 1,623.84 Tanzanian Shillings (TZS) (AONDA.Com, 2014)
GDP	USD 28.24 billion (World Bank, 2012)
GDP growth rate	7 percent (World Bank, 2012)
Inflation (2002-2010)	5.6 percent (URT, 2012b)

Table 2: Tanzania population and economy

However, poverty is a major obstacle to achieve sustainable development in Tanzania. The high economic growth occurring in the country over the past ten years did not have a significant impact on poverty reduction (URT, 2012b). Poverty measured by the headcount index declined only marginally from 35.7 percent in 2001 to 33.6 percent in 2007, despite the growth of the GDP. This shows that growth has not been broad-based and pro-poor structured (URT, 2012b). About 64 percent of the population faces the problem of satisfying their food needs, despite the fact that agriculture is the backbone of the country's economy and employs 80 percent of the labour force (Tripathi, 2012). These trends illustrate present and future sustainable development challenges which the country is likely to face (Tripathi, 2012; URT, 2012b).

The growth in the population further adds to the complexity of the problem and contributes significantly to adverse impacts on the environment because of the increasing resource requirements (Tripathi, 2012; URT, 2012b; URT, 2013). The country's population grew significantly from 26.33 million in 1991 to 47.78 million in 2012. If the growth continues at the same rate, it would be quite challenging for the country to maintain GDP growth at the current level without compromising the environment and sustainable development issues (Tripathi, 2012; URT, 2013).

5.2.2 Tanzanian environmental challenges

Tanzania has encountered different environmental challenges, both before and after independence, due to developmental activities which are taking place. For the past few decades environmental challenges have increased due to a variety of reasons such as population expansion and climate change (Tripathi, 2012; URT, 2013). For instance, in 1997 chapter two of the National Environmental Policy identified six environmental problems which required immediate attention (URT, 1997). More recently, the National Environmental Action Plan (NEPA) of 2013 pointed out ten environmental challenges which must be addressed if the country seeks to achieve sustainable development (URT, 2013).

These include land degradation due to poor farming and mining methods; overgrazing; bush fires; and the destruction of wetlands. Moreover, water resources degradation and pollution are overwhelming and result in a shortage of clean and safe water for domestic use. Water degradation is caused by sedimentation of reservoirs and waterways; encroachment of water sources and pollution. Loss of wildlife habitats and biodiversity is another environmental challenge caused by human encroachment in biodiversity sensitive areas and over-exploitation of these resources. Aquatic resource degradation is caused by poor fishing methods like using dynamite, chemical poisoning, and use of small mesh size nets. Other causes are destruction of coral reefs for making cement, beach erosion, oil spillage and sewage around the coast, and destruction of mangrove forests (URT, 1997; Tripathi, 2012; URT, 2013).

Furthermore, deforestation is a serious environmental threat caused by over-reliance on the use of firewood and charcoal as a source of energy and the rise in the timber industry. About 90 percent of the population in Tanzania uses charcoal and firewood, despite the existence of different sources of energy such as biomass, natural gas, hydropower, uranium, coal, geothermal, solar and wind which mostly remain untapped. Urban pollution is another environmental setback due to the rapid growth of the urban population (due to natural growth and rural-urban migration). This trend caused the growth of unplanned settlements which occupy about 70 percent of the housing in urban areas and causes an increase in public health risks, floods (due to poor urban planning), and pollution (due to urban sprawl and improper waste management, including electronic waste and unplanned sewage systems) (URT, 2013).

Other problems include the impact of climate change which causes devastating power crises, a food crisis, death (due to flood and drought), submerging of several islands due to sea-level rise and melting of the glacier on Mount Kilimanjaro. Genetically Modified Organisms (GMOs) and alien species are emerging environmental challenges which cause a threat to local habitats and biodiversity (URT, 1997; Tripathi, 2012; URT, 2013). These impacts link with each other directly and indirectly; that is, one impact is the cause of the other. They are cyclic in nature which requires integrated ways to address them including, among others, the promulgation of a sound policy and legal framework to promote sustainable development.

5.3 Legal and policy framework governing impact assessment in Tanzania

The environmental challenges presented above in one way or another hamper the achievement of sustainability in the country. There appears a strong need for an integrated approach to simultaneously handle socio-economic growth and sustainable development issues. Tanzania, being quite concerned and active in promoting a sustainable development agenda, is trying to address the matter through various policy guidelines and regulatory frameworks. The following sub-section describes the legal¹⁶ and policy¹⁷ framework adopted for impact assessment, which to a large extent addresses these ecological challenges.

¹⁶ *Legal framework is a set of laws, regulations and rules enacted by the national assembly/parliament (in case of principal legislation/Acts) or government authorities (in case of subsidiary legislation/regulations and rules) to regulate and govern specific conducts in the society (Pallangyo, 2007).*

¹⁷ *Policy framework is a set of policies, strategies and plans which either cut across all sectors or specifically address priorities of the government ministries, departments and agencies for a certain sector (URT, 2013).*

5.3.1 The Constitution of the United Republic of Tanzania, Act No. 2 of 1977

The Constitution of the United Republic of Tanzania (URT, 1977) is the mother law of the country. All other laws enacted in the country must conform to the provisions of the Constitution. In 1984 the Constitution was amended and introduced a Bill of Rights. However, the Bill of Rights does not incorporate provisions which deal specifically with environmental management and sustainability. There are different provisions in the Constitution which are implicitly interpreted to include the right to a clean and safe environment, as well as management of natural resources. These include article 14 which provides for the right to life and article 27(1) which provides for the importance of sustainable use of natural resources for the benefit of the citizens of Tanzania (Pallangyo, 2007).

Furthermore, article 9(1) (c) requires the state authority and all its agencies to direct all their policy and business towards securing the conduct of public affairs in a manner designed to ensure that the national resources and heritage are harnessed, preserved and applied toward the common good and the prevention of the exploitation of one man by another (URT, 1977). Although this article is part of the non-judicial 'fundamental objective and directive principles of the state policy' provisions of the Constitution which are non-justiciable in a court of law, it portrays the commitment of the government to ensure sustainable development and management of the environment in Tanzania (Mwalosi & Hughes, 1998; Pallangyo, 2007).

The Constitution is currently under review. The draft new constitution (URT, 2014) incorporates an environmental management provision in the Bill of Rights. Article 40 states that every person who lives in the United Republic of Tanzania has the right to safe, clean and healthy environment (URT, 2014). It is upon these principles of the Constitution that the Environmental Management Act, 2004 and its subsequent regulations were enacted to guide environmental management and sustainable development in Tanzania.

5.3.2 The National Environmental Policy of 1997

The National Environmental Policy (NEP) (URT, 1997) was adopted in 1997. It is the main policy framework which addresses and has as its main objective the promotion of environmental management and sustainability in Tanzania. The policy stresses that environmental challenges are clearly both cause and effect of poverty in the country. Environmental problems lead to widespread poverty; at the same time poverty is a habitual cause of environmental problems as it undermines people's capacity to manage resources wisely (URT, 1997). Environmental protection is therefore seen as a social and economic necessity. As such, sustainable development is the central agenda of the environmental policy (URT, 1997).

The policy points out a number of principles which will guide the implementation process. It includes the principle of public participation which is covered under paragraph 36. It states that environmental issues are best handled with the participation of all citizens at all levels. It is widely recognised that interventions which are likely to have positive impacts are those which enjoy the greatest support from grassroots. Therefore, there is an absolute necessity to exercise a bottom-up approach in problem identification, project planning, implementation and monitoring (URT, 1997).

The Environmental Impact Assessment (EIA) process as a precautionary tool was covered under paragraph 63. The EIA and audit was to be implemented to maximise the long-term benefits of development whereby environmental objectives can be revealed and decided upon. The EIA as a planning tool was to be used to integrate environmental considerations in the decision-making process, in order to ensure that unnecessary damage to the environment be avoided. The EIA would be a mandatory requirement to ensure that environmental concerns received due and balanced consideration in reconciling urgent development needs and long-term sustainability. In this way, environmental considerations would not become an afterthought in planning and decision-making, but rather, part of the consciousness and awareness of the development realities (URT, 1997).

Furthermore, the policy noted that environmental challenges in the country in most cases arise out of the promulgation and implementation of bad sectoral and macro policies (URT, 1997). In order to mitigate the effects of existing and future policies on the environment, Strategic Environmental Assessment (SEA) were to be applied to those policies, strategies, plans and programmes which impacted on the environment. The policy stressed that as part of the strategy in the implementation of NEP, guidelines and specific criteria for conducting EIA and SEA would be formulated. One of the cornerstones of the impact assessment process was to be the institution of public consultations and public hearings in the EIA and SEA procedures (URT, 1997). To implement these policy statements, the Environmental Management Act was promulgated in 2004 with its subsequent regulations to conduct EIA and SEA. Different institutions for implementing this legislation were established and have been discussed in the following sub-sections.

5.3.3 The Environmental Management Act (EMA), No. 20 of 2004

The EMA repealed and replaced the National Environment Management Council Act, No. 19 of 1983. The new Act has the objective of providing and promoting the enhancement, protection, conservation and management of the environment. It provides a legal and institutional framework for management of the environment and sustainability in Tanzania. The EMA, under section 2, defines the concept of sustainable development to “mean development that meets the needs of the present generation without compromising the ability of future generations to

meet their needs by maintaining the carrying capacity of the supporting ecosystems” (URT, 2004: 17).

The EMA restates the principles of environment and sustainable development articulated by NEP, 1997. The EMA also recognises that the environment and natural resources are vital to people’s livelihoods, to be used sustainably in order to achieve poverty reduction, and social economic development. Any developmental initiative which has adverse effects on the environment, was to be prevented or minimised through long-term integrated planning and coordination, integration and cooperation of efforts, which consider the entire environment as one entity (section 7(3)) (URT, 2004).

Impact assessment processes are covered in section 84 of the Act. The section imposes an obligation to undertake EIA by any person, being a proponent or a developer of a project who undertakes any type of activity specified in the Third Schedule to the Act. The SEA process is covered under section 104. It states that SEA shall be conducted when promulgating Bills, regulations, policies, strategies, programmes and plans. It stipulates that when preparing a Bill for enactment of any law that is likely to have an effect on the management, conservation and enhancement of the environment, as well as on sustainable management of natural resources, it shall be a requirement to conduct SEA. Moreover, when enacting regulations, public policies, programmes and development plans, these shall include a SEA statement on the likely effects such documents may have on the environment (section 104(2)). Specifically, the Act stipulated that SEA be conducted for mineral, petroleum, hydroelectric power and major water project plans (section 105) (URT, 2004).

The EMA stresses the importance of public participation in the environmental management and impact assessment process. It states that the public shall have the right to participate in decisions concerning the design of environmental policies, strategies, plans and programmes and to participate in the preparation of laws and regulations relating to the environment. Any information relating to decisions affecting the environment may be made available to the public before the date on which the decision is to be made (section 178) (URT, 2004).

Importantly, section 184 of the Act provides for offences relating to impact assessment. It states that, any person who (a) fails to submit a project brief contrary to the provisions of section 86 (1); (b) fails to prepare an EIA report as required under any provision of this Act; or (c) fraudulently makes a false statement on an EIA report submitted under this Act, commits an offence under the Act. Such person is liable on conviction to a fine of not less than five hundred thousand Tanzania Shillings but not exceeding ten million Tanzania Shillings or to be imprisoned for a term of not less than two years but not exceeding seven years or both fine and imprisonment (URT, 2004).

5.3.4 The Environmental Impact Assessment and Audit Regulations, GN. No. 249 of 2005

The Environmental Impact Assessment and Audit Regulations (hereinafter referred as EIA regulations), were promulgated in 2005 under section 82(1) and 230(2) (h) and (q) of the Environmental Management Act. The EIA regulations defined EIA to mean a systematic examination, conducted to determine whether or not a programme, activity, or project will have any adverse impacts on the environment (section 3). The First Schedule of the EIA regulations outlined the types of projects which required an EIA study. Type A are projects which require a mandatory EIA and type B are those requiring preliminary EIA studies (URT, 2005).

The objective of any EIA is to ensure that environmental considerations are explicitly addressed and incorporated into the development decision-making process to anticipate and avoid, minimise or offset the adverse significant biophysical, social and other relevant effects of the development proposal. It also aims to encourage the development of procedures for information exchange, notification and consultation between organs and persons when a proposed activity is likely to have significant environmental effects on trans-boundary or on an environment bordering regions, districts, municipalities, towns and villages (section 12) (URT, 2005).

As such, the EIA shall identify and analyse alternatives to the proposed project. The assessment shall propose mitigation measures to be taken during and after the implementation of the project, and develop an Environmental Management Plan (EMP). The mechanisms for monitoring and evaluating the compliance and environmental performance which shall include the cost of mitigation measures and the time frame of implementing them shall be included in the EIA study (section 16) (URT, 2005).

The EIA regulations further provides that an EIA shall be conducted in accordance with the general EIA Guidelines and steps set out in the Fourth Schedule to the EIA regulations (section 15). In conducting EIA, public participation is vital. Section 17 stresses that during the process of conducting EIA study, the project proponent in consultation with NEMC shall meaningfully engage key stakeholders and the general public (URT, 2005).

The EIA regulations also provides for conducting environmental audits and monitoring. The objective of an environmental audit is to determine how far activities and programmes undertaken before and after the enactment of EMA have conformed to the approved Environmental and Social Management Plan (ESMP), Environmental Management Practices, and Environmental Quality Standards. It aims to provide regulatory bodies with a framework for checking compliance with, and the performance of an ESMP, being part of EIA (section 47(1)). The NEMC in consultation with the relevant sector ministry, government department, agency or institution shall monitor on-going projects on a continuous basis using such parameters and

indicators as may be prescribed in the guidelines made by the Minister in that respect (section 57) (URT, 2005).

5.3.5 The Strategic Environmental Assessment Regulations, GN No. 153 of 2008

The Strategic Environmental Assessment Regulations (hereinafter referred as SEA regulations) were enacted in 2008 under section 230 (2) (r) of the EMA. The SEA regulations are mandatory and have to be applied to all Bills, regulations, national policies, strategies, programmes and plans referred to in Part VII of the EMA, 2004. Section 3 of the SEA regulations defines the meaning of SEA.

The objective of conducting SEA is covered under section 4. It aims to ensure that environmental concerns are taken into consideration in draft Bills, regulations, plans, strategies and programmes. Other objectives include enabling the public to contribute to the consideration of environmental concerns in Bills, regulations, plans, strategies and programmes, as well as establishing clear, transparent and effective procedures for conducting SEA. It also aims to integrate environmental concerns into measures and instruments designed to further sustainable development. The First Schedule of SEA regulations outline the areas that require SEA study (URT, 2008).

In conducting SEA, section 9 of the regulations points out the consultation bodies which shall include sector ministries, government agencies and departments as well as local government authorities. The sector ministry in consultation with the Director of Environment (DoE) may, during the process of conducting SEA, seek the views of any person or the general public (section 9) (URT, 2008). In such regard, therefore, public participation is not a mandatory requirement in the process of conducting SEA.

The monitoring of implementation of SEA is provided for under section 24 of the SEA regulations. The objective of monitoring is to identify any unforeseen adverse effects at an early stage and undertake appropriate remedial measures. As such, the sector ministry through the Sector Environmental Coordinator shall furnish the DoE with periodic reports on the implementation of such Bill, policy, regulations, strategy, plan or programme (URT, 2008).

The regulations further provides for the review of whether plans, strategies and programmes enacted prior to the commencement of SEA regulations, need to undergo SEA. It states that where, prior to the coming into force of this regulations, a sector ministry, government, agency or department promulgated a plan, strategy or programme which would have required SEA, the concerned authority may, in consultation with the DoE, carry out a Strategic Environmental Appraisal or Strategic Environmental Audit (section 27) (URT, 2008). However, the SEA regulations have exempted Bills, policies, and regulations enacted prior to the coming into force

of this regulations, from undergoing SEA. Also, the review process of programmes, strategies and plans to be subjected to SEA is not a mandatory, but rather a discretionary process.

5.3.6 The Tanzania Vision of 2025

The Tanzania National Development Vision 2025 (URT, 1999) was developed in 1994 and officially came into operation in 1999. The Vision 2025 outlines broad national long-term goals, perspectives and aspirations. The Vision sets three principal objectives, which are achieving quality of life; good governance and the rule of law; and building a strong and competitive economy (URT, 1999).

It set the national direction and pre-development priority that guides all other sector strategic plans. These sector strategic plans also take into account other sectoral policies and national strategies and plans such as the National Strategy for Growth and Reduction of Poverty 2010-2015, the National Environment Action Plan (NEAP), and the Tanzania Five Year Development Plan (FYDP) (2011-2015) (URT, 2012a). The Vision articulates that by 2025 the society of Tanzanians will be substantially developed with high quality livelihoods, with the key priority of alleviating poverty. The Vision 2025 seeks to mobilise the people, the private sector and public resources towards achieving shared goals and achieving a sustainable semi-industrialised middle market economy by year 2025 (URT, 1999).

The Vision sets out the basic guidelines and strategies for implementation. These include the review and reform of existing laws and institutions in order to ensure that they meet the requirements of implementing the objectives of the Vision. The participation of people in preparing and implementing plans for their own development is also emphasised, including putting in place an appropriate framework for coordinating and evaluating the implementation of the Vision. It calls for all ministries and other government institutions, the private sector, non-government organizations, civil society, co-operative societies, villages and all social groups to direct themselves to contribute towards effective implementation of the objectives of the Vision (URT, 1999).

5.3.7 The National Strategy for Growth and Reduction of Poverty (NSGRP) I (2005-2010) and II (2010-2015)

The National Strategy for Growth and Reduction of Poverty (NSGRP), commonly known in Kiswahili as *Mkakati wa Kukuza Uchumi na Kupunguza Umasikini Tanzania* (MKUKUTA), is the national development strategy for growth and reduction of poverty that was implemented in 2005 in two phases. Phase I (NSGRP I) covered the period from 2005-2010 while the second phase (NSGRP II) covers the period from 2010-2015. The strategies keep in focus the aspirations of the Tanzania Development Vision 2025 and are committed to the implementation of Millennium Development Goals (URT, 2010b; URT, 2012a).

The NSGRP builds on the Poverty Reduction Strategy Paper (PRSP) (2000/01-2002/03), the Poverty Reduction Strategy Review, and the Medium Term Plan for Growth and Poverty Reduction which emphasised the growth momentum to fast track development targets (URT, 2010a). The NSGRP process in Tanzania is closely connected to the development of the National Strategy for Sustainable Development (NSSD). The NSGRP has been accepted by the UN's Division of Sustainable Development (DSD) as Tanzania's NSSD. In terms of international policy, the NSSD is viewed as the main tool for mainstreaming sustainability goals and policy integration to improve the basis of decision-making for sustainable development (Death, 2014; DSD, 2009; Pisano et al., 2013).

The main objective of the NSGRP (also referred as the NSSD) is to stimulate economic growth and reduction of poverty, improve quality of life and social well-being and improve good governance and accountability. Among the various growth factors identified in the NSGRP is private sector involvement in development where support and encouragement for innovations, product development, quality and superior marketing strategies will be provided. The NSGRP calls for consideration of environmental implications of the development processes whilst recognising the link between poverty and environmental degradation. Therefore, the proposed developmental policies and projects must respond to this national strategy by contributing to economic growth and reduction of poverty in Tanzania (URT, 2010b; URT, 2012a).

5.3.8 The Tanzania Five Year Development Plan (FYDP)

The Tanzania Five Year Development Plan (2011/12-2015/16) was officially adopted in June, 2012 as a tool to implement the Tanzania Development Vision 2025. This Plan is the first in a series of three Five Year Development Plans (FYDP I, II and III), which aim at eradicating poverty and transforming Tanzania into a middle-income country by 2025. The preparation of the FYDP has taken into account overall national development goals and policy objectives, sectoral initiatives, as well as the findings of the review of Vision 2025 (URT, 2012b).

The overall objective of FYDP I was to unleash the country's resource potential in order to fast-track the provision of the basic conditions for broad-based and pro-poor growth. The targeted average GDP growth rate for the FYDP I period was 8 percent per annum (equivalent to a 5 percent per capita growth target), building up from a 7 percent growth in 2010, and thereafter consistently maintaining ambitious growth rates of at least 10 percent per annum from 2016 until 2025. The targeted growth is calculated by taking into account Tanzania's growth record over the past fifteen years, and experiences of countries that managed to reach middle-income status in the last 30 years (URT, 2012b).

In doing so, the FYDP I pointed out five core priority sectors for unleashing Tanzania's latent growth potential to attain the projected GDP. These include: (i) infrastructure, and in particular

large investments in energy, transport infrastructure, water and sanitation; (ii) agricultural development to increase the average annual growth rate from 4.4 percent to 6 percent; (iii) industrial development to increase from 8.6 percent to 9.4 percent (PPP); (iv) human capital and skills development, with an emphasis on science, technology and innovation; and (v) tourism, trade and financial services (URT, 2012b). In order to achieve the stated goals, the FYDP I developed a unified and coherent framework in order to guide implementation and provide the government with ample and formal ways of reflecting the national development process (URT, 2012b).

5.3.9 The National Environmental Action Plan (NEAP) of 2013

The National Environmental Action Plan (NEAP) was adopted to implement the recommendations of the 1992 Earth Summit. Tanzania prepared its first NEAP in 1994. The Environmental Management Act of 2004 mandated the revision of NEAP after every five years. The Vice President's Office-Division of Environment revised the 1994 NEAP in 2012 and it was officially launched in 2013. The revised NEAP pointed out the state of the environment in the country and identified key environmental issues, as presented in the previous section (URT, 2013).

The NEAP is an important tool for addressing environmental challenges at all levels of government and guiding sustainable development in the country. It involves developing a national vision, assessing environmental issues, setting priorities, identifying the most appropriate strategies for addressing the key problems, and implementing actions so as to achieve environmental management and sustainability. It also outlines a process for the government to set priority actions to improve environmental conditions. In doing so, all sector ministries and local government authorities are obliged to prepare Environmental Action Plans, which are in conformity with the NEAP and which form the basis for environmental mainstreaming at the respective levels (URT, 2013).

5.3.10 Other legal frameworks related to impact assessment

There are a number of laws and policies which are related to the impact assessment legislation. These laws must be harmonised and interpreted together with the Environmental Management Act and its subsequent regulations. These include the Forest Act, No. 10 of 2002 which requires mandatory EIA to be conducted in all developmental projects carried out in a forest reserve, private forest and sensitive forest areas. This law requires that after the approval of the EIA, the developer is obliged to incorporate the Environmental Management Plan (EMP) into the Forest Management Plan and comply with it in carrying out that development (section 18 (4)). The Mining Act, No. 14 of 2010 requires, during the application of the mining licence, the incorporation of EIA feasibility study and also requires that an EMP be undertaken.

Moreover, the Water Resources Management Act, No. 11 of 2009 provides a mandatory requirement for conducting SEA and EIA in all major water projects (section 8 & 9). The Wildlife Conservation Act, No. 5 of 2009 mandated the conduction of EIA if any significant physical development ought to be conducted in a wildlife protected area, a wildlife management area, a buffer zone, migratory route or dispersal area (section 35). In addition, the Urban Planning Act, No. 8 of 2007 under section 29 provides for issuing planning consent and submission of EIA report. The Act also provides for pro-active plans such as a general planning scheme¹⁸ and a detailed planning scheme¹⁹ which ideally should be integrated with impact assessment legislation.

5.4 Institutional framework for impact assessment and sustainability in Tanzania

The institutional framework is the set of institutions, ministries, departments, agencies and authorities dealing with environmental management and sustainability in Tanzania (URT, 2013). This sub-section describes the core institutional framework established under the EMA, 2004 to promote environmental management, impact assessment and sustainable development in the country. This section also analyses the existing coordination mechanisms established under the Act to make these institutions more effective. See Appendix D for a visual representation of the institutional framework governing impact assessment and sustainability in Tanzania (URT, 2013).

5.4.1 Vice-President Office (Minister responsible for Environment)

Part III (b) section 13 of the EMA, 2004 established the Minister responsible for Environment under the Vice-President's Office. The Minister has the overall responsibility for all matters relating to the environment. In that respect, the Minister shall be accountable for the articulation of policy guidelines necessary for the promotion, protection and sustainable management of the environment in Tanzania. The Minister shall foster coordination between the government, local government authorities and other bodies engaged in environmental management as a cross-cutting issue. In doing so, the Minister shall maintain a system of collaboration, consultation and co-operation with any person or institution that has functions provided for under the Act. The

¹⁸ *General planning scheme aimed to coordinate sustainable development of the area in order to improve the land and provide for the proper physical development and secure suitable provision for transportation, public purposes, utilities and services, commercial, industrial, residential, and recreational areas such as parks, agriculture land and open spaces (s. 9 & 10 of the Urban Planning Act of 2007).*

¹⁹ *A detailed planning scheme is a long-term or short-term physical development scheme or a renewal or re-development of any part of planning area with the objective of coordinating all development activities, controlling the use and development of land including intensive use of urban land and, in particular, vertical and compact urban development (s. 15 & 16 of the Urban Planning Act of 2007).*

Minister may also issue general guidelines to the sector ministries, government departments, the National Environmental Management Council, National Environment Advisory Committee, City, Municipal or District Environmental Management Committee, agency or any other public or private institution necessary for the purposes of implementation of or giving effect to the provisions of the Act (URT, 2004).

5.4.2 Division of Environment (Director responsible for Environment)

The EMA, 2004 under Part III (c) section 14 and 15 established the Director of the Environment (DoE) under the Environmental Division in the Vice-President's Office. The DoE is responsible for co-ordinating various environmental management activities undertaken by other agencies. The directorate is also responsible for promoting the integration of environmental considerations into development policies, plans, programmes, strategies and large development projects through the use of SEA. It is also obliged to ensure the proper management and rational utilisation of environmental resources on a sustainable basis for the improvement of the quality of human life in Tanzania (URT, 2004).

Moreover, the directorate is responsible for providing advice to the government on legislative and other measures for the management of the environment or the implementation of relevant international agreements relating to the environment. It is also responsible for monitoring and assessing activities to ensure that environmental management objectives are being adhered to. The directorate is obliged to prepare and present to the National Assembly a State of Environment Report (SoER) after every two years. The existing SoER was prepared in 2006. It also coordinates the implementation of the National Environmental Policy (NEP) as well as the environmental aspects of other sector policies (URT, 2004).

5.4.3 The National Environmental Advisory Committee (NEAC)

The EMA, 2004 sets out the composition, powers and functions of the NEAC (Part III (a) section 11 and 12). The NEAC is composed of members reflecting various fields of environmental management from the public and private sectors and civil society as indicated in the First Schedule of the EMA. The committee is an advisory body to the Minister on matters relating to the protection and management of the environment, restocking and limitation of stock, matters relating to watering, grazing, pasturing and moving stock and degradation of the environment. Moreover, the committee is entrusted to review and advise on any environmental standards, guidelines and regulations. It also receives and deliberates on reports from sector ministries on the protection and management of the environment (URT, 2004).

5.4.4 National Environmental Management Council (NEMC)

The NEMC is established under Part III (d) section 16-29 of EMA, 2004. The objectives of NEMC are to review and monitor as well as undertake the enforcement and compliance of EIAs,

including facilitation of public participation processes in environmental decision-making. The NEMC exercises general supervision and coordination over all matters relating to the environment assigned under the Act or any other written law. The NEMC is also responsible for preparing and submitting to the Minister a bi-annual report concerning how it is implementing the provisions of the Act and fulfilling the objectives and purpose for which it was established (URT, 2004).

5.4.5 Sector ministries

The EMA, 2004 established in each ministry a sector environmental section to ensure the proper implementation of the Act in each sector (part III (e) section 30-33). Specifically, the section is responsible for ensuring compliance by the line ministry with the Act. The environmental section also ensures that all environmental matters contained in other laws falling under the jurisdiction of the sector ministry are implemented and reported to the DoE by submitting bi-annual reports. As such, it liaises with the DoE and NEMC on all environmental matters in order to achieve cooperation and shared responsibility for environmental governance (URT, 2004).

Each environmental section is required to coordinate the activities related to the environment within the Ministry. It has an obligation to ensure that environmental concerns are integrated into the ministry or departmental developmental plans and project implementation in a way which protects the environment. Moreover, the sector is responsible for preparing and coordinating the implementation of environmental action plans at national and local levels. The sector ministries are also required to promote public awareness of environmental issues through educational programmes and the dissemination of information (URT, 2004).

In addition, the environmental sections are obligated to conduct SEA on sectoral legislation, regulations, policies, plans and strategies developed by the sector ministry. Likewise, they are mandated to oversee the preparation and implementation of EIA for investments in their sector. It is worth noting that sector environmental sections facilitate the achievement of cross-sectoral cooperation and coordination across the ministries. The sector section is headed by a Sector Environmental Coordinator (SEC) (URT, 2004).

5.4.6 Regional Secretariat (RSs) and Local Government Authorities (LGAs)

The EMA, 2004 aimed to ensure that environmental management and sustainability are integrated into the regional, town and village levels of government through the creation of administrative structures responsible for the environment in each tier of government (part III (f) and (g)). The regional secretariats are responsible for the coordination of all activities on environmental management in their respective regions. The tasks of the RSs are performed by the regional environmental management expert, who acts as the link person between the region and DoE (URT, 2004).

Each city, municipality, district, and town council must appoint an environmental management committee and an environmental management officer (section 36). The committees and environmental officers are responsible for enforcing the Act in their area of jurisdiction. They are obliged to promote environmental awareness regarding the conservation and utilisation of natural resources, as well as gathering and managing environmental information in the area. They are mandated to prepare state of environment reports, review by-laws on environmental management and on sector specific activities related to the environment. They also monitor the preparation, review and approval of EIAs for local investment (URT, 2004).

The EMA also allows for the establishment of township, ward²⁰, *mtaa*²¹ (neighbourhood) and *kitongoji*²² environmental management committees and officers to manage the natural resources of their areas and to ensure compliance with the EMA. The committee and environmental officer are required to coordinate all functions and activities geared towards the protection of environment within their area (section 40) (URT, 2004). However, these government committees' and officers at the level of township, ward, village, *mtaa* and *kitongoji* do not have any responsibility in the EIA or SEA processes.

5.4.7 Other Institutions

The EMA, 2004 also established other institutions which are vital in safeguarding environmental management and sustainability in Tanzania. These include the Environment Appeals Tribunal (Section 204), the High Court of Tanzania (Section 209), the Environment Trust Fund section (213-216), the National Environmental Standards Committee (section 140), and the Environmental Inspectorate (section 182) (URT, 2004).

5.5 Conclusion

Tanzania has encountered different environmental challenges due to developmental activities which are taking place. The environmental challenges in one way or another are hampering the achievement of sustainability in the country. There appears to be a strong need for an integrated approach to simultaneously handle socio-economic growth and sustainable development issues.

²⁰Ward is a division of a district as an electoral area for the election of councillors representing the ward in the district council (Ringo et al., 2013).

²¹ *Mtaa* is also called hamlet is the lowest level of local government in urban authority. It has a committee of not more than six members elected from amongst the residents of the *Mtaa*. It is a forum for mobilising community participation (Ringo et al., 2013).

²² The lowest local government organ in rural areas is the *Kitongoji*, consisting of a part of a registered village. A village can be divided into not more than five *vitongoji*. Every *Kitongoji* has a chairperson elected by the adult members of the *Kitongoji*. Like *Mtaa*, *Kitongoji* is a forum for mobilising community participation in developmental activities (Ringo et al., 2013).

The impact assessment legislation was adopted for such purpose, which to a large extent also addresses the environmental challenges. This initiative enabled the country to achieve significant economic growth and record a GDP of 7 percent in 2012. However, it is observed that rapid population growth and poverty is a major obstacle to achieving sustainable development in the country. The high growth occurring in the country over the past ten years did not have a significant impact on poverty reduction. This shows that growth has not been broad-based and pro-poor structured, which the current policy and legal framework should take into account.

The institutional framework for impact assessment and sustainability was outlined. The institutions presented are those responsible for coordinating all matters concerning environmental management and sustainability. This includes cross-sector (horizontal coordination) through the establishment of sector ministries, departments and agencies at the national level, as well as inter-governmental (vertical coordination) through the establishment of a ministry of the environment, councils, and committees, at the national and local levels. This chapter built a foundation for presenting the following chapter which describes the examples of EIAs and SEAs conducted in the country. The examples of EIAs and SEAs, together with the laws and policies, are then analysed and assessed with regard to the extent to which they promote sustainable development in practice.

CHAPTER SIX: EIA AND SEA CASE STUDIES

6.1 Introduction

This chapter builds on the previous chapter which described the policy and legal framework, by using examples of EIAs and SEAs conducted in the country to demonstrate to what extent these policies and legislation actually mainstream sustainability goals into decision-making in Tanzania. These examples were selected purposely among those conducted, with some before and others after the promulgation of the EMA, 2004. Specifically, those conducted due to the requirements of multilateral cooperation (such as the World Bank) for funding purpose, as well as those conducted and approved by the government despite having significant adverse impacts on the environment (controversial EIAs) were selected. Although not representative of all EIAs in the country, these projects provide some insight into the impact assessment process in Tanzania before and after the enactment of EMA in 2004. Together with the previous chapters, this chapter built a framework for assessing whether these policies and laws are contributing to sustainable development in Tanzania. Such assessment and the results are given in the next chapter.

6.2 Impact assessment trends in Tanzania

Impact assessments in Tanzania have been conducted since the 1980s, albeit without impact assessment policy or legislation having been in place. Most EIAs were implemented to fulfil the requirements of donor and multinational financing institutions. There was very little interest or political willingness from the government to conduct impact assessment in the country for the two decades before the adoption of the EMA in 2004 (Mwalyosi & Hughes, 1998; Mwalyosi, 2004; Sosovele, 2011).

Nonetheless, in the 1990s the situation started to improve, especially after the 1992 Earth Summit where Tanzania and other countries committed to protect the environment through conducting impact assessments and integrating sustainability aspects into developmental activities. After the Summit, Tanzania adopted different measures aimed at promoting sustainable development and environmental management in the country. Among others, this included the signing of a communiqué by high-level ministers in 1995, to guarantee an affirmative action to promote EIA as a planning and environmental assessment tool (Mwalyosi et al., 1999). Also, the adoption of the National Environmental Policy in 1997 which emphasises the application of EIA and SEA in decision-making shows a positive commitment from the government to manage the state of the environment in the country (Mwalyosi, 2004).

It is encouraging to note that despite the absence of a comprehensive policy and legal framework for impact assessment for more than two decades, until 2004 about 37 EIA processes were conducted in the country. Out of 37 EIA conducted, 36 were approved (97 percent) and Conditional Environmental Clearance (CEC)/EIA certificates were issued by the NEMC (Mwalyosi et al., 1999; NEMC, 2010).

However, after the enactment of the EMA in 2004 and EIA regulations in 2005, the process of conducting EIA in the country has improved a great deal. Section 91 of EMA requires the NEMC to review Environmental Impact Statements (EIS) with the assistance of the Technical Advisory Committee (TAC) and to recommend to the Minister whether or not to issue an EIA certificate. From July 2005 to November 2013, the NEMC submitted 1,190 recommendations to the Minister for consideration before issuing EIA certificates. Among the 1,190 recommended projects, 11 were rejected (1 percent) and 1,179 were approved (99 percent) and issued with EIA/EA certificates (NEMC, 2013).

Moreover, section 100 and 101 of the EMA mandated the NEMC to conduct environmental monitoring and auditing of developmental projects. Also, regulations 46(2) of the EIA regulations requires Environmental Audits (EAs) to be carried out on developmental projects which commenced prior to the coming into force of the EIA regulations and which are likely to have adverse environmental impacts. From July 2005 to November 2013, the NEMC reviewed a number of audit reports and submitted them to the Minister for the issuing of EA certificates. As far as Sustainability Assessment (SA) is concerned, neither EMA nor EIA/SEA regulations recognise this tool. Therefore, the examples discussed hereunder refer only to EIAs and SEAs conducted in the country.

6.3 Impact assessment procedures in Tanzania

Part VI of the EMA and section 15 and Fourth Schedule of the EIA regulations outline the main procedures for conducting impact assessment in Tanzania. These include registration of the project proposal; screening; scoping; impact assessment and EIA report; EIA review; public hearing; decision-making and approval; appeal; project implementation (EMP); environmental post-audit and monitoring; and decommissioning (NEMC, 2010; URT, 2004; URT, 2005). (See Appendix C for more description on impact assessment procedures in Tanzania). Most of the examples of EIAs and SEAs discussed in this chapter have followed these procedures in their assessment process.

6.4 Examples of EIA and SEA

Before the enactment of EMA in 2004, only 37 projects were conducted. After the promulgation of EMA, about 1,190 EIA projects were submitted and approved between 2004 and December 2013 (URT, 2013). However, only five projects are described in this section. These projects are

purposely selected among those conducted due to the requirements of multilateral cooperation such as the World Bank for funding purposes, as well as those conducted and approved by government despite having significant impacts on the environment (controversial EIAs). These include the Songo Songo gas exploration project and the Strategic Regional Environmental and Social Assessment (SRESA) for the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) programme which was conducted due to the requirements of multilateral cooperation, as they were funded by the World Bank. Other projects include the Prawn farming project and the recent Serengeti road project which were approved by the government despite having significant impacts in the environment. The fifth project is the development of a cement factory at Talawanda and the Mgulu Mtali Ward Bagamoyo district. This project was selected due to the fact that it is one of the recent projects which followed all procedures as required by law, and which, to a large extent, tried to integrate sustainability issues into the design of the project, but did not incorporate the costs of implementing the EMP. These projects illustrate examples of ignoring impact assessments and also how opportunities to promote sustainable development in Tanzania are squandered, as well as illustrating the governance challenges as it relates to enforcement and compliance with the laws.

6.4.1 EIAs and SEAs conducted before the promulgation of EMA, 2004 and its regulations

This section presents examples of EIAs conducted in the country before the enactment of the EMA, when 97 percent of all EIAs were approved. These include the Songo Songo gas exploration project and the Prawn farming project, which illustrate the general overview of impacts assessments prior to 2004.

6.4.1.1 The Songo Songo gas exploration project

In 1974 Tanzania discovered gas reserves at Songo Songo Island in the Kilwa district (figure 7) when two joint companies, AGIP/AMOCO, drilled the first well on the island. However, the project was abandoned by the companies because there was no apparent market for natural gas at that time. The project was resumed in the 1990s by the government after it received financial assistance from the World Bank. The additional eight wells were drilled and five were found to be good gas producing wells, which enabled the commencement of the scheme. The project plan involves production, processing and transportation of natural gas from the Island to a thermal electricity power generation facility at Ubungu, Dar es Salaam that connects to the existing national electricity grid (Manyasa, 2005; World Bank, 2011).

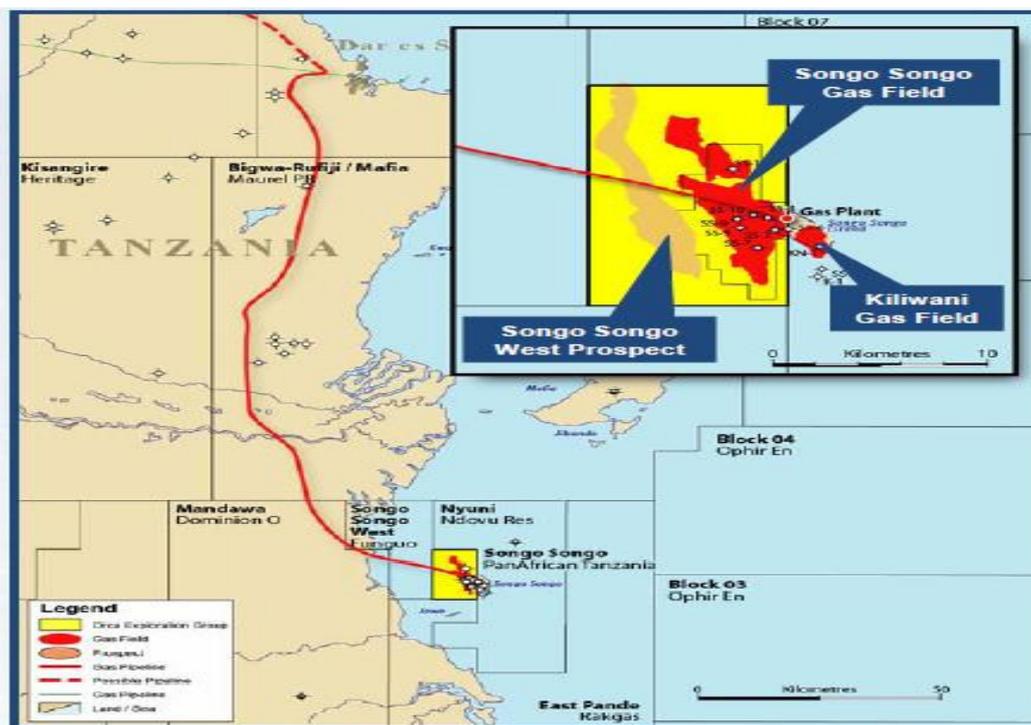
The Songo Songo EIA process

The first EIA for the Songo Songo gas development project was carried out from September 1993 to December 1994. The feasibility study for the project was conducted by two joint companies,

Hardy BBT and Canuck Limited in 1992. The Ministry of Water, Energy and Minerals (MWEM) facilitated the EIA process (Manyasa, 2005).

The screening of the project was reviewed and completed by the World Bank which assigned the project to category “A”, which under World Bank EIA regulations and policies, requires a full EIA. From 1994 to 2000, a number of EIA reports were drafted and frequently reviewed to meet the required standards. In this process, other specific environmental studies were recommended to supplement previous reports. In June 2000, the NEMC formally asked to review and approve the EIA report based on all studies previously conducted. The NEMC and World Bank approved the final report in April 2001 and submitted it to Songas for implementation. Songas is a privately owned company established to develop, construct, own, and operate the project’s gas and power infrastructure. Songas was responsible for processing gas within the gas field at Songo Songo Island and transporting it by pipeline to Dar es Salaam to supply the Ubungu Power Plant (112 MW upgraded to 125 MW under the project). The Tanzania Electric Supply Company Limited (TANESCO) purchase power produced at Ubungu by Songas (Manyasa, 2005; World Bank, 2011).

Figure 7: Map for Songo Songo Island South East of Tanzania (Source: Energy-pedia.com, 2010)



Key issues identified during the EIA study

Key issues identified during the EIA study include, among others, the loss of biodiversity due to the fact that the project area is surrounded by mammal species which need to be conserved.

Moreover, the project could result in the loss of vegetation due to the fact that the pipeline corridor passed through stretches of natural vegetation.

Socio-economic issues were also identified. This included the fact that the construction and implementation of the project could provide significant employment opportunities for a large number of Tanzanians. Availability of local labour, local materials and services within the project area could create jobs and boost the socio-economic development of the surrounding communities. As such, the provision and upgrading of medical facilities and medical staff to serve the island residents and project staff was emphasised. Also, the project proponent was required to develop a strategy for addressing the HIV/AIDS pandemic for the duration of the project.

Resettlement and compensation issues were identified and included the development of a Resettlement Action Plan to meet World Bank guidelines including involuntary resettlement, compensation and provision of resettlement sites to affected communities along the pipeline corridor (Manyasa, 2005; World Bank, 2011).

EIA decision-making for Songo Songo project

After the review of the EIA reports and EIS, the Songo Songo gas project was considered among the finest projects which have, to a large extent, implemented the EIA requirements (Manyasa, 2005). However, the first EIA report was concluded when the turbines, at that stage with JET A-1 burners, were being installed at the Ubungo power plant. The first EIA report recommended that the turbines be shifted to Kinyerezi where the area would not be competing with residential areas and other human activities. However, this recommendation was not implemented. Currently, the turbines are located and operating at Ubungo, a high risk area for fire due to gas leakage. The impact is therefore potentially high, due to the fact that Songas has no gas firefighting technicians (Manyasa, 2005).

Moreover, it is noted that the EIA and EIS reports did not predict the consequence (such as interference with Songas activities) of the bus stop at Ubungo located along Mandela road to allow access to the main entrance for the Ubungo power plant and Songas offices. The bus stop has now shifted and is located a few meters from the power plant near the Landmark hotel. Also, the issue of water supply to the villages at Songo Songo Island has not yet been fully resolved as recommended in the EIA report. Furthermore, the lack of an air quality monitoring system at Ubungo power plant means the emission of carbon dioxide (CO₂) and greenhouse gases (GHGs) and other pollutants cannot be monitored. This is due to inadequate equipment for air quality monitoring and technicians to monitor the air pollution. The presence of other industries and factories adjacent to the Ubungo power plant adds to the intricacies of the problems in the area (Manyasa, 2005).

Nonetheless, the EIA process managed to influence decision-making and almost all key stakeholders were involved despite the noted complaints from local people (Kinyerezi residents) on resettlement and compensation rates, and residents of Songo Songo on a lack of socio-economic benefits such as health, education and employment opportunities (Manyasa, 2005). The Ministry of Energy and Minerals has created a Project Monitoring Unit which is responsible for implementing the EMP as recommended in the EIA and EIS reports. Moreover, the monitoring and evaluation report noted that there was good communication between the Monitoring Unit and the villages of Songo Songo, including other areas along the pipeline. The project to a large extent managed to compensate all displaced people who lost their land and were resettled to other areas of Kinyerezi and Salasala after surveying those areas (Manyasa, 2005).

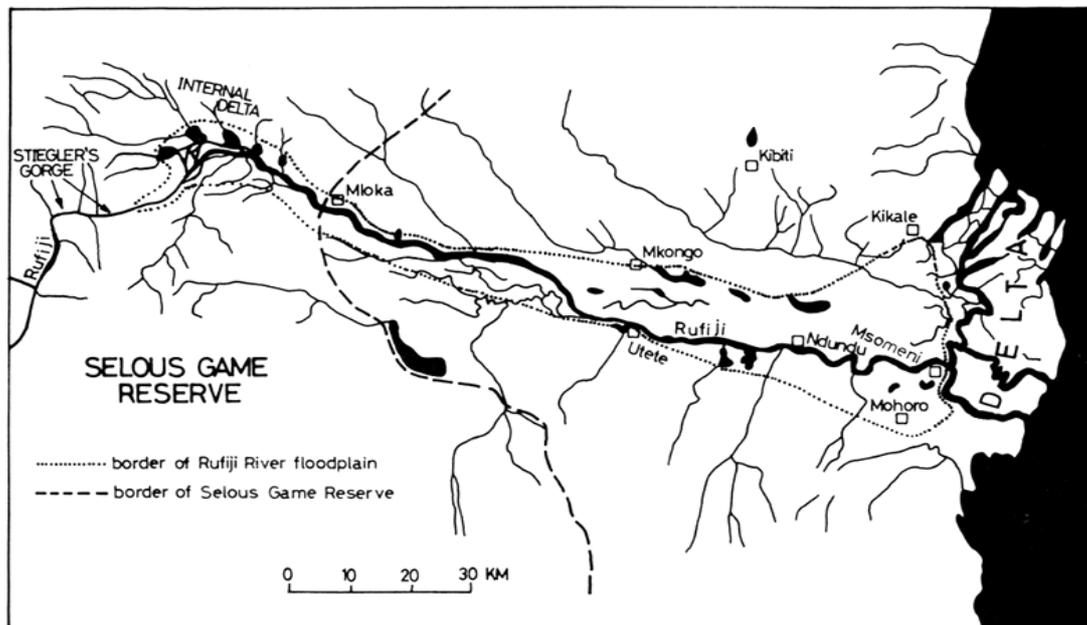
6.4.1.2 Prawn farming project in Rufiji Delta

The Rufiji River delta (figure 8) is the largest block of mangrove forest located about 150 km south of Dar es Salaam. It is linked to woodlands in the interior of the country by a 130 km long and 20 km wide floodplain. The blocks of mangrove forest are unique and form an irreplaceable ecosystem with diverse species of plants and mammals. They are among the world's most productive and ecologically important wetland areas. Mangroves protect the coastlines from sea waves and currents, thus, to a large extent, preventing coastal erosion and land degradation. Since they are highly productive elements of the marine ecosystem, mangroves generate large quantities of debris, which forms the basis of a complex marine food web. This potential makes them a unique ecosystem rich in flora and fauna biodiversity in both freshwater and saline environments (Nchimbo & Mgaya, 1997; Katima, 2003; Manyasa, 2005).

In 1996, a prawn farm project was proposed, to be located in Rufiji River delta and the downstream end of the flood plain. The African Fishing Company Ltd (AFC), a subsidiary of Tannol Holding Ltd of Korea, intended to develop a prawn farm covering about 6,000 hectares (ha) of surface water, with grow out ponds on 10,000 ha of land aimed at having production ponds plus water pumping stations, and supply and drainage canals. It was also proposed that staff quarters, and storage facilities for materials including supplies be built close to the farm. The estimated labour requirements would have included about 250-500 people in construction, about 6,000 people in the farm operation; about 500 people in the hatchery and about 1,200 people in the processing plant (Katima, 2003).

The project was to be financed under a credit facility extended by the European Investment Bank (EIB) and European Development Fund (EDF) to the tune of USD 180 million. The funds were not released because of criticisms of poor quality EIS and conflicts which arose after the second EIA study. Consequently, the investor abandoned the project despite the fact that the government had approved the project (Katima, 2003; Manyasa, 2005).

Figure 8: Map of Rufiji River Delta in South East of Tanzania (Source: FAO.org, 2008)



The EIA process for prawn farming project

A team of 11 experts to conduct the EIA study was identified by the developer, AFC Limited that included three foreign specialists from the USA (US-Based aquaculture consultant), Zimbabwe, Germany and individual local experts from Tanzania. The aim of the EIA study was to ensure that potential environmental problems and related conflicts were foreseen as well as addressed at an early stage in the project planning. However, the EIA was undertaken when it was too late to integrate environmental concerns at the creative stage. At the point when an EIA was conducted, the type, scale, and location of the project had already been decided on the basis of economic considerations. The public had no chance to influence the decision-making early on (Mwalyosi & Hughes, 1999; Katima, 2003; Manyasa, 2005).

Moreover, the EIA report produced by the developer was inadequate due to insufficient information relating to the proposal and the environmental impacts. There was poor baseline information, which led to the deficiencies in analysis and inadequate public participation in the EIA process. The EIS was produced to justify rather than to access issues associated with the development proposal. As such, the EIS attracted comments and criticisms from various stakeholders, local people, academics, development partners, and NGOs. Also, conflict arose between the project proponent and stakeholders (especially residents of Rufiji) in the proposed project area. In response, the government requested a second and highly detailed EIA. The second EIS identified important technical, environmental and socio-economic discrepancies

about the EIA and recommended mitigation measures (Mwalyosi & Hughes, 1999; Katima, 2003; Manyasa, 2005). The second EIS identified the following key issues:

- Loss of biodiversity: the EIA proposed a no-net loss of mangroves by suggesting that the project would replant mangroves in other areas. This was found to be unrealistic due to the fact that the different mangrove species have different ecological requirements as well as other environmental factors and they are site-specific. The project does not give alternatives to meet the objectives of the mangrove management option. The first EIA report also disclosed the serious negative impacts of construction of canals, roads and other project actions.
- Socio-economic benefits: the benefits that were proposed for local people who would be affected had no financial commitments. There were no funds allocated as compensation for the resettlement of displaced families.
- There were no funds allocated to implement the mitigation plan despite the EIA reports indicating that the project proponent was committed to implement the EMP.
- There was no comprehensive baseline studies conducted which could have been used in the monitoring activities. Various stakeholders' roles were not clearly defined in the monitoring plan. Moreover, there were no alternative sites for the project (Katima, 2003; Manyasa, 2005).

The second EIA report concluded that the project had many negative socio-economic and environmental impacts; therefore the project should be rejected. The NEMC, after reviewing the submitted EIS, advised the government that the project should be rejected because it was proposed for an ecologically sensitive area with mangroves and it would have negative impacts on forestry, fisheries, marine environment, land use, water resources and wildlife. Moreover, it was recommended that a proper land-use plan and baseline studies should be carried out in Rufiji basin in order to integrate the various competing interests in the area.

The project also contravened the National Land Policy of 1995; the Land Ordinance of 1923 (by transferring right of occupancy to the developer without recognising the customary rights of the locals); the Forest Ordinance Cap, 389 of 1957 (by allowing prawn farming in a forest reserve); as well as the Marine Park Reserve Act of 1994 (by allowing a proponent to construct a hatchery at Bwenjuu Island) (Katima, 2003; Manyasa, 2005).

Despite of all these negative recommendations, the government approved the project without consulting the NEMC. However, the project was not implemented after increased external pressure, court intervention and abandonment of the project by the investor (Mwalyosi & Hughes, 1999; Katima, 2003; Manyasa, 2005).

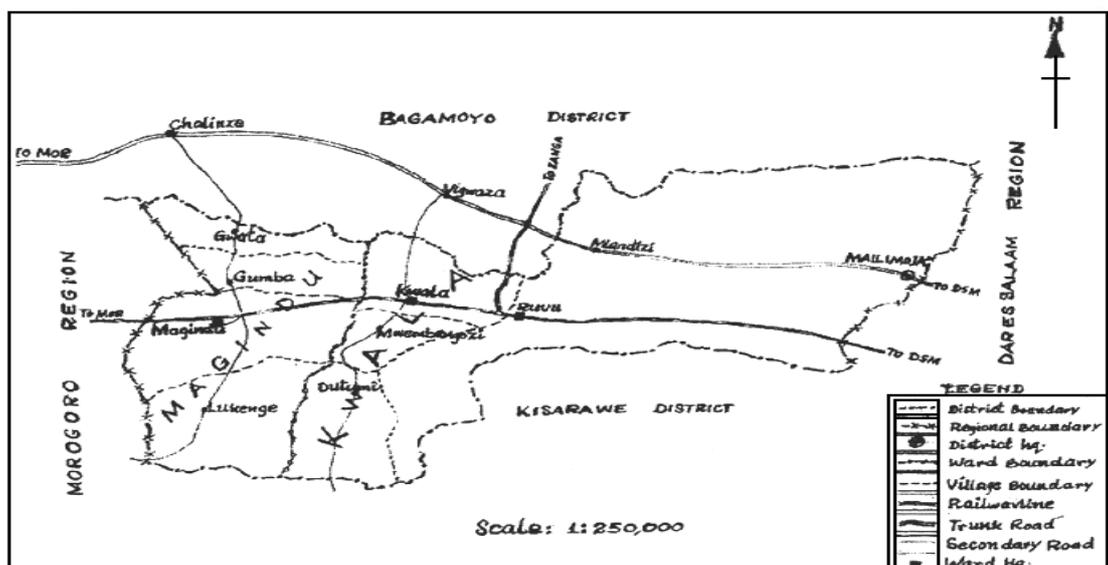
6.4.2 The EIAs and SEAs conducted after the promulgation of EMA, 2004 and its regulations

This section presents the examples of EIAs and SEAs conducted in the country after the enactment of the EMA in 2004, when 99 percent of all 1, 1190 EIAs were approved. These include the EIA study for the proposed development of a cement factory at Talawanda and Mgulu Mtali Ward Bagamoyo district, the Serengeti road project, as well as the Strategic Regional Environmental and Social Assessment (SRESA) for the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) programme.

6.4.2.1 Environmental and Social Impact Assessment (ESIA) for the proposed development of a cement factory at Talawanda and Magulu Matali Villages, Talawanda Ward, Bagamoyo District, Pwani Region.

The Mamba Cement Company Limited (MCCL) is a locally registered Tanzanian company that intends to invest in the manufacturing of cement in the Bagamoyo District (figure 9). The factory will be using limestone and red soil as the main raw materials which will be obtained within the proposed project site. The EIA process was conducted by the East Africa Resource Group on behalf of the project proponent (MCCL) and submitted to the NEMC on 7th January 2014 for review and approval. The aim of an EIA or ESIA was to ensure that the potential impacts related to the ecological, social, cultural, health and economic, as well as physical environment were foreseen and addressed during the project's planning and design, implementation and decommissioning stages (NEMC, 2014).

Figure 9: Map of Bagamoyo District (Source: FAO.org, 2009)



Stakeholder and public participation

Stakeholders include those people and institutions with an interest in the successful design, implementation and sustainability of the project. The stakeholders that were identified by the review team included those affected positively and negatively by the project. They included local communities living around the project area, formal organisations and public/community organisations and groups, local leaders, central government officials, and the private sector. Methods for stakeholder participation adopted included public meetings, focused group discussions and individual consultations/interviews. Lines and methods of communication and interaction with the stakeholders including use of letters to inform the public about the study and the consultations were developed (NEMC, 2014).

In general, all the stakeholders consulted supported the project on the grounds that it could provide employment opportunities for local communities and contribute to the improvement of livelihoods. However, concerns were raised regarding the impact of the project on issues such as pollution, employment, workers' safety issues, land acquisition and waste management. Also, stakeholders identified the issue of land use conflicts that might arise as a result of developing the plant. The proposed plant will take up about 27.09 km² of land (NEMC, 2014).

Significant impacts identified during the EIA study

Various positive and negative impacts associated with the proposed project were identified. In this regard, significant positive impacts were: the project will increase the supply of cement to support the growing construction industry and ensure the availability of cement to the public. The project will increase opportunities for employment and other economic activities linked to project development. It will increase benefits to the local and the national economy resulting from revenue generation, increased taxes, provision of goods and services to the workers and others benefiting from auxiliary activities. It will also improve social services such as schools, health facilities in the surrounding communities as a result of Cooperate Social Responsibility (CSR) from the developer, as well as increase foreign exchange as a result of exporting cement (NEMC, 2014).

On the other hand, significant negative impacts were also identified. These include environmental impacts such as soil erosion due to the increased runoff effects and loosened top soil caused by mining machinery operation and the removal of vegetation cover. Other impacts included deforestation in the surrounding areas due to increased consumption of fuel wood, as well as the expansion of farming as result of increased population and the opening of access roads. A change in the quality of groundwater was also expected due to possible seepage of fuel/oils from mining machinery and vehicles carrying limestone and red soil from the mining area (NEMC, 2014).

Pollution would have included noise pollution due to the movement of trucks, blasting of rocks, mining activities and cement production, as well as air pollution from dust, fumes and exhaust due to cement production activities. Water pollution was also expected to be caused by accidental liquid waste spills, leakages of oils and fuels from mining machines, stored materials and wastes generated from operation, waste disposal from machinery and vehicle maintenance facilities (NEMC, 2014).

Negative socio-cultural impacts were also anticipated, such as an increase in HIV/AIDS and other communicable diseases, traffic injuries and accidents associated with transportation of raw materials. In addition, it was envisaged that there would be a loss of land and access to farmland, an increased threat to security, and changes in norms, values and lifestyles arising from increased incomes and increased population (NEMC, 2014).

Environmental social monitoring plan

Monitoring includes checking for effectiveness or otherwise of mitigation and enhancement measures to deal with the predicted impacts of a particular project. The EMA empowers NEMC to enforce compliance with the environmental permits (certificate) issued prior to development and follow it up with monitoring to ensure implementation of the EMP. As such, different issues have been identified in the EIA report to be monitored by the NEMC in collaboration with relevant sectors and other stakeholders (NEMC, 2014).

The process of monitoring will involve baseline monitoring, impacts/effect monitoring, compliance monitoring and mitigation monitoring. Monitoring frequency is proposed for each critical parameter depending on the likelihood and level of change over time. Some parameters take longer to show changes while others will change in a very short time. For example, liquid effluents and noise should be monitored daily. Soil erosion should be monitored on a monthly basis. The mitigation plan and the monitoring plan together constitute the EMP for the proposed development (NEMC, 2014).

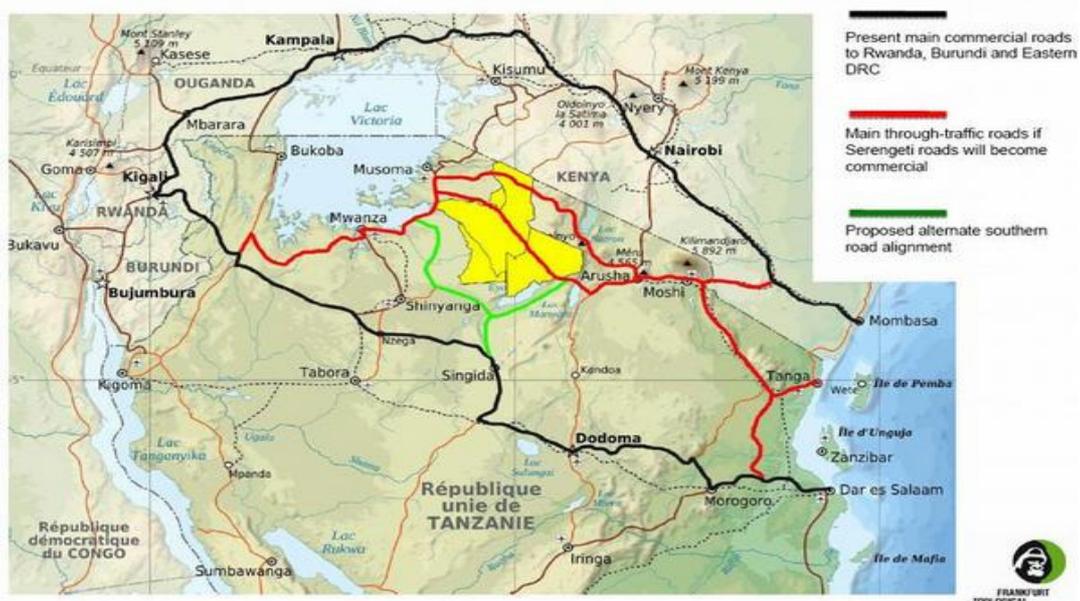
The initial investment cost of the project was USD 195.41 million, which would cover the cost of plant installation, administrative overheads and marketing expenses. In addition to cost directly related to the project, there would be other costs for addressing environmental issues including the cost of implementing mitigation measures to offset foreseen impacts, as well as the cost of implementing the project management plan which were not included in the initial investment cost. The review team recognised that for a project to be judged viable, a comprehensive feasibility study was required that included the costs related to mitigation/enhancement of environmental impacts of the project. In this project the cost of mitigation measures were not included contrary to section 16 of the EIA regulations (NEMC, 2014).

Nevertheless, the EIA team recommended that the proposed project for cement production should be considered for approval, as it meets relevant policy objectives, but that the proposed mitigation as well as enhancement measures identified should be made an integral part of the management in order to ensure that project benefits are realised. The project was approved and issued with an EIA certificate.

6.4.2.2 Environmental and Social Impact Assessment (ESIA), feasibility study and preliminary design for Natta-Mugumu-Tabora B-Klein's Camp-Loliondo road (239 km) upgrading project (Serengeti road).

The Serengeti district is located in the North East of Tanzania. It is the biodiversity hotspot of the greater Serengeti ecosystem (figure 10). In 2005, the Tanzanian government decided to construct a commercial paved road from the booming town of Mto wa Mbu to Natta in the Serengeti District near the Lake Zone area. The government proposed to upgrade the existing road (385 km) that would also cut through three important ecological zones, which are very rich in wildlife. These include an open area between Natta-Mbiso village and the Robana River, the Loliondo Game controlled area, and the Serengeti National Park (URT, 2007; Schmidt, 2011).

Figure 10: Map of North-Eastern Tanzania illustrating proposed road across Serengeti and alternative Southern route (Source: Wildlifeextra.com, 2010)



However, this project attracted international concern and a whirlwind of controversy. Different environmental and conservation organisations commenced a worldwide campaign against the construction of the road. These included foreign governments such as Germany and the US, and

international institutions such as the World Bank which opened diplomatic discussions with Tanzania's government about the project. The main motivation of the government of Tanzania was that the construction of this road would increase commercial interests, employment, and provide improved links between the northern cities and the Lake Zone regions; while the international objection to the project focused on the ecological impact of the road, mainly in the Serengeti National Park (Schmidt, 2011).

EIA process

The EIA study was conducted by a consultancy firm (Inter-Consult Ltd) and the Tanzania National Roads Agency (TANROADS). A draft ESIA was prepared and released in October 2010. The draft ESIA provided a baseline for a more detailed environmental and socioeconomic impact analysis. However, the study report only analysed some 172 km of the total road (the portion that starts in the Loliondo Game controlled area), through Serengeti National Park, and continues to the Lake Zone regions (Schmidt, 2011). This section of the road is referred as the Natta-Mugumu-Tabora B-Kleins Camp-Loliondo (NMKTL) route. The report claimed that this route would reduce the current 200 km stretch in Serengeti National Park to about 60 km, which in turn would not only reduce adverse environmental impacts to the National Park, but would also facilitate socio-economic development of the corridor as well as surrounding communities. However, the ESIA attracted comments and criticisms from various stakeholders, NGOs, local people, and development partners (URT, 2007; Schmidt, 2011; Hartin, 2011).

In 2011, the government appointed another team from Cornell University to review the ESIA draft and the Serengeti ten-year management plan. The aim was to analyse some of the greater ecological and socio-economic impacts of the proposed project. The team also examined other commercial roads passing through wilderness areas in Tanzania, other African countries, and throughout the world. The EIA process in Tanzania as well as the larger international concerns and media attention was also taken into account (Schmidt, 2011). The review team found the following impacts associated with the project.

Positive impacts

The ESIA identified several primary socio-economic benefits which would presumably promote poverty alleviation. These include employment opportunities for temporary workers for surveying and construction of the road, as well as income from leased land along the road route. The project also would boost tourism development due to easier access to the Serengeti and surrounding areas. Other impacts identified were investment opportunities through tourism or other projects along the route, improved regional and district links with increasing social services provision, and reduced travel times and costs (URT, 2007; Schmidt, 2011).

However, the ESIA report did not provide statistics or data to back up most of these benefit claims. For instance, under employment opportunity, recent trends in Tanzania show that major infrastructure contracts such as this one are often awarded to foreign companies, some of which bring in their own foreign labour and employ very few local citizens. If local citizens are employed, they are usually brought in from urban areas as a degree of training and education is needed and employers are not willing to provide training. Education levels are low in both Ngorongoro and Serengeti (URT, 2007; Schmidt, 2011; Hartin, 2011).

Negative impacts

Negative impacts identified include, among others, socio-economic impacts such as that the ESIA report did not indicate clearly how economic gains will directly benefit residents along the route; a decrease in tourism due to the bad reputation of the project as perceived from media reports and criticisms; increase of land conflicts; an increase in communicable diseases, such as HIV/AIDs; and lack of benefit sharing due to the fact that both the Ngorongoro and Serengeti districts have a long history of failing to receive any substantial widespread benefits from existing tourism and investment projects (URT, 2007; Schmidt, 2011).

Ecological issues were also problematic, and the increase in traffic would have impacted the great migration of wildebeest and other animals, which will lead to the decline of the species. It is predicted that 800 trucks will use the road each day by 2015 and 3,000 by 2035. This trend will impact about 1.8 million wildebeest and 500,000 zebra and other herbivores which take part in the annual migration along the northern corridor (URT, 2007; Schmidt, 2011).

Land degradation and pollution challenges include loss of vegetation and farm lands due to camp siting, road expansion, and creation of diversions. Deterioration of the air quality due to transportation, stocking of construction materials, as well as fumes and dust from construction machinery, equipment, and vehicles, were also expected (URT, 2007; Schmidt, 2011).

Proposed mitigation measures

The mitigation measures identified in the ESIA to reduce negative socio-economic impacts included an increased police officer presence and private security guards for conflicts and violence mitigation. However, this measure was seen as problematic considering that the current police officers in Loliondo and Serengeti are generally ineffective at mitigating current violence and, according to some media reports, have actually precipitated more violence (Schmidt, 2011).

Moreover, in order to reduce the spread of HIV/AIDs, the ESIA suggests that the Serengeti road would give residents better access to HIV/AIDs information and notes one of its mitigation factors as increased seminars for HIV/AIDs awareness and prevention methods. However, the ESIA fails

to explore this possibility and prove how its mitigation factors will keep the HIV/AIDs rate from increasing (Schmidt, 2011).

Furthermore, the ESIA pointed out that to reduce the impact of habitat fragmentation, road signs, fences, and construction of underpasses to allow animals to cross the road during the migration seasons will be undertaken. However, these measures were deemed to be ineffective and would bring about the end of the great migration and leave animals with no access to water and pasture. The population of 1.3 million wildebeest could be reduced to 200,000 animals if the project was implemented (URT, 2007; Schmidt, 2011).

In addition, the review team indicated an alternative to avoid the proposed route which cut across the great Serengeti ecosystem. Instead, a road was proposed from Mto wa Mbu through more southern regions around Lake Eyasi before heading north toward the Mara and Lake Zone regions. In fact, the southern route (green on the map) would serve nearly five times as many people than the proposed Serengeti route (red). In essence, each kilometre of the northern route services 1024 people (mainly Masai pastoralists whose livestock will be frequent victims of increased road traffic), while each kilometre of the southern route provides services for 5950 people, many of whom are agriculturalists (Schmidt, 2011; Hartin, 2011).

Despite these recommendations, the government of Tanzania approved the project and intended to start construction of the original route in the summer of 2011, ending in the spring of 2012 (Hartin, 2011). The Kenyan NGO- Africa Network for Animal Welfare (ANAW) filed a case before the East African Court of Justice in Arusha, contesting the government's intention to build this road crossing the great Serengeti ecosystem (allAfrica.com, 2014).

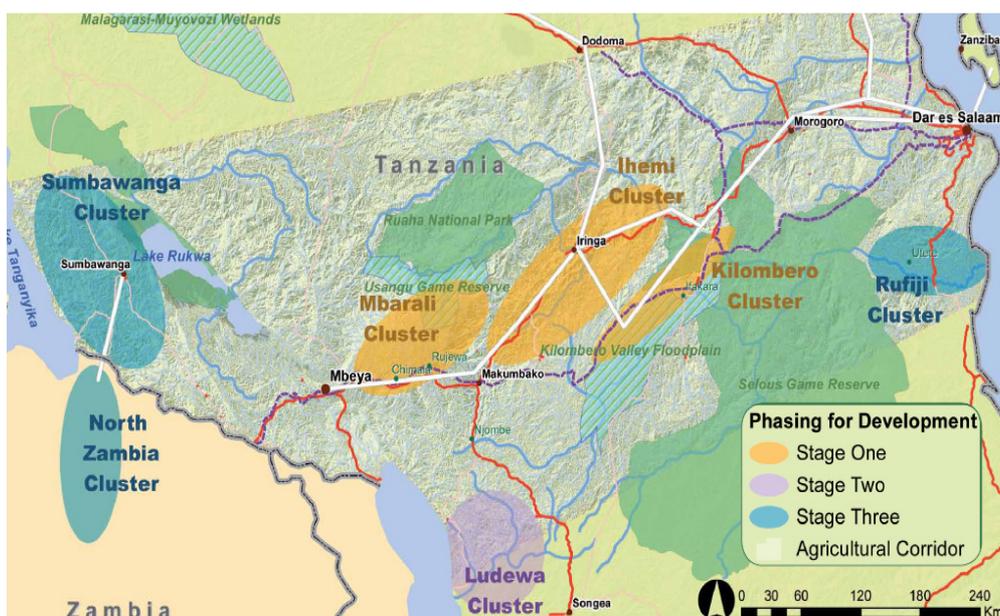
In June 2014, the Court held that the initial proposed action by the United Republic of Tanzania to construct a highway across the great Serengeti ecosystem was unlawful and an infringement of article 5(3) (c) of the Treaty for the establishment of the East African Community. The provision provides for the promotion of sustainable utilisation of the natural resources of the partner states and measures that would effectively protect the natural environment of these countries. The Court further granted a permanent injunction restraining the Tanzania government from implementing the project subject to its right to undertake such other initiatives in future which would not have negative impacts on the environment and ecosystem in the Serengeti National Park (Hartin, 2011; allAfrica.com, 2014).

6.4.2.3 A Strategic Regional Environmental and Social Assessment (SRESA) report for the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) programme

The SAGCOT programme is a major initiative to reinforce the *Kilimo Kwanza* (Agriculture First) Strategy. It is a Public-Private Partnership (PPP) aiming to mobilise USD 2.1 billion in private sector investment over the next 20 years to achieve higher rates of income growth and job creation. This will be implemented through the development of competitive agribusiness value chains across the southern corridor. The programme intends to concentrate investments within the rail and road corridor stretching from Dar es Salaam in the east through Morogoro, Iringa, and Mbeya, and west to Sumbawanga (figure 11). The programme aims to bring 350,000ha of farmland into commercial production for regional and international markets, to increase annual farming revenues, and to lift more than 2 million people (roughly 450,000 farm households) out of poverty (URT, 2012c).

The main objective of the programme is to provide opportunities for smallholder producers to engage in profitable agriculture. This will be achieved by incentivising stronger links between smallholders and commercial agribusinesses, including "hub and out-grower" schemes that allow smallholders in the vicinity of large-scale farms to access inputs, extension services, value-adding facilities and markets. The SAGCOT will also support smallholder producer associations, helping them enter into equitable commercial relationships with agri-processing and marketing businesses (URT, 2012c).

Figure 11: Map of Southern Agriculture Growth Corridor of Tanzania illustrating the clusters and phases of the programme (Source: URT, 2012c)



The SEA process

The project was subjected to SEA prior to funding. The SEA was conducted by following the impact assessment process and procedures. The project screening was conducted prior to the start of the project to trigger most of the World Bank "safeguard policies", including the framework Operational Policy 4.01 Environmental Assessment. Scoping was conducted and resulted in preparation of the study's Terms of Reference (ToR) which included a literature review, discussions with key informants in the main stakeholder groups, preliminary fieldwork, and a scoping workshop, held in Dar es Salaam on 07 June 2012 (URT, 2012c).

Impact assessment and development of mitigation measures

Different scenarios were developed to determine probable impacts on a range of environmental and social values and indicators. These values included physical constraints and processes such as water availability and climate change. Also, ecological values such as habitat connectivity, pressure on forests and impacts on endangered species were considered. Social processes such as demographic change and resource-use conflicts, as well as economic factors including employment, were also included. As far as possible, quantitative indicators of each value were used such as areas of forest, numbers of endangered antelope, and amount of water required, to mention a few. The impacts identified were potentially positive or negative, direct or indirect, and cumulative. More importantly, the strategic significance of the predicted impacts were assessed in relation to both Tanzanian policies and, where applicable, international policies and guidelines (URT, 2012c).

For each scenario, the specific measures which could be undertaken to avoid, minimise, or mitigate identified significant negative impacts and/or enhance positive effects were assessed. The measures included policy changes as well as planning procedures, and the need for institutional changes as well as capacity development. Most essentially, the recommendations focused on physical sustainability in terms of key limiting factors such as water, and environmental sustainability in terms of factors such as fuel wood production and water quality. Moreover, social sustainability in terms of ensuring benefit flows to smallholders and communities, as well as resolution of potential land use conflicts especially between crop farmers and livestock herders were measured (URT, 2012c).

Public participation

Stakeholder consultations during the SEA process were conducted with the objectives of providing information about SAGCOT and its potential impacts on those interested in or affected by the programme. It was also intended to provide opportunities for stakeholders to discuss their opinions and concerns, as well as to manage expectations and misconceptions regarding SAGCOT.

The main findings from the consultation process included the negative impact on smallholders; lack of access to land and benefit sharing; negative environmental impacts; as well as challenges relating to compensation and resettlement which were major issues of concern in relation to both programme effectiveness and reputational risk. Local perceptions were that foreigners would grab land. The land bank situation was confusing. Encroachers needed to be included in the compensation processes (URT, 2012c).

Also, stakeholders identified that governance is weak, the institutional capacity is low and corruption endemic. Therefore, the main issue was how to create and support effective and transparent mechanisms for the catalytic fund and SAGCOT, as well as coordinate and integrate the SAGCOT programme within the existing agricultural initiatives and take into account local people's needs in the planning. Moreover, SAGCOT may have impacts on biodiversity and will involve increased use of agrochemicals. The issue raised was how to implement Bank policies and best practice to protect against ecological degradation. The issue of economic growth and environmental and social development may involve trade-offs, but these need to be balanced. Other issues raised were whether social baselines would be subjected to monitoring as well as the fact that HIV/AIDS and gender are key issues for inclusion in project planning (URT, 2012c).

Environmental and Social Management Framework (ESMF)

The objective of the ESMF was to provide a framework for effective management of environmental and social issues in the proposed SAGCOT programme. It aimed to enhance the environmental and socio-economic benefits of the project and mitigate any adverse impacts, in line with the government of Tanzania and the World Bank's policies and guidelines on environmental management and social development projects. Since the precise locations and potential impacts of future subprojects could not be identified prior to the appraisal, the ESMF provided the basis for the environmental and social preparation needed for the sub-project investments (URT, 2012c).

6.5 Conclusion

Impact assessments in Tanzania have been conducted since the 1980s, usually to fulfil requirements of donors before funding the development projects, since no legislation regulated the impact assessment process at that stage. The 1992 Earth Summit, where countries committed to protect the environment through integrating sustainability aspects into developmental activities, boosted the development of impact assessment in Tanzania. The number of impact assessment processes increased after the promulgation of EMA and its regulations, which presently governs the process of conducting EIA and SEA in the country.

Examples of EIAs and SEAs conducted before and after the promulgation of the EMA, 2004 are described. Specifically, projects conducted due to donors' requirements (such as the World Bank)

for funding purposes, as well as those conducted and approved by the government despite having significant negative impacts on the environment (controversial EIAs) were discussed. Most EIAs were approved and as illustrated in some cases, despite serious environmental and social challenges. The following chapter deals with the practical application of the Tanzanian case study. These examples of EIAs and SEAs, together with the legislation, are assessed to demonstrate to what extent they contribute to sustainability in practice, and the findings are then discussed.

CHAPTER SEVEN: ANALYSIS AND DISCUSSION

7.1 Introduction

The previous chapters presented the Tanzanian policies and legislation for impact assessment and sustainability, as well as examples of Environmental Impact Assessments (EIAs) and Strategic Environmental Assessments (SEAs) conducted in the country. This chapter is the practical application of the issues and themes that emerged from previous chapters. An analysis matrix of impact assessment legislation together with EIAs and SEAs case studies was drafted, followed by a discussion of each theme. These themes are then compared with other countries to demonstrate the extent to which they are integrated into the Tanzanian policy and legal framework. Then, a general discussion and results are presented based on the theoretical foundation and case studies. Finally a summary of the outcomes, conclusion and recommendations of this study, as well as areas for further studies are outlined.

7.2 Analysis of themes

In this study data are analysed from the documents. The units of analysis are policies and laws, as well as examples of EIAs and SEAs which are described in chapter five and six respectively. The policies and laws provide a background to what is happening in Tanzania in terms of socio-economic growth and sustainability. The examples of EIAs and SEAs analysed are not necessarily representative of all EIAs and SEAs conducted in the country, but only illustrate examples of ignoring impact assessments and how opportunities to promote sustainable development in Tanzania were squandered. The examples also illustrate the governance challenges as it relates to enforcement and compliance with legislation.

A structured matrix was employed to extract information from these documents and reports. The main themes which discussed from the theoretical outline were used to assess these documents (see Appendix A for the matrix of policies and legislation as well as the matrix of EIA and SEA examples). Most of the themes selected from the theoretical framework are those which appeared frequently in the literature and, to a large extent they address the research questions. These include: perceptions concerning sustainable development; integration and coordination mechanisms; impact assessment processes; public and stakeholder participation; governance and the rule of law; addressing poverty, inequality and benefit-sharing; strategic and long-term planning; as well as complexity and system thinking.

Each of these themes is discussed to assess the extent to which it is integrated into the Tanzanian policy and legal framework for impact assessment. Literature and case studies as well as a comparison with other countries are used to back up this discussion. At the end, the results are presented and general discussion is conducted, followed by a conclusion and recommendations.

7.2.1 Perceptions concerning sustainable development

The concept of sustainable development has become a cornerstone for policy-making in most of the countries around the globe. Despite the existence of different interpretations that emerged after the Brundtland Commission Report (1987), this concept is elaborated in terms of integration of socio-economic, political, physical and environmental dimensions into decision-making process towards a common goal of achieving sustainability (Hopwood et al., 2005; Ness et al., 2006; Gibson, 2006).

In the analysis matrix, it was observed that most of these pillars are integrated in different ways. The policies and legislation assessed view sustainable development in terms of 'sustainable economic growth', 'sustainable social and economic development', 'sustainable and inclusive growth', 'sustainable growth', as well as 'sustainable utilisation of natural resources' (URT, 1999; URT, 2010b; URT, 2012b). For instance, the Environmental Management Act (EMA), Environmental Impact Assessment and Audit regulations (EIA regulations), and Strategic Environmental Assessment regulations (SEA regulations) have articulated the definition of the Brundtland Commission in section 3 of the Acts. The concept entails meeting the needs of present and future generation by maintaining the carrying capacity of the ecosystem by using certain principles as a roadmap (URT, 2004).

The same definition is expressed in the National Environmental Policy (NEP) which is the main agenda for policy achievement (URT, 1997). In Tanzania Vision 2015 the concept is defined as a means of achieving a competitive economy, high quality livelihood, good governance, an educated society as well as peace, stability and unity. In the Five Year Development Plan (FYDP) the concept is viewed as the principle for policy planning and economic growth embedded with key aspects such as social service delivery, human capital development, and ecological sustainability.

At the same time, the National Environmental Action Plan (NEAP) and the National Strategy for Growth and Reduction of Poverty (NSGRP) (which is also viewed as a NSSD) integrate the concept as the main tool for mainstreaming environmental issues into decision-making process. Specifically, NSGRP stressed that achieving sustainability will entail addressing the issue of poverty reduction through employment creation as well as equitable and shared growth. To a large extent these documents show the political acceptability of the concept of sustainable development in different ways.

However, none of the documents clearly indicate continuous and mutually compatible integration of the five pillars of sustainable development, as well as how they can be realised for sound decision-making. Most of the pillars addressed are socio-economic, political and environmental sustainability, and they are often addressed in an isolated way. The physical

sustainability (built environment and technology) is to a large extent inadequately addressed, though mentioned in the Tanzania Vision 2025.

Moreover, the assessment conducted in examples of EIAs and SEAs indicate the possibility of the projects contributing to social development through provision of social services, economic development through job creation and ecological development through the implementation of environmental impact mitigation and monitoring plans. There is inadequate evidence on how the governance aspect and physical sustainability could impact the projects to be undertaken. In most cases, the projects and programmes identify the institutions responsible for implementation without indicating their capacity and capability, as well as how they will be coordinated (see, for example, the proposed cement factory in Talawanda, the EIA report (NEMC, 2014) which proposes that Bagamoyo district council build a dispensary, police post etc. for mitigating social issues without indicating how the council will mobilise resources for such an undertaking).

Other policies, programmes, plans and projects are approved often without conducting an impact assessment process, or the assessment is conducted and negative adverse impacts are overwhelming but still the projects are approved (see, for example, Prawn farming project (Katima, 2003) and Serengeti road project (URT, 2007; Schmidt, 2011)). The integration of sustainable development goals into decision-making has remained elusive with little or no substantive progress on the implementation side.

An instrument such as the National Strategy for Sustainable Development (NSSD) (currently the NSGRP) which can assist the integration and bring about policy coherence does not link with the existing impact assessment legislation. Countries such as the European Union (EU), United Kingdom (UK) and other European countries have successfully used NSSD, Environmental Policy Integration (EPI) together with impact assessment legislation to integrate sustainability dimensions at the higher level of decision-making (Pisano et al., 2013). For instance, countries such as Belgium, Finland, and Switzerland applied integrated impact assessment in the process of formulating their NSSDs (Berger, 2007, Pisano et al., 2013).

The current NSSD is a short to medium term strategy. Sustainable development requires long-term integration of sustainability goals into the decision-making process. Therefore, there is a need for a NSSD separate from the current NSGRP. The new NSSD should be seen as a long-term strategic planning document which can facilitate the integration of sustainability pillars and provide for policy coherence, in between and across the sectors. This is the lesson which Tanzania can articulate and adopt a mechanism with which NSSD can guide sustainable development initiatives in the country, as well as integrate fragmented sector policies, plans and programmes.

7.2.2 Integration and coordination mechanisms

The integration of sustainable development dimensions into decision-making is necessary to achieving sustainable development. Integration and coordination mechanisms can be conducted in different ways. Issues such as ecological sustainability, sound economic growth, social equity, political sustainability, and built environment must be integrated into the legislation with clear implementation mechanisms (Dovers, 2005; Gibson, 2006). Vertical and horizontal integration for coordination mechanisms are among some of the promising ways to mainstream these sustainability goals into decision-making processes.

It is worth noting that EMA and subsequent regulations, to a large extent incorporate both vertical and horizontal integration for coordination mechanisms. At the national level, EMA established the Division of Environment under the Vice President's Office which is governed by the Minister responsible for Environment and the Director of Environment (DoE) (section 13 and 14). The National Environmental Advisory Committee (NEAC) and National Environmental Management Committee (NEMC) are also established at that level. The regional secretariats (RSs) are established at the regional level, while local government authorities (LGAs) have formed environmental committees and appointed officers to integrate and coordinate environmental issues at the level of towns, districts and villages (URT, 2004).

At the grassroots level, environmental committees and officers are established at the level of Township, Ward, *Mtaa* (neighbourhood) and *Kitongoji* to coordinate all functions and activities geared towards the protection of the environment within their area. Horizontal integration is observed by the Act through the establishment of sector environmental sections in ministries, departments and agencies (MDAs). The sections ensure the proper implementation of impact assessment legislation in the sector. The MDAs collaborate with DoE and NEMC on all environmental matters in order to achieve cooperation and shared responsibility for environmental governance (URT, 2004).

Moreover, impact assessment policies recognise and incorporate the mechanisms for coordination and integration. The NEP calls for a paradigm shift from a development model in which sectors act independently of each other, to a model in which there is integration across sectors, where decisions take into account inter-sectoral effects, to improve inter-sectoral coordination. This involves the integration of policies, plans and programmes of interacting sectors and interest groups to balance long-term and short-term needs in environment and development. It calls for a coherent policy where priorities can be defined for the promotion of long-term economic growth, creating incentives for the sustainable utilisation of natural resources, and overall environmental management (URT, 1997).

The FYDP also stressed the need for integration and coordination mechanisms especially at the levels of MDAs, RSs and LGAs for effective execution of the plan. The President's Office Planning

Commission (POPC) will take the lead role in coordination, monitoring and evaluation at national level, specifically for strategic national investment projects and programmes (URT, 2012b). In addition, the Tanzania Vision 2025, NEAP and NSGRP outline the requirement for integration and coordination as an important tool for achieving sustainability by integrating, coordinating and harmonising environmentally sustainable policies and strategies at all levels, including climate change adaptation and mitigation.

However, the mechanisms established for coordination and integration did not indicate how the adopted councils, commissions, committees, and bodies at the different levels are integrated. For instance, how the consultation process is conducted, how the awareness process is raised and how the information is exchanged. Also, the legislation did not indicate the existence of annual or mid-term meetings, seminars and workshops which will bring different actors together. For example, in Finland, the Finnish National Commission on Sustainable Development (which is also responsible for vertical coordination) is responsible for outlining and preparing an inter-ministerial secretariat which operates as a network and convenes 8-10 times a year. This mechanism has proved effective for policy coherence and the integration of sustainability dimensions in Finland (Pisano et al., 2013).

In Hungary both political and administrative bodies are used. The politicians and administrators are enriched by the participation and consultation process of societal stakeholders such as NGOs, corporate, civil society and academia. In Belgium, the process is conducted in the form of an advisory function in the preparation of policy drafts and reports on impact assessment and sustainable development issues (Pisano et al., 2013).

In conducting the impact assessment process, the NEMC coordinates a cross-sectoral Technical Advisory Committee (TAC) only during the review of Environmental Impact Statement (EIS) before submission to the Minister for approval (Fourth Schedule of EIA regulations). The TAC is composed of members from sector ministries responsible for environment and resource management. At this point, horizontal integration is observed among ministries and departments, but only in discussing EIA issues (URT, 2004).

Vertical coordination in most cases is lacking during the impact assessment process. The local authorities, NGOs, private sectors, CBOs, regional secretariats and citizens may only participate during the public hearing stage. Often the EMA under section 40 and 41 did not empower the government committees and officers at the level of Township, Ward, Village, *Mtaa* and *Kitongoji* to take part in the assessment process. Despite the fact that they coordinate all functions and activities aiming at protecting the environment within their area, they do not have any responsibility in the EIA or SEA processes (URT, 2004).

Moreover, section 9 of the SEA regulations empowers the DoE to coordinate the SEA process and may seek the views of any person or the general public during the process. This means that public participation is not a mandatory requirement in the SEA process. As such, key stakeholders may not be integrated into the strategic assessment of policies, programmes or plans (URT, 2008). Generally, in most of the projects assessed, the analysis matrix indicates that there were inadequate integration and coordination mechanisms of the institutions or stakeholders involved during the project design or during the field study (assessment process), though they were consulted during the public hearing stage.

Sustainable development requires meaningful involvement of different actors who can find multiple ways of integrating the available knowledge, reconciling values and preferences, as well as creating ownership for problems and solution options (Lang et al., 2012). As such, both interdisciplinary and transdisciplinary learning approaches are vital in promoting coordination mechanisms, which in the case of Tanzania is lacking. In Europe, the approach has proved to be efficient in formulating and implementing impact assessment policies, laws, programmes and strategies, including the review, monitoring and evaluation of their implementation process for sustainable development (Pisano et al., 2013). This is the lesson which can be articulated and can improve the existing coordination mechanisms in the Tanzanian context.

7.2.3 Public/stakeholders participation

The assessed policy and legislation uses different terminologies such as '*public participation*', '*consultation*' and '*participation*' to mean stakeholder involvement in decision-making. Only the terms '*participation*' and '*public*' are defined in the EMA. Participation is defined to mean opportunity and ability to influence the outcome of a decision-making process, whereas public means individuals, civil society, organisations and institutions, CBOs, public and private institutions. The Act also incorporates public participation as one of the principles for environmental management and sustainability (URT, 2004).

The Act uses the term consultation in different sections such as section 7 sub-section 4 which empowers the Minister to consult any person pursuant to the implementation of the Act. Section 44 empowers the DoE to consult councils and MDAs in the process of preparation of the NEAP (URT, 2004). Section 9 sub-section 2 of the SEA regulations (URT, 2008) provides for the sector ministry in consultation with the DoE to seek the views of any person or the general public in conducting the SEA process. Section 89 of the EMA empowers the NEMC to adopt guidelines on public participation and states its importance in the EIA process. Regulation 17 of the EIA regulations (URT, 2005) provides further directives and procedures for public participation in the EIA process.

Moreover, the NEP states in paragraph 38 that public participation in decision-making is the fundamental prerequisite for achieving sustainable development. It includes the participation of individuals, groups and organisations in environmental impact assessment issues and in decisions, particularly those which potentially affect the communities in which they live and work. It also stresses that the current deteriorating state of the national environment, among others, is due to inadequate involvement of major stakeholders such as local communities, NGOs, and the private sector in addressing environmental problems (URT, 1997).

The FYDP emphasises the need to adopt a participatory approach, which entails the involvement of all key stakeholders in decision-making. This includes promoting meaningful youth involvement and participation to enhance good governance and values acceptance, as well as ensuring broad people participation and gender equality in all spheres. This will enable all actors to fully internalise and own the plan, use the results to guide further action, as well as facilitate effective coordination, monitoring and evaluation (URT, 2012b). In addition, the Tanzania Vision 2025, the NEAP, and the NSGRP stressed the need for promoting the participation of all the indigenous population in the decision-making process.

However, different studies which have been conducted in the country on public and stakeholders' participation in decision-making revealed that public participation is still being conducted in the form of participation by consultation, which provides information in a passive way. This kind of participation is conducted to seek the views and responses of stakeholders and public concerning the proposed project or policy. Stakeholders' have little or no ability to influence the outcome of decisions (Mwalyosi and Hughes, 1998; Hughes, 1998).

The assessed projects in this study show that in most cases public participation is undertaken during baseline study, as well as during the full impact assessment process and in some cases during scoping. There is no indication of stakeholder participation during the full cycle of project or policy design, management and development. This is influenced by the structure of conducting impact assessment as provided by the EMA and its regulations (URT, 2004).

For instance, a project like the Southern Agriculture Growth Corridor of Tanzania (SAGCOT) (URT, 2012c) encountered challenges in consulting stakeholders in the full cycle of the project development. This was due to the fact that the programme covered more than five regions and there was not enough time reserved to consult all the stakeholders identified. The SGCOT programme engaged with stakeholders in three phases in a period of only six months, consulting with more than sixty (60) institutions/organisation, CBOs, civil society, as well as the general public.

The SAGCOT programme also recognised the need to work closely with NGOs and CBOs during the assessment process to engage the people at the local level. For example, local authorities

have long-established relationships with local communities and can help to facilitate discussions with key representatives. Most NGOs and CBOs generally have in-depth knowledge of local areas and can be used as sounding boards for project design and mitigation measures. They often have expertise in public consultation and can be a vehicle through which vulnerable groups are engaged. However, Annexure b1, which provides a summary of consultation meetings, did not indicate any summary for the consulted CBOs or smallholder farmers (individuals). Most of the stakeholders consulted included government institutions, academia, ministries, departments, donors, the private sector, international organisations, and international NGOs such as Oxfam and Action Aid (URT, 2012c).

At the local level, meetings were only conducted with Mbingu Ward Office on 31st May, Pastoralists of Mkangawalo village on 31st May, *NAFAKA*-Small Rice Growers (SRI) in Mkangawalo village on 31st May, Kilombero district administration on 30th May, and Bagamoyo district administration on 9th May, 2012. Moreover, two workshops were conducted which included the EcoAgriculture –Agriculture Green Growth workshop conducted in Dar es Salaam on 17th-18th May, 2012 and a scoping workshop conducted in Dar es Salaam on 7th June, 2012 at the Golden Tulip Hotel. The main participants were international NGOs, academia, donors, the private sector and the government. Most of the key stakeholders such as local people, local NGOs, CBOs, media and smallholder farmers were not involved in these workshops. The workshops were often conducted in Dar es Salaam and not on the project sites where these stakeholders are based (URT, 2012c).

7.2.4 Addressing poverty alleviation, inequality, and benefit-sharing

Addressing poverty, inequality and sharing of benefit have been major concerns for the international community for many years. In most African countries, poverty reduction and overcoming inequality are the overarching priority of governments in achieving socio-economic development. However, in most African countries (including Tanzania) there is no legislation or guidelines within the impact assessment system which directly address poverty, inequality, and benefit-sharing issues (Betey & Godfred, 2013).

In the current legislation, for instance the EMA emphasises that environment and natural resources are vital to people's livelihood, to be used sustainably in order to achieve poverty reduction, and socio-economic development. It recognises poverty as an overriding principle of environmental management and sustainability in the country (section 7 (3) (i)). It is stressed in sections 66 and 67 that the utilisation of generic resources should benefit all the people of Tanzania, while conserving biological diversity (URT, 2004). However, the provisions did not establish the mechanisms for ensuring that these generic resources will benefit the community.

Section 3 of the EIA regulations outlines poverty alleviation as a key principle in social analysis for project development or policy. However, there is no provision which ensures that projects are benefiting the local community and the general public which an EIA study should take into account. Only the project benefits can be communicated to stakeholders during the assessment process (section 17 (2) (a)) (URT, 2005). Moreover, in the SEA regulations there are no specific sections which link the SEA process and poverty alleviation, equity consideration and benefit-sharing. The objective of the SEA is to ensure that environmental concerns are integrated into draft policies, programmes, plans, strategies, Bills and some projects (section 4(a)) (URT, 2008).

The NEP directly provides the link between poverty and environmental degradation. It states that environmental degradation leads to widespread poverty; equally, poverty is a habitual cause of environmental degradation as it undermines people's capacity to manage resources wisely. Resource channelling should be targeted to address poverty-related environmental problems. Strategic attention should be directed towards eradicating communicable diseases; guaranteeing food, shelter, safe water for all, education and a sustainable energy supply, as well as employment and income generation in rural and urban areas. In the end, the purpose of development should remain to improve the quality of human life and alleviate poverty (URT, 1997).

Moreover, gender mainstreaming should be a key factor for eradicating poverty and inequality. Emphasis should be placed on addressing the structural causes of poverty and reducing gender-based inequality. Such emphasis should focus on literacy for women, marginalised groups, and youth, and should empower these groups to participate in decision-making, as well as in anti-poverty programmes such as employment schemes and credit facilities (URT, 1997).

The FYDP also stressed that economic development should be duly monitored in order to ensure that its benefits are broadly shared and reflected to improve quality of life for the majority of Tanzanians. The Tanzania Vision (URT, 1999) and the NSGRP (URT, 2010b) emphasise that poverty alleviation should be an overriding principle for achieving sustainable growth and quality livelihood. The creation of wealth and its distribution in society must be equitable and free from inequalities.

However, in reality little has been achieved in terms of poverty alleviation in Tanzania. The incidence of poverty was 33.6 percent in 2007, declining slightly from 35.6 percent in 2000/01, even though GDP growth averaged 7 percent over this period. This indicates that the economic development in the country is not been broad-based and pro-poor structured (URT, 2012b).

Moreover, in the laws and policies there is no direct provision for mechanisms of benefit-sharing, either monetary or non-monetary benefits. Countries such as China, Canada and Ecuador are using monetary benefit-sharing mechanism to ensure that developmental projects benefit the

local communities in the long-term. Benefit-sharing can facilitate the creation of equitable growth which will benefit the majority of the population and reduce poverty (UNEP, 2007; Lindhjem et al., 2011).

The study conducted by Pham et al (2013) which analysed 13 REDD+ countries (developing countries taking part in the Reducing Emissions from Deforestation and Forest Degradation programme of UN), including Tanzania, revealed that most of the policies and laws governing management of natural resources such as forests are lacking direct provisions for benefit-sharing. Specifically in Tanzania there has been no discussion of the design and implementation of benefit-sharing mechanisms. In the forest sector for example the National REDD+ Strategy identifies a wide range of beneficiaries from REDD+ funds to be distributed by the National REDD Trust Fund (NRTF). However, the strategy does not propose benefit-sharing options at a more local level. Other challenges observed in most of the study countries in the context of policies and mechanisms for benefit-sharing and REDD+ are conflicting legal provisions, overlapping mandates and inconsistent implementation among government agencies, weak law enforcement, limited funding and staffing, lack of transparency, corruption and elite capture (Pham et al., 2013).

On the other hand, the examples of EIAs and SEAs assessed revealed that most of the projects are not directly contributing to poverty alleviation or benefitting the local community. For instance, with the Serengeti project the EIA indicates the positive impacts such as improved investment opportunities, more tourism, reduced travel times, lower operating costs, better access to markets and hospitals, and greater government investment in schools, all of which will presumably help in poverty alleviation (Schmidt, 2011; URT, 2007).

The fact that the road itself will help to alleviate poverty sounds good in theory but in reality the argument appears questionable. Both the Ngorongoro and Serengeti Districts have a long history of failing to receive any substantial widespread benefits from existing projects and investments such as tourism. The EIA report did not provide statistics or data to back up most of the positive benefits outlined. For example, under job opportunities which will be derived from the project, recent trends in the country indicate that major infrastructure contracts such as road construction are often awarded to foreign companies, some of which bring in their own foreign labour and employ very few local citizens (Schmidt, 2011).

On the other hand, the proposed Talawanda cement project in Bagamoyo (which is the most recent EIA study in the country) also listed a number of positive impacts to be realised from project implementation. These include employment, increased agricultural production, livestock keeping (dairy farming and beef) and markets for farm products inside and outside the district. The project will create a market for food products, livestock products and auxiliary services. As part of the Corporate Social Responsibility (CSR), the developer will be working with local

communities and authorities to provide a range of community support services including providing access to company health facilities, support for education, recreational and economic programmes in the surrounding villages. The developer will enable the road construction which in turn will open up the areas and could stimulate the growth of economic activities that would improve people's livelihoods and contribute to poverty reduction in the Bagamoyo District and an improvement in the national economy in general (NEMC, 2014).

Nonetheless, like the Serengeti road project, there are no statistics or data to back up most of these positive benefits. For instance, the EIA report did not stipulate how many jobs will be created during the construction phase, as well as during the lifespan of the project. There is no budget allocated for implementation of the EMP to enhance the positive benefits identified. It is also not clear how the company will facilitate the growth of agricultural production and livestock keeping while big portions of land which are used for such activities will be acquired for developing the project (NEMC, 2014).

7.2.5 Good governance and the rule of law

Good governance and the rule of law are key aspects enshrined in different policies and legislation for impact assessment in Tanzania. In the EMA, these aspects are the overriding principles for environmental management in the country. The NEMC is empowered, together with other institutions, to promote good governance and the rule of law in the process of implementing impact assessment legislation (Section 17) (URT, 2004). The EIA regulations recognise the importance of good governance and rule of law as an overriding principle in the EIA study (URT, 2005). At the same time, the SEA regulations emphasise that good governance and the rule of law are necessary for enhancing transparency and accountability, as well as enforcement of and compliance with policies, plans, programmes and legislation (URT, 2008).

Moreover, the NEP states that good governance and the rule of law are necessary for enforcing impact assessment policies and laws and for voluntary compliance. Together, they enhance planning, integration and monitoring, as well as promote institutional capacity and capability (URT, 1997). The Tanzania Vision, the NSGRP and the FYDP indeed, emphasise that good governance and the rule of law are critical areas in the process of creating wealth, sharing benefits and ensuring accountability of civil servants and all Tanzanians. Ensuring the culture of accountability and transparency will in turn help to curb corruption and other vices in society. These policies also recognise that the challenge ahead for Tanzania is to mobilise public efforts and opinion towards zero tolerance for corruption, improved and strengthened leadership and governance systems to promote sustainable development.

These challenges are observed in the current practices in terms of enforcement of and compliance with impact assessment laws and policies. In the EIA and SEA case studies it was also

observed that good governance and the rule of law in Tanzania are not followed. The policies and laws are not enforced and obeyed as required. For instance, the EIAs (e.g. the Prawn farming project and Serengeti road construction project) were conducted and approved despite the fact that the assessment team recommended that the projects be rejected. It was also found that a number of projects were implemented without conducting EIAs, although the law required a mandatory EIA study prior to the implementation (Sosovele, 2011).

This tendency shows serious challenges in adhering to the principles of good governance and the rule of law. The failure to adhere to these principles is an indication of weaknesses in the impact assessment system, which can also render the assessment process ineffective. Any system will not be effective, and sustainable development will not be achieved, if impact assessment laws and policies, including rules or norms, are not respected, or no serious steps are taken when such laws are violated (Sachiko & Durwood, 2007; Sosovele, 2011).

At the same time, this is enabled by the current system of instituting environmental litigation in the courts of law, which are based more on public concerns. Most of the environmental cases are filed by NGOs and joint individuals for instance the Serengeti road case. Generally, there are inadequate precedents delivered by the national courts (High Court of Tanzania or Court of Appeal) in the area of impact assessment. The most quoted case is the one of *Festo Balegele v Dar es Salaam City Council*²³, where the high court interpreted article 14 which provides for right to life to mean that persons are entitled to a healthy environment (Pallangyo, 2007). This is one of the famous landmark cases for the development of judicial environmental law and sustainability in the country. It also shows the role of the Judiciary in promoting accountability, compliance and enforcement of laws for environmental management and sustainability.

7.2.6 Impact assessment processes

Impact assessment processes in Tanzania have been conducted for the last three decades. The number of EIAs increased after the promulgation of the EMA in 2004 and the EIA regulations in 2005. The EMA and the EIA regulations impose a mandatory requirement to conduct EIA and Environmental Audit in different developmental projects. In addition, the EMA and the SEA regulations require undertaking SEA before promulgation of Bills, regulations, policies, strategies, programmes and plans. An SEA is also mandatory for mineral, petroleum, hydroelectric power and major water project plans (URT, 2004; URT, 2008).

Additionally, impact assessment policies recognise the significance of undertaking EIA and SEA for sound decision-making. The NEP identifies EIA as a planning tool capable of integrating environmental considerations into the decision-making process. The policy also noted that an

²³ *Misc. Civil Case No. 90 of 1991, High Court of Tanzania, Dar es Salaam.*

environmental challenge in the country in most cases arises out of the promulgation and implementation of bad sectoral and macro policies. In order to mitigate the effects of existing and future policies on the environment, the SEA must be applied to those policies, strategies, plans and programmes (URT, 1997). In the FYDP and the NEAP impact assessment is recognised as a key component in addressing environmental challenges and climate change, as well as policy making and project implementation.

Despite the existence of these laws and policies, an increasing number of impact assessment processes did not correlate well with the level of effectiveness and quality as the law requires (Sosovele, 2011). As far as the SEA is concerned, it was found that only two (2) SEA processes had been implemented since 2008. Moreover, there was inadequate meaningful stakeholder's participation, transparency, accountability, and coordination in the assessment process as discussed above. Key documents such as the NSGRP and the Tanzania Vision lack a clear link with impact assessment processes. The FYDP, the NEAP, and the NSGRP which have recently been endorsed, were not subjected to SEA despite the fact that they are important documents on planning for sustainable development in Tanzania.

Sustainability Assessments (SA) which can integrate sustainability dimensions into the higher levels of decision-making for long-term planning have not yet been adopted in the country. None of the legislation recognises SA as a tool for impact assessment or policy integration. There is not even a single SA process that exists in Tanzania whether in theory or in practice. The SA tool is widely applied in the UK and the EU as an instrument of policy integration and sustainability assessment. For instance, in the UK several hundred assessments were conducted up to July 2005. Among the projects successfully conducted by using this approach was the Walker Riverside Area Action Plan for Newcastle City Council in England. Like the UK, other European countries have effectively applied this tool and integrate sustainability dimensions into the higher level of decision-making (Bond & Morrison-Saunders, 2009).

This tool can be adopted in Tanzania and be integrated with the existing impact assessment framework in the form of Integrated Impact Assessment. However, the existing tools (EIA and SEA) are not effectively implemented as required. Adding another tool without addressing the existing challenges facing the implementation of EIA and SEA is like adding to the intricacy of the problem. As such, this tool should be adopted with caution and due diligence including conducting more research on its applicability, institutional capacity and capability, and methodology. Yet, together with the effective use of the NSSD, sustainability indicators, Local Agenda 21 plans and State of Environmental Reports (SoERs), the application of this tool in the form of integrated assessment will help to address different challenges which hamper the impact assessment process and promote sustainable development in Tanzania.

Integrated impact assessment is applied in the EU and the UK for decision-making processes (Bond et al., 2001; Abaza, 2003). The approach was also productively implemented in developing countries such as Mali, Senegal and Mauritania. In Mali, the process was successfully conducted to assess the Manantali Energy Project (MEP) which intended to install a 200MW hydropower facility at the Manantali dam and transmit the power generated to Mali, Senegal and Mauritania (Bond et al., 2001). At the EU level, an example of this approach is the Thematic Strategy on Air Pollution, which was accompanied by an integrated impact assessment that used state-of-the-art modelling of economy-environment interlinks (Ecologic et al., 2007).

Moreover, integrated impact assessment is closely used with the adoption of NSSDs and Environmental Policy Integration across the Europe. The NSSDs as well as the EPI are key instruments to mainstream sustainability goals in the decision-making process by setting up long-term goals of sustainability at different levels of the government sphere. The use of NSSDs and EPI as well as impact assessment legislation makes the European countries the leading examples in the implementation of different initiatives for sustainable development (Pisano et al., 2013).

In South Africa, Integrated Environmental Management (IEM) was adopted as an integrated and holistic approach to provide a set of principles and impact assessment tools that can contribute to sustainable development. Also, impact assessment is developed in line with the formulation of sustainable development strategies aimed at integrating sustainability dimensions in all levels of decision-making (DEAT, 2004; DEAT; 2011; Betey & Godfred, 2013).

Therefore, unlike the EIA tool which is widely used at the project level, these best practices from the EU, the UK, and South Africa can be adopted and applied in Tanzania to provide information to decision-makers across government departments and agencies on the implications of proposed policies. The NEP (URT, 1997) noted that one of the factors accelerating the deterioration of the state of the environment in Tanzania includes poor promulgation of policies and programmes which are not integrated and coordinated.

The integrated assessment can be one of the solutions to address this challenge. This approach can significantly coordinate actions between departments, facilitate communication and integrated policy-making, and build consensus and administrative capacity (Abaza 2003). The approach can also build inter-sectoral policy coherence which provides planners and policy-makers with early warnings of potential impacts and facilitates the identification of strategic options for sustainable development. Having coherent policies which integrate sustainability goals can inform negotiations, develop policy dialogues for stakeholder's participation, transparency and accountability, as well as save money and time (Abaza 2003; Pisano et al., 2013). However, these best practices should be applied to fit the Tanzanian context due to the fact that Tanzania is a low-income country, with less expertise and weak institutions.

7.2.7 Strategic and long-term planning

Sustainable development requires strategic and long-term integration of sustainable development dimensions in the process of planning for sound decision-making. This approach integrates key issues such as socio-ecological, economic, and governance (such as accountability, transparency, communication and collaboration) as well as physical aspects (built environment and technology) in the planning process.

The EMA indicates planning as a key principle for environmental management (Section 7). The NEP also emphasises that environmental challenges which hamper the country result from inadequate integration of sustainability dimensions and poor planning. For this reason, strategic and long-term planning are central pillars to environmental management and sustainability. In this respect, the integration of sustainability dimensions into decision-making implies the need for effective strategic planning and coordination among relevant organs of the government.

The NEP stressed the need to recognise existing institutional mechanisms, and consider ways and means by which planning, and coordination between institutionally distinct bodies with overlapping mandates might be enhanced, and their purpose and functions constructively aligned (URT, 1997). The FYDP as a planning document, calls for a paradigm shift from a needs-based planning framework (development is solely limited to available resources) to opportunity-based planning which views resources as merely a means to realise the country's aspirations (URT, 2012b).

However, in practice things are different. For example, the assessed EIA and SEA reports indicate that the impact assessment process shares many of the positive and negative tendencies of rational planning. The EIA process is hierarchically structured and directly considers limits (through scoping), risks and uncertainties, and stresses the need to monitor and audit (as an implementation strategy) (Lawrence, 2000). The EIA process married the weaknesses of rational planning such as inadequate consideration of the collective nature of planning; insufficient public and stakeholder's participation in the process of assessment; inadequate integration of substantive issues such as social equity, benefit-sharing and ecological needs; and inadequate design to suit contextual characteristics (Lawrence, 2000; Maxwell & Conway, 2000). Strategic and long-term planning is lacking in the current impact assessment system. This trend creates challenges for impact assessment practices to be an effective tool for promoting sustainability.

Moreover, the study conducted by Ringo et al (2013) on the process of decentralisation in Tanzania revealed that the government is not giving much support to existing planning practices. This is due to the fact that the planning process conducted in the local community at the grassroots level is not followed. The three district councils of the Morogoro region were examined. The study revealed that during the planning process none of the priorities identified

at the local community level are reflected in the district council development plan from the year 2005/06 to 2007/08 (Ringo et al., 2013).

Ideally, decentralisation was established in the county to give more authority and functions to the local government entities to improve the service delivery to the public through participatory and integrated planning. However, the main objective of transforming local government authorities into organs that are autonomous, strong and effective, democratically governed, deriving legitimacy from services to the people, fostering participatory development, reflecting local demands and conditions, as well as conducting activities with transparency and accountability, remains a dream (Ringo et al., 2013).

A top-down approach is still prevalent compared to a bottom-up approach (collaborative planning or planning by debate) which is purported to be espoused as elaborated in different policy documents (see the NEP paragraphs 34 and 34: 11). The administrative practices show that central government is still dominant in decision-making and planning of what has to be done at the local level in terms of budget allocation and implementation of developmental programmes (Ringo et al., 2013).

7.2.8 Complexity and system thinking

Complexity and system thinking have much to offer in the impact assessment process. Issues such as cumulative effects, biodiversity, economic viability, social justice, human health, benefit-sharing, poverty alleviation, risk and uncertainties are wicked problems (problems of organised complexity), emergent phenomena and interrelated, which requires system thinking to come up with integrated adaptive solutions (Lawrence, 2000; Duvail et al., 2006). Looking at these aspects as systems characterised by vast interactions between the parts, provides new insight into and increased knowledge of the functioning of the system. As a result, it can contribute to developing sound mitigation measures, more transparent decision-making and accountability, more creative problem solving, as well as a greater likelihood of public agreement, acceptance, and support (Lawrence, 2000; Nooteboom, 2007; Gardener, 2014).

In the assessed legislation, there were not clear sections which take note of complexity and system thinking. However, section 7 of EMA recognises the integration and cooperation of efforts, which consider the entire environment as a whole entity. Also, paragraph 24 of NEP recognises that special emphasis should be placed on those policies that combine environmental concerns and population issues within a holistic view of development, and whose primary objectives include the alleviation of poverty and secures livelihoods. Moreover, there were no clear signs that during the design and implementation of a policy, programme or project or during the assessment process, complexity and system thinking have been taken into consideration.

7.3 Discussion of findings

Results from the themes discussed show that the government is making a great effort to integrate sustainable development issues into impact assessment policies and legislation. Mainstreaming sustainable development goals in these documents is carried out in different ways.

However, it was observed that there seem to be inadequate integration of the five pillars of sustainable development into decision-making processes. Most of the goals addressed are about achieving economic growth through improving social services together with environmental caretaking. In most cases, these goals also have remained theoretical with little or no achievements in practice. For instance, little has been achieved in alleviating poverty despite the GDP growth of about 7 percent as pointed out in the Five Year Development Plan (FYDP). Moreover, strategic and long-term planning, taking note of complexity and system thinking as well as coordination mechanisms for integration are lacking. Most of the strategies and planning policies are short to medium term plans with short term goals.

Moreover, many relevant institutions have been established and new ones are in the pipeline but there are no clear mechanisms put in place to coordinate these organs. The vertical and horizontal coordination are recognised under the EMA, as well as in other legislation and policies, but without clear flows of information, meaningful participation, transparency and accountability these mechanisms will be meaningless. Horizontal coordination is inadequate as it is not clear how and when the MDAs are coordinated and consulted in the process of decision-making. Vertical integration at the local level is weak and there is inadequate public participation in the decision-making. Even if local people participate, their views are not taken into consideration. This was observed in the study of Ringo et al (2013) and the SAGCOT programme discussed in chapter 6.

In the SAGCOT programme, stakeholders raised the issue of the legitimacy of the programme. It was noted that more information was needed about the SAGCOT programme's motives and the decision-making process. The SAGCOT is a World Economic Forum²⁴ initiative, emerging after the 20th World Economic Forum on Africa, held in Dar es Salaam during 2010, and supported and championed by the President and big companies, but not by the local community (URT, 2012c: Annex C). Moreover, there is no benefit-sharing accruing from this type of project. Partnerships between a project developer and local communities are viewed as one of the mechanisms to

²⁴ *The World Economic Forum is a Swiss non-profit organization based in Geneva. They see themselves as an independent international organisation committed to improving the state of the world by engaging business, political, academic, and other leaders of society to shape global, regional, and industry agendas (World Economic Forum, 2010).*

enhance benefit-sharing. However, in programmes such as the SAGCOT it was observed that the smallholder farmers and local NGOs were not among the SAGCOT partners.

In addition, there is inadequate involvement of different stakeholders such as the private sector, NGOs, CBOs, Members of Parliament, the media and academia in the decision-making process and planning. For instance, it was found that even prominent NGOs for environmental protection and sustainability in Tanzania (Lawyers' Environmental Action Team (LEAT)) are not consulted either in environmental management or in impact assessment processes (informal interview conducted by Adolfu Runyoro, environmental research officer of LEAT, on January, 2014).

This trend shows serious governance challenges which threaten the realisation of sustainable development in Tanzania. This challenge is not only reflected in the implementation of impact assessment legislation but also in the planning process. The realisation of sustainable development and poverty alleviation in Tanzania will only be achieved if there is clear integration of sustainability dimensions, strategic and long-term planning which take note of complexity, as well as effective coordination mechanisms supported by meaningful public participation, transparency, accountability and adhering to the rule of law in the decision-making and planning processes.

7.3.1 Impact assessment process and sustainability

Together with the related policies, the EMA and its subsequent regulations were enacted as the main framework for impact assessment, as well as environmental management and sustainability in the country. It is almost a decade since the promulgation of these laws. The main question of this study was to what extent this legislation managed to facilitate sound environmental management and sustainability in Tanzania.

The study addresses this question by assessing impact assessment legislation, policies and examples of EIAs and SEAs. Results from this assessment show that the number of EIAs and EIA certificates approved before the promulgation of the EMA was very low. Only 37 projects were conducted before the EMA in 2004. See figure 12 for EIA projects conducted per sector before enactment of the EMA in 2004.

After promulgation of the EMA the number increased and about 1,190 EIA projects were submitted and 1,179 approved between 2004 and December 2013 (URT, 2013). Out of these projects, only 155 (13 percent) have been monitored and evaluated by the NEMC (NEMC, 2010). Moreover, the increase of EIA projects seem to be due to the growth of public and private investments in different sectors of the economy, especially in communications, and not only due to the existence of the EMA (see figure 13 for EIA projects per sector, submitted and approved in the post EMA period).

Figure 12: EIA projects conducted per sector before EMA, 2004

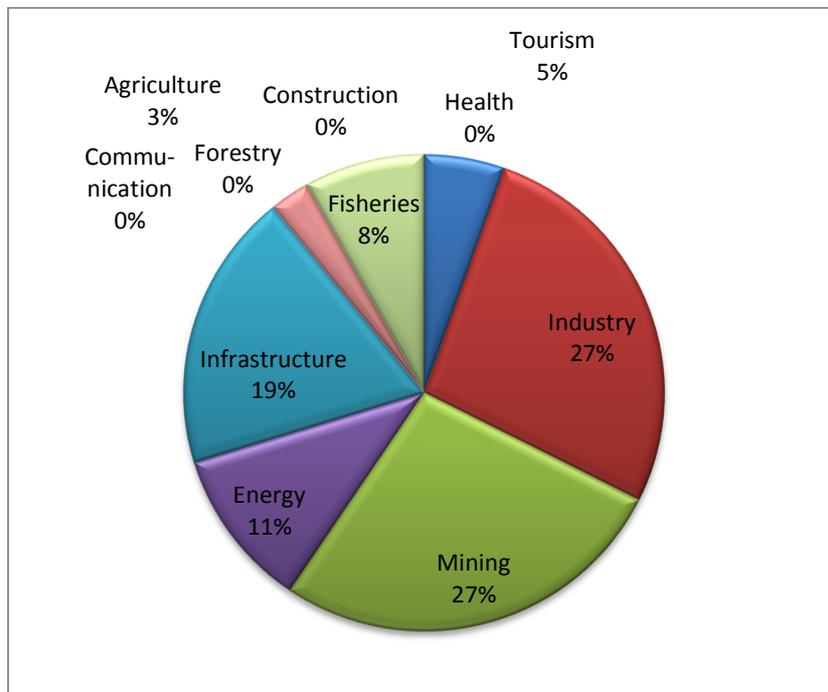
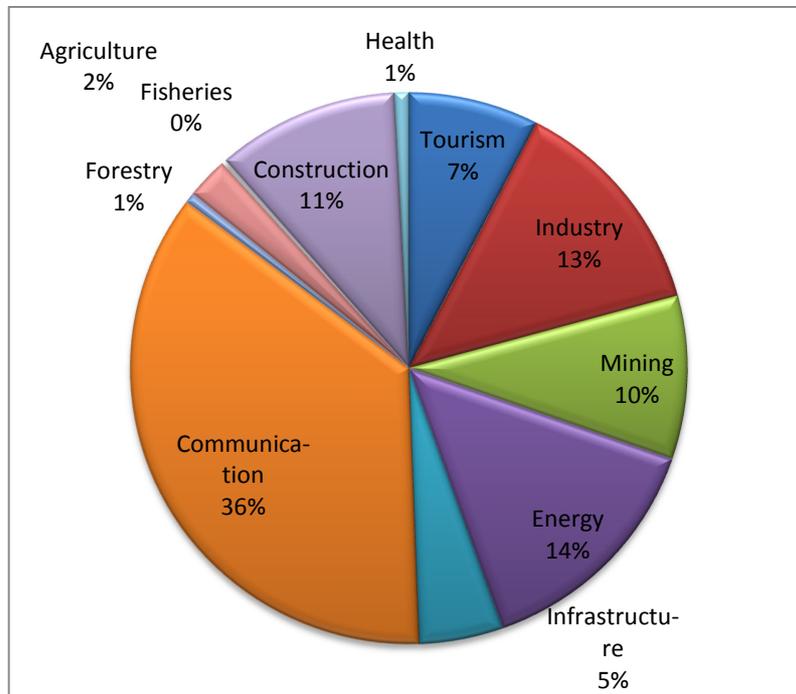


Figure 13: EIA projects conducted per sector in post EMA period



However, a study by Sosovele (2011) showed that the increasing number of impact assessment processes did not correlate well with the level of effectiveness and quality as the laws required.

Moreover, in this study it was also found that a number of EIAs were approved despite the fact that the assessment team recommended that the projects be rejected (see the Serengeti road and Prawn farming projects in this study). Moreover, a number of projects were implemented without allocating a budget for implementing the EMP which then led to inadequate compliance with mitigation and monitoring plans (see the proposed cement factory in Talawanda and the Songo songo gas projects). Despite having the law in place for impact assessment, many EIAs are prepared because of donor requirements for funding and not because the law requires it (see the SAGCOT programme which was funded by the World Bank).

Most of the projects are inadequate at integrating key aspects of sustainability, such as meaningful stakeholder's participation into the planning and implementation of the projects. They also lack mechanisms for integration and coordination, and do not provide enough statistical data which shows that the projects can bring socio-economic benefits (benefit-sharing) and contribute to poverty alleviation.

A study of Sosovele (2011) which investigated the governance challenges in Tanzania's EIA practice revealed that several projects were implemented without conducting an EIA although the law required a mandatory EIA study prior to implementation. For instance, in Dar es Salaam, approximately 576 construction permits were issued in Ilala; 467 in Temeke, and 2,843 in the Kinondoni Municipal Councils without any EIAs being conducted for those projects (Sosovele, 2011). Those administrative decisions were contrary to item 14 (i) and (ii) of the First Schedule of the EIA Regulations which list categories of projects that require mandatory EIA.

Moreover, the study (Sosovele, 2011) exposed the fact that different construction projects were also implemented by the central government without conducting an EIA process. These include the National Tourism College that occupied a large part of the remaining botanical garden in Dar es Salaam, the expansion of the National Museum in Dar es Salaam, and the Headquarters of the Ministry of Natural Resources and Tourism that was built along a busy road and too close to an informal settlement. Other projects include the construction of headquarters of the prisons departments; the headquarters of the Minister of State, President's Office –Public Service Management; and the Bank of Tanzania twin towers and related structures around the Ministry of Finance (Sosovele, 2011).

These are some of the government construction projects that fell under the mandatory EIA list, but were implemented without subjecting them to an EIA process. The tendency of permitting developmental projects without conducting EIAs, as the law requires, is not confined to Dar es Salaam alone; similar tendencies were found in other parts of the country involving both private and public investment (Sosovele, 2011).

On the other hand, it is sad to note that since the promulgation of the SEA regulations in 2008; until recently only two (2) SEAs have been conducted. These projects include the SAGCOT programme where the interim report was released on July 2012 and the SEA for upgrading the Mafia Airport project. In the Mafia Airport project, an EIA study was first conducted and there was a recommendation to carry out an SEA prior to the implementation of the project. The final report of this project is yet to be released by the government (informal interview conducted with Timotheo Mande, a Forestry Officer from the Vice President's Office-Division of Environment, on January, 2014).

It was also found that the tendency of the government to promulgate policies, programmes, plans, Bills and strategies without conducting SEAs is caused by, among others, a lack of budget allocation by the government to conduct SEA processes. This is due to the fact that SEA is supposed to be undertaken by government ministries, unlike EIAs where the costs are covered by the project proponent. Other factors include a lack of knowledge about SEA on the part of government officials and the general public, as well as a lack of SEA guidelines to undertake the process (informal interview conducted with Timotheo Mande, a Forestry Officer from the Vice President's Office-Division of Environment, on January, 2014). In the case of SA or integrated assessment processes, neither the EMA, 2004 nor the EIA/SEA regulations recognise this tool. Not even a single SA process exists in Tanzania, either in theory or in practice.

7.3.2 Challenges of impact assessment legislation in achieving sustainability

This section presents the challenges facing impact assessment legislation in Tanzania. These challenges are articulated from the literature and the analysis of the laws and policies as well as the EIA and SEA case studies. These include the issues of governance and the rule of law, the dualistic approach into decision-making making processes, the lack of strategic and long-term planning, the lack of complexity and system thinking as well as the lack of meaningful stakeholders' participation.

7.3.2.1 Lack of governance and adherence to the rule of law

From the above findings it appears that Tanzania, to a large extent, has well-articulated policies and impact assessment which, if effectively implemented, can to a certain extent contribute to sustainable development. However, in practice the big challenge hampering the country's efforts to achieve sustainability is inadequate adherence to the principles of good governance and the rule of law. The tendency to implement projects without conducting impact assessment as the law requires or approving the project while the negative impacts are overwhelming and no good reasons are given for such approval, is a governance challenge and disrespect of the rule of law, which entails lack of compliance and enforcement of the existing laws and policies.

Moreover, lack of accountability, transparency and awareness among government officials is a serious governance challenge in Tanzania, which must be addressed with immediate effect. For instance, the study of Sosovele (2011) exposed that in the assessment conducted in the three municipalities of Dar es Salaam; up to 40 percent of those interviewed admitted having no basic knowledge of the EMA and its requirements on impact assessment for various projects. This lack of awareness and knowledge is indeed a governance challenge that is closely related to lack of accountability on the part of the officials. The government officials are expected to know and be aware of the various laws because these are the guiding tools in their operation. The officers are expected to implement these laws and policies as part of the government's collective responsibilities. The fact that they are not even aware reflects badly on the part of the government authorities, who are expected to know more than the ordinary citizen.

Lack of accountability is an indication of weaknesses in the EIA system, which can also render the impact assessment process ineffective. Any system will not be effective if laws, including impact assessment legislation, rules or norms are not respected, or no serious steps are taken when such rules are broken. Just having a law in place which subject developmental policies and projects to impact assessment is not enough to achieve sustainability, though a necessary step to ensure political willingness to address sustainable development. More factors are required including good governance and adhering to the rule of law, including set up institutions with clear coordination mechanisms and the capacity to ensure that the necessary steps in impact assessment are followed. These include meaningful stakeholders' participation during the entire cycle of the project's lifespan, as well as enforcing the approved EMP as conditions for project implementation (Sosovele, 2011).

Moreover, the approval of the Serengeti road project also illustrates the governance problem. Despite the negative impacts revealed on the great Serengeti ecosystem, the project was approved. Despite the fact that the main reason provided by the government to construct this road was for the commercial interests, employment, and improving the links between the northern cities and the Lake Zone regions, power and politics were another motivating factors for the implementation of the project along the original route, regardless of the proposed alternative route. It was revealed that construction of the Serengeti road was used as part of the presidential campaign platform during 2005 and 2010 and was firmly supported by the president (Hartin, 2011). Despite the existing controversy concerning the project, the president in one of his speeches stated that construction of the road would begin in the summer of 2011 and should be completed sometime in the spring of 2012 (Hartin, 2011). The EIA for the Serengeti road seems to have been just a formality, as the decision to approve the project was already taken. This approval illustrates some of the challenges and disrespect for the rule of law. Nobody should be above the law, not even the president himself. When the law is assented to, it must be followed by all citizens and state officials, who should be the role models for others.

Likewise, in the SAGCOT programme, the stakeholders felt that environmental governance in Tanzania was weak, institutional capacity low and corruption endemic (URT, 2012c). Therefore, the question was how to create and support effective and transparent mechanisms for the Catalytic Fund for the SAGCOT implementation. Because the programme originated due to political pressure, the World Bank wanted a detailed study such as the SEA before execution (URT, 2012c).

This led to a number of questions, including whether the project would really improve people's livelihoods and contribute to 'poverty reduction' of the 2 million farmers as envisaged. Although partnership is regarded as a key factor for promoting benefit-sharing accruing from the projects, smallholder farmers and civil society were not represented or registered among the partnerships involved in the SAGCOT programme. There exist a smallholder farmers' association, but this is not listed in the partnerships. Civil society was probably not taken into account because they are not implementing agents. The stakeholders further stressed that "smallholder farmers need to be seen as a real partner. Not even the NGOs or District Councils alone but really the smallholder farmers. You don't need to see everyone as an investor. You have to take into account all stakeholders. Now it is too much of a top-down approach" (URT, 2012c: Annex C).

Furthermore, the governance challenge can also be seen in the preparation of different policies and plans. For instance, in the FYDP, Annexure 1 indicates the strategic interventions, costing and lead implementers of the plan. However, in Annexure 1.1 which deals with growth and productivity, most of the strategic interventions lack an indication of which institutions would be responsible for implementation. Moreover, some activities such as in mining, indicate the budget and the government as main implementer. This is seen to be too broad, as the government comprises of different institutions, departments and ministries. For clarity and to avoid confusion, specific institutions for implementations should have been identified (URT, 2012b).

The same situation is observed in the study conducted by the President's Office and the Planning Commission to evaluate the implementation of Tanzania vision 2025 (URT, 2009). The study revealed that no instruments were instituted to create awareness of the Vision. There also existed no institutional framework for implementation and monitoring, nor were there any resource allocation for realisation of the Vision. Economic growth has remained below the trajectory necessary to meet the vision goals. The environmental challenges in the country are overwhelming, and only modest progress has been achieved in poverty reduction, especially in rural areas (URT, 2009).

In the NEAP it is observed that most of the activities and projects are cross-cutting in nature, which requires the collaboration of different ministries, departments, agencies, institutions, LGAs, NGOs and CBOs for effective implementation. However, no clear coordination mechanism has been established in the implementation plan in order to avoid confusion, duplication of

activities and unnecessary conflict between actors. All these challenges are governance in nature, relating to lack of accountability and transparency. Sadly, the preparation of most of these documents (policies, plans and strategies) did not undergo any SEA processes. If SEAs were to be undertaken, it could minimise these shortcomings.

In addition, in the NSGRP (which is also referred to as the NSSD) it is revealed that the strategy does not fully clarify the links between operational targets and suggested intervention packages; the relationship between priority areas and intervention packages; and consistency across sectoral plans and institutions. Most of the targets and interventions are very general which creates challenges in implementation. In addition, the second strategy was prepared without adequately involving stakeholders in evaluation and discussion on the achievement and challenges of the NSGRP I (URT, 2010b; IMF, 2012).

Moreover, most government officials and the general public did not have a clear understanding that the NSGRP has also been accepted by the UN as the Tanzanian NSSD (Death, 2014). When the researcher requested the NSSD from the officials of the Division of Environment, who are mandated with the preparation and implementation of this strategy, they replied that the strategy did not exist. This is also a governance challenge on the part of the officials who must be aware of all the operation documents they are working with, including the process of the adoption, implementation and review.

Therefore, immediate solutions are needed including institutional reform which should go beyond setting up new institutions (Sachiko & Durwood, 2007; UNECA, 2011). Instead, the reform should articulate the cultural and sociological-psychological context, norms and values in which these institutions operate. The motivation for this is Sosovele (2011), who revealed that impact assessment in Tanzania is ineffective in contributing to sustainability due to a lack of accountability, as well as the inability of mandated institutions to have the courage to tell investors and the government that certain decisions cannot be taken before an impact assessment process. This trend has prompted different individuals and NGOs such as the LEAT to initiate litigation to compel the NEMC to perform its duty.

The recent case filed in court is that of *Alicheraus Mwesiga and others vs Tanzania Portland Cement Company Ltd, Kinondoni Municipal Council, and National Environmental Management Council (NEMC)*²⁵. The NEMC and the Kinondoni municipality were jointly sued due the fact that

²⁵ *The complainants sued the company which is polluting the environment in the process of producing Portland cement from its Portland cement plant located adjacent to complainants' residences and other neighborhoods in the Wazo Hill area, Kinondoni district, Dar es Salaam Region. The factory releases heavy metals and dust which impact the health of the complainants and the general environment (informal interview conducted by Adolfu Runyoro, environmental research officer of the LEAT, on January, 2014).*

they were well aware of the negative environmental operations of the cement factory and had not taken any action to stamp them out and had failed to ensure that the health of the complainants and the general environment were protected.

Another case is that of *Lawyers' Environmental Action Team (LEAT) and Mtetezi Company Ltd vs Tanzania Bureau of Standards (TBS), NEMC, Kiboko Paints Ltd, Gold star Paints, Berger Paints Tanzania Ltd, Sadolin Paints (T) Ltd, and Insignia Ltd*. This case is yet to be filed in court but the LEAT has sent the notice of intention to sue the relevant authorities if the aforementioned companies did not stop manufacturing paints by using 'lead', which is hazardous to the health and general environment (informal interview conducted with Adolfu Runyoro, environmental research officer of LEAT, on January, 2014).

According to Sosovele (2011: 130), this lack of accountability "cannot be explained by inadequate manpower or lack of awareness of environmental laws alone. It can be explained by cultural, sociological and psychological factors that define the relationship between these institutions and the central government". However, the reforms would only be successful if a culture of law abidingness could replace the culture of corruption (Sachiko & Durwood, 2007).

7.3.2.2 Dualistic approaches in decision-making

The procedures for decision-making articulated by the EMA and its subsequent regulations impose challenges on the effective implementation of impact assessment. The decisions on impact assessment are taken at central government level. The local authorities and other institutions at the local level have little or no say in influencing decisions. For example, the procedures of impact assessment are structured in a hierarchal way with the final say given to a single individual, the Minister of the Environment (see Fourth Schedule of EAI regulations and section 22 of SEA regulations).

Moreover, despite the fact that the EMA empowers government committees and officers at the local level to coordinate all functions and activities aiming at protecting the environment, they do not have any responsibility in impact assessment processes. These institutions are vital in impact assessment as they are close to local people at the grassroots level. Their absence in this process is a weakness on the part of the legislation, especially in promoting public participation (URT, 2004).

Furthermore, the SEA regulations empower the DoE to coordinate SEA processes. They also empower the MDAs to carry out SEA only after notifying the Minister (section 6 of the SEA regulations). Again when they seek public opinion (which is also not mandatory in the SEA process) they must consult the DoE. These are stringent procedures which can delay the process, as the institutions are required to wait for approval from the Minister. Public participation is deliberately curtailed by the law in the SEA process, as the DoE may issue the notice to proceed

without seeking such views (URT, 2008). In addition, like the EIA regulations, the SEA regulations do not empower local authorities to undertake SEA, though the EMA empowers these authorities to prepare policies and plans e.g. the NEAP for their areas. The private sector and NGOs are not encouraged to undertake SEA. Sadly, corporates and NGOs are not listed as mandatory stakeholders to be consulted during SEA processes (see section 9 of the SEA regulations).

In an informal interview conducted with Adolfu Runyoro during January 2014, it was observed that most of the NGOs including the LEAT are not consulted during impact assessment processes. This trend is because the NEMC tends to see these institutions as stumbling blocks in the impact assessment process, focusing on environmental activism, rather than seeing them as collaborative partners with whom they can work in the enforcement and compliance of environmental laws. The existence of meaningful consultation and collaboration could minimise court cases used to force the NEMC to comply with the laws, and help to find integrated solutions for environmental management and sustainability in the country (informal interview conducted with Adolfu Runyoro, environmental research officer of LEAT, on January, 2014).

The complicated procedures for impact assessment stipulated in impact assessment legislation hinder the effective achievement of collaborative planning in the process of formulating policies, programmes and project proposals; hindering meaningful stakeholders' participation, transparency, and accountability; as well as delaying the assessment process in mainstreaming sustainability dimensions into decision-making.

7.3.2.3 Lack of meaningful stakeholders and public participation

Public and stakeholders' participation in decision-making is a serious challenge which must be looked at. As noted before in previous sub-sections, public participation is still being conducted as consultations to feed information into decision-making processes in passive ways. Stakeholders have little or no ability to influence the outcome of decisions.

For instance, the Mwalyosi and Hughes (1998) report, which is a comprehensive study of EIAs conducted in Tanzania, reviewed over 30 EIA processes. They found that only two incorporated a structured approach to public involvement as part of the EIA study. In both cases, the level of involvement was 'consultative' rather than 'participatory'. Further, the report revealed that only eight EIAs reviewed (out of 30) included some component of interaction between the practitioners and local people, but most of these interactions consisted of *ad hoc* discussions between practitioners and those local inhabitants that happened to be present when the EIA practitioners visited the project areas. The remainder included only a cursory or highly unsatisfactory level of public involvement or none at all (Hughes, 1998).

The structures and procedures for conducting impact assessment in the country have contributed to inadequate public participation. In most cases, the stakeholders are participating in the

process while the key decisions have already been completed. Public participation is undertaken to fulfil a reactive role of providing information on decisions that have already been made, instead of providing opportunities for constructive dialogue to influence the planning and decision-making process (Hughes, 1998).

The EMA empowers the NEMC under section 89 to prepare guidelines on public participation. Moreover, Hughes (1998) stressed that impact assessment administrators need specific guidance on stakeholders' participation when conducting the impact assessment process. Institutions (such as the NEMC) which are responsible for ensuring that impact assessments are conducted to sufficient standards, require guidelines on how to ascertain meaningful stakeholders' participation in decision-making. However, to date no guidelines have been enacted for this purpose. This is another governance challenge or failure on the part of the institutions mandated with this responsibility.

7.3.2.4 Lack of strategic and long-term planning in the decision-making process

The EMA under section 7 recognises long-term integrated planning and coordination as the main principle for environmental management in Tanzania. However, this aspect is lacking in the planning process. Most of the planning documents are for a short-term period of five years (see the FYDP (URT, 2012b) and NEAP (URT, 2013). Also, most of the stated goals in these documents are short-term goals which lack proper integration of all five dimension of sustainability. Moreover, the NSGRP (URT, 2010b) which is also viewed as a NSSD, concentrate on short to medium term goals to be implemented for the period of five years (DSD, 2009; UNECA, 2011; Death, 2014).

Sustainable development requires a form of planning which goes beyond the setting of short-term goals. It involves a long-term, holistic, strategic approach, and an on-going process. These approaches must be embedded in the planning process and integrate key issues such as participation, transparency, commitment and accountability as well as facilitate the capacity and capability of the mandated institutions for effective implementation (Lawrence, 2000; Maxwell & Conway, 2000). Together with strategic and long-term planning, impact assessment legislation would facilitate the assessment and integration of sustainability goals which would have positive impacts for a long-period of time.

7.3.2.5 Inadequate integration of complexity and system thinking perspective into the decision-making process

Acceptance of complexity and system thinking in decision-making can help to consider sustainable development as a complex concept emanating from direct relationship between

different dimensions. Addressing one element in a system might influence solutions for all other components due to the presence of system interactions (Cilliers, 2000). For instance, addressing the social aspect would address ecological, economical, and political challenges. For example issues such as climate change and environmental degradation are wicked problems and can affect socio-economic and political development. Therefore, these challenges cannot be addressed alone or by a single nation or individual because they result from complex interactions as opposed to simple and linear interactions (Nooteboom, 2007).

Complexity and system thinking can help enable the finding of new ways of thinking and coping with hidden or emergent problems that characterise systems interactions. These include upholding resilience by integrating physical, political, ecological, socio-economic and cultural diversity to maximise alternatives when coping with changes. Small but frequent solutions (for example early intervention in certain problems) save more situations than huge but infrequent solutions (Blewitt, 2008). Addressing contemporary environmental problems requires innovative and comprehensive solutions which will enable multiple ways to be identified, and creating many possible means of addressing them. This certainly needs contributions from different disciplines (interdisciplinarity and transdisciplinary learning) and stakeholders. As such, impact assessment legislation and planning tools by themselves, without taking note of complexity and system thinking, will not suffice in addressing these challenges.

7.4 Discussion of the study limitations

Before summarising the main findings discussed in this chapter, a short description is provided to the initial limitations and assumptions of the study. The first limitation was the fact that new methodologies adopted in this study challenged the researcher during data analysis and presentation of results. This is due to the fact that qualitative content analysis does not prescribe systematic rules for analysing data and creating categories. This limitation has been minimised by formulating an analysis matrix of the legislation and examples of EIAs and SEAs conducted in the country. The analysis matrix enabled the researcher to unpack the relevant data from these documents. The main themes discussed from the literature have been used to analyse the information gathered and presentation of the results.

The second limitation was the fact that the case study seems to be very broad as the laws and policies used as a scale of analysis are applicable to the entire country. Therefore, it was difficult for the researcher to identify the gaps in legislation as this also requires practical studies to assess their effectiveness in specific areas or localities, which was beyond the scope of this study. In dealing with this limitation, only laws and policies addressing impact assessment were described. The gaps identified from the legislation are based on those discussed in the literature. However, if specific cases from specific areas or localities were to be analysed, with the use of other methods of data collection such as interviews and questionnaires, the outcome of this study

could be different. Yet, this was beyond the scope of this study, and therefore, this issue is identified as an area for future research.

The third limitation was the existence of many EIAs conducted in the country which imposed a challenge in sampling specific cases for analysis. In dealing with this limitation, only five projects are described in this study out of 37 project conducted before 2004 and 1,190 after EMA, 2004 (only 0.4 percent of projects). These projects were purposely selected among those conducted due to the requirements of multilateral cooperation such as the World Bank for funding purposes, as well as those conducted and approved by government despite having significant adverse impacts on the environment (controversial EIAs). While over 97 percent of all proposed EIAs in the country were approved, these chosen controversial projects only illustrate examples of approving impact assessment despite serious environmental and social problems. These examples also illustrate challenges relating to effective impact assessment processes to promote sustainable development in Tanzania, as well as the governance challenge as it relates to enforcement and compliance with the laws. However, a survey of more than five projects will have to be selected and analysed to provide a broader and representative picture of impact assessment in the country. Further research in this regard can be undertaken.

The fourth limitation was the time limitations due to the fact that the study required a lot of information to be gathered and analysed within one year. The adopted methodologies assist the researcher with time constraints. Most of the data and information were gathered from documents.

The fifth limitation was the existence of bias (i.e. shortcomings that originate from the researcher, such as strong prejudice that might bias the interpretation of the data) or the methodological constraints. In dealing with this limitation, content and document analysis were used to collect and analysed the data. The analysis matrix were prepared to collect the information from legislation as well as EIA and SEA reports. To minimise or eliminate bias, the quality control criteria for handling documentary sources have been used. These are authenticity, credibility, representativeness and meaning, as described in details in chapter four.

7.5 Summary

This chapter analysed impact assessment legislation, as well as examples of EIAs and SEAs conducted in the country to ascertain the extent to which they contribute to sustainable development in Tanzania. The main themes discussed from the literature were used as criteria to assess these documents. The main findings from the analysis can be summarised in the following core issues:

- Sustainable development pillars are not adequately integrated into the policies and legislation governing impact assessment in Tanzania. To a large extent, sustainability is

based on the three spheres of economic growth, social and environment aspects (although not adequately integrated). The remaining two pillars which include a political or governance dimension (comprising key issues such as institutional capacity, accountability, transparency, and rule of law), as well as physical sustainability (involving issues such as the built environment, infrastructure and technology) are inadequately integrated.

- There is inadequate meaningful stakeholders' participation in the decision-making process. The current practice is focused on consultation to seek the views of the public, but the public has little influence over the outcome of the decisions. Most of stakeholders are participating while the decisions have already been made. Other key stakeholders such as Members of Parliament, Judiciary and Media are not adequately involved. Also, to date no guidelines on stakeholders' participation have been prepared.
- There are inadequate coordination mechanisms for the institutions involved in impact assessment in Tanzania. The institutions are there, but insufficiently coordinated with no clear indication of how and when they should be involved in decision-making.
- There is a serious challenge to governance and the rule of law in Tanzania. The existing laws and policies are inadequately enforced and complied with. Power and politics intervene in decision-making and the rule of law.
- The impact assessment process does not adequately contribute to sustainable development. The increasing number of EIAs and SEAs did not sufficiently integrate key aspects of sustainability such as benefit-sharing and poverty alleviation into the assessment process. The processes were undertaken with insufficient stakeholders' participation; some projects and policies were implemented without conducting impact assessment and other projects were approved even if the assessment team recommended rejection. The procedures of conducting impact assessment are complex and are structured in a hierarchical way which does not give the best results. The sustainability assessment tool is yet to be applied in the country.
- Many developmental projects are not benefiting local communities. There is no clear provision in the legislation which provides for benefit-sharing mechanisms. Without equitable benefit-sharing, sustainable development, the conservation and sustainable use of natural resources will continue to be in jeopardy.
- Strategic and long-term planning is lacking in decision-making processes. Most of the planning documents and strategies are for a short-term period of five years. Also, the top-down structure is prevalent in policy formulation and the planning process. This creates

challenges to integrate sustainability goals into decision-making, as sustainability require strategic and long-term planning, multiple ways of thinking and integrated approaches.

- Complexity and system thinking is lacking in the decision-making process. Most of the assessed laws, policies and projects do not take note of complexity and system thinking as a new way of addressing contemporary environmental problems. Without taking note of complexity and system thinking, impact assessment legislation alone cannot suffice in addressing these challenges.

CHAPTER EIGHT: CONCLUSION AND RECOMMENDATIONS

8.1 Introduction

This chapter considers possible recommendations which can be adopted to improve impact assessment legislation and make it more effective in facilitating sustainable development in Tanzania. The chapter also incorporates the outcome of the research by looking at the initial research questions and objectives of this study. The main purpose of this study was to analyse the extent to which impact assessment legislation contributes to sustainability in Tanzania. From the theoretical framework developed in chapters two and three certain main themes were identified and used to assess the Tanzanian legislation and examples of the EIAs and SEAs. The findings that emerged from this study, together with the recommendations proposed, could help policy-makers to find integrated solutions which could ensure that sustainable development is achieved in Tanzania.

8.2 Outcome of the research

In conclusion, a short reaction is provided to the initial questions and objectives of this study:

OBJECTIVES	OUTCOMES
<p>To analyse the existing knowledge and literature that address the contribution of impact assessment legislation in achieving sustainable development.</p>	<p>The existing theories and literature on sustainable development and impact assessment were analysed in chapters two and three. Chapter 2 presented the concept of sustainable development and explored the meaning of the different dimensions (or pillars) of sustainable development (social, economic, political, physical and ecological) and the integration of these sustainability dimensions into decision-making. Key issues of sustainability were explored such as the need to take into account social equity; benefit-sharing; poverty alleviation and institutional sustainability. The review also explored how sustainable development must be informed by strategic and long-term planning, taking note of complexity and system thinking, as well as interdisciplinary and transdisciplinary learning. Together with effective coordination mechanisms, these</p>

	<p>aspects are crucial in promoting the goals of sustainable development.</p> <p>Chapter 3 reviewed the tools (EIA, SEA, and SA) together with supporting tools such as NSSDs, Local Agenda 21 plans, indicators and State of Environmental Reports. These tools are regarded as important instruments required to facilitate the assessment and integration of sustainability goals in decision-making. These two chapters built a framework which enabled the analysis of the Tanzanian case study based on the main themes discussed out of this theoretical framework.</p>
<p>To investigate other countries and how they promote sustainable development through legislation.</p>	<p>The best practices from the EU, UK and South Africa on how they use impact assessment legislation to promote sustainability were explored. Most of these countries are promoting sustainable development through established impact assessment legislation which provides for integrated approaches as well as the use of NSSDs and Environmental Policy Integration (EPI) as tools to achieve better policy coordination and integration in different levels of decision-making. These examples have been compared with the Tanzanian country context.</p>
<p>To investigate the main environmental and socio-economic problems in Tanzania that needs to be addressed to promote sustainable development.</p>	<p>Environmental and socio-economic problems have been presented in chapter 5. It was observed that rapid population growth and poverty is a major obstacle to achieving sustainable development in the country. The high growth occurring in the country over the past ten years did not have a significant impact on poverty reduction. Other environmental problems such as land degradation, water resources degradation, loss of wildlife habitats and biodiversity, deforestation, urban pollution</p>

	as well as climate change in one way or another are hampering the achievement of sustainability in the country.
To examine the policy and legal framework governing the implementation of impact assessment tools.	The impact assessment policies and legislation are described in chapter 5. These include the Environmental Management Act (EMA) and its regulations; the National Environmental Policy (NEP); the Tanzania Vision 2005; the National Strategy for Growth and Reduction of Poverty (NSGRP) (also viewed as the NSSD); the National Five Years Development Plan (FYDP); and the National Environmental Action Plan (NEAP). These documents were used as the unit of analysis together with examples of EIA and SEA cases in chapter 7.
To investigate which institution are involved in the implementation of impact assessment legislation.	The institutions involved in implementing impact assessment legislation are described in chapter 5. These include the Vice President's Office Division of Environment, the National Environmental Management Committee (NEMC), sector environmental sections, and regional, township, district, and village environmental sections. These institutions to a limited extent provide for vertical and horizontal coordination mechanisms to promote sound decision-making.
Using the literature and comparative cases as lens, to investigate how well do the Tanzanian laws, policies, institutions and co-ordinating mechanisms perform at promoting sustainable development.	Tanzanian laws, policies, institutions and co-ordinating mechanisms have been described in chapter 5 and discussed in chapter 7. It was found that impact assessment legislation, to a large extent incorporate both vertical and horizontal integration for coordination mechanisms. However, the mechanisms established for coordination and integration did not indicate how the adopted councils, commissions, committees, and bodies in

	different levels should be coordinated. For instance, how the consultation process is to be conducted, how awareness is raised and how information is exchanged. Also, the legislation didn't refer to methods to bring different actors together. Impact assessment legislation was also faced with challenges such as weak governance, lack of strategic and long-term planning, inadequate integration of system thinking and complexity, as well as a lack of meaningful stakeholder's participation in decision-making.
--	--

Table 3: Outcome of the research

8.3 Recommendations

Based on the findings that emerged from this study, the recommendations are as follows:

In this research it was observed that the main challenge of impact assessment legislation in facilitating sustainable development is inadequate adherence to good governance and rule of law principles. Achieving sustainable development is in jeopardy if existing legislation and policies which to a certain extent promote sustainability are not enforced or respected and no serious actions are taken when they are violated. Improving governance and the rule of law is therefore the point of departure in addressing sustainable development in Tanzania.

A mechanism for compliance and enforcement must also be established which should take into consideration the values, ethics and socio-psychological context of the institutions involved in the implementation. Institutional reform is vital. It should be conducted, not by introducing new institutions, but rather by promoting a culture of law abidingness, accountability and transparency in existing institutions. Achieving this by itself, will not be enough to promote sustainability in Tanzania. Therefore, further recommendations are set out below:

- There is a need to review existing policies and laws in terms of their efficiency in integrating sustainability dimensions into the decision-making process. The five pillars of sustainability which include socio-economic, political, physical and environmental dimensions must be addressed. The legislation should indicate clearly the continuous and mutually compatible integration of these facets over a long-period of time.
- The legislation should also introduce mechanisms for projects to contribute and promote benefit-sharing, social equity and poverty alleviation.

- The government should adopt a NSSD apart from the current NSGRP which is a short to medium term policy. The new NSSD should be seen as a long-term strategic planning document which can facilitate the integration of sustainability dimensions (based on the five pillars of sustainability, and the proposed Sustainable Development Goals (SDG's) of the United Nations) and indicate how they can be integrated to provide for policy coherence in between and across sectors. The NSSD should be developed depending on the local understanding of the concept of sustainable development and Tanzanian's developmental context.
- There is a need to strengthen and in some cases formulate coordination mechanisms for vertical and horizontal integration of sustainability dimensions in decision-making. The existing mechanisms do not provide clear opportunities for the meaningful participation by different stakeholders. The mechanisms to be adopted should state when and how stakeholders meet, as well as how information should flow between them. Workshops, seminars, annual meetings and symposiums may be among the ways of enhancing horizontal and vertical coordination.
- It is also necessary to strengthen stakeholders' participation/involvement in decision-making processes. There is a need to establish clear guidelines and minimum standards for stakeholders' identification and participation in policy formulation and the conducting of impact assessment processes. Key stakeholders such as Members of Parliament, Judiciary, local NGOs, CBOs, media and individuals who are often omitted in assessment processes, should be included. Stakeholder participation should be promoted to ensure those stakeholders are involved in design/preparation, implementation and monitoring of the policies and projects, as well as being able to influence the outcome of decisions. The higher level of involving stakeholders in all spheres of decision-making can increase accountability, transparency, and compliance.
- It is important to strengthen and introduce appropriate ways of conducting awareness by the public and government officials on matters concerning environmental management and sustainability. The existing laws, policies and strategies are not widely known to government officials or the general public. There is a need to provide enough education and training to government officials, impact assessment stakeholders and experts, local developers and contractors, and the general public. This can be achieved by conducting seminars, workshops and symposiums, as well as the use of mass media and social networking such as Facebook pages, Blogs, Twitter, Websites, and YouTube facilities. Moreover, this should go hand in hand with reviewing and adopting traditional and customary codes of behaviour, which integrate sustainability as an ethical norm into daily life routines. The government should ensure that traditional and customary structures

reflect sustainability, and all Tanzanians, especially rural and urban dwellers, have a clear understanding of appropriate sustainability practices in order to utilise their resources wisely.

- There is a need to adopt integrated or sustainability impact assessment as a policy requirement to assess sustainability goals at higher levels of decision-making, which should take into account other supportive tools (including the use of NSSD, Local Agenda 21 plans, sustainability indicators and State of Environmental Reports). This approach can minimise the shortcomings encountered in project EIAs by taking into account interdisciplinary and transdisciplinary learning and considering the environment as a whole, connected with other components in a system. This approach can also help create a clear link between poverty alleviation and socio-economic, governance and physical sustainability in the process of assessment. Guidelines and methodologies for integrated assessment should be adopted to avoid confusion and duplication of activities.
- There is a need to create financial mechanisms to cover impact assessment studies. Absence of financial mechanisms is a major cause of poor and delayed impact assessment processes, as well as inadequate enforcement of the legislation. The government in performing its political accountability should budget for conducting impact assessments. Each ministry, department and agency together with the LGAs should incorporate a budget for conducting impact assessment and enforcement of the laws as mandatory aspects during budget preparation and planning. Moreover, the National Environmental Trust Fund established under the EMA should also be utilised to conduct strategic impact assessments for policies and projects under central government authorities. This will avoid impact assessment processes being seen as the developer's responsibility or fulfilling legal obligations or donor's requirements for funding purposes, but part and parcel of government inspiration and commitment in promoting sustainable development.
- There is a need to establish and strengthen mechanisms for strategic and long-term planning at all levels of decision-making. The existing decentralisation process is the point of departure and should therefore be strengthened and complied with. This mechanism is vital as it empowers local authorities at the local level to influence decision-making. Enough resources should be allocated including introducing environmental extension officers who will coordinate and raise awareness on environmental issues and sustainability at the local level. The EMA and its subsequent regulations should be amended to introduce clear mechanisms for strategic and long-term planning in the management of the environment and promoting sustainability. Strategic and long-term planning can facilitate the smooth integration of sustainability goals into decision-making

in the long term. This approach embraces collaboration and non-hierarchical organisations, unlike the current practice which is top-down, technocratic and expert-driven. Strategic and long-term planning, together with impact assessment legislation would help facilitate the assessment and integration of sustainability goals to achieve sound decisions for sustainable development.

- There is a need for impact assessment legislation to harmonise and establish a link with other planning instruments and legislation (such as the Urban Planning Act and other legislation for management of natural resources) so that developers do not have to duplicate applications. Impact assessment legislation should also mandate the adoption of regulations for combating corruption in impact assessment processes, including imposing penalties and court sanctions, guidelines and minimum standards for projects to contribute to poverty alleviation and benefit-sharing and mandatory guidelines for Corporate Social Responsibility (CSR) for all investors to be embedded in the integrated impact assessment approach.
- There is a need to take note of system thinking and complexity in decision-making processes. Complexity and system thinking can enable the finding of new ways of thinking and coping with the hidden or emergent problems that characterise systems interactions. Addressing the contemporary environmental problems requires innovative and comprehensive solutions which will enable the identification of multiple ways of addressing them. Impact assessment legislation and planning tools by themselves, without taking note of complexity and system thinking, will not suffice in addressing current environmental challenges.
- Strengthen and establish a data base or central system for storing official data and information and making data available via the internet. This is a challenge in the current governance system where most of the official information is kept on personal computers or in hard copy files. With the recent growth and use of Information System Technology (IST), there are many opportunities for adopting a comprehensive system of keeping official data, as well as mechanism for sharing information between government departments, ministries, agencies, institutions, LGAs and other key stakeholders. This will increase transparency and accountability, as well as minimise and reduce the complexities existing in government registries, as the information will be available to the public without having to visit government offices.

8.4 Conclusion

This study explored the effectiveness of impact assessment and related legislation in contributing to sustainable development, by looking at Tanzanian laws and policies on impact assessment that

claim to promote sustainable development and measuring them against the literature and comparative legislation of other countries. It was found that many of the key factors which are required to promote sustainability were lacking in Tanzanian legislation and practices. There is a lack of proper integration and coordination mechanisms; very little strategic and long-term sustainability planning; little understanding of complexity and systems thinking; no meaningful stakeholder participation in decision-making; as well as a lack of good governance and application of the rule of law, especially as it relates to enforcement. As such, impact assessment policies and laws are therefore inadequate at promoting sustainability in Tanzania.

The study recommended different measures to be taken to improve legislation and practice, including the review of existing policies and laws in terms of their efficiency in integrating sustainability dimensions into the decision-making process. Also important was the introduction of mechanisms to promote participation of stakeholders, as well as benefit-sharing, social equity and poverty alleviation. The drafting of a separate NSSD was suggested, based on the five pillars of sustainability, and coordinated with the proposed Sustainable Development Goals (SDG's) of the United Nations. Linking various policy documents was also suggested, as this can increase coherence and convergence and help ensure effective implementation, while at the same time minimise overlaps, potential conflicts and duplication of efforts.

This should go together with strengthening coordination mechanisms (vertical and horizontal coordination), as well as institutional reform which should focus on enhancing the culture of law abidingness, enforcement and accountability. Adopting integrated impact assessment as a policy tool could also help contribute to sustainable development, by establishing a well-designed process which maximises the potential for policy learning and dialogues. It can help to integrate sustainable development goals into all policies, plans, programmes and projects by taking full account of environmental capacities and its complexities as well as long-term strategic considerations.

8.5 Areas of future research

This research focused on the Tanzania case study. Policies and laws selected were those directly providing for impact assessment while the EIAs and SEAs were selected purposely from those conducted before and after the EMA. Therefore, further and more detailed research studies are necessary which may focus on specific policies or projects in specific localities. Moreover, to establish sound Integrated Environment Management in Tanzania, other studies may focus on the following key areas:

- An analysis of the role of the Integrated Impact Assessment approach in contributing to sustainable development.

- An analysis of the role of the National Strategy for Sustainable Development in policy integration and sustainability dimensions.
- Evaluations of governance challenges in achieving sustainable development.
- Evaluation of the role of integrated and long-term strategic planning in facilitating sustainable development.
- Evaluation of the role of complexity and system thinking in promoting sustainable development.
- More detailed case studies and surveys of EIA and SEA reports done in the country.

Bibliography

Abaza, H. 1996. Integration of Sustainability Objectives in Structural Adjustment Programmes using Strategic Environmental Assessment, *Project Appraisal*, 11 (4): 217-228.

Abaza, H. 2003. The Role of Integrated Assessment in Achieving Sustainable Development. [Online]. Available: www.sed.manchester.ac.uk/research/iarc/ediais/word-files/abaza.doc. [2014, 17 March].

Abaza, H. and Baranzini, A. 2001. *Implementing Sustainable Development: Integrated Assessment and Participatory Decision-Making Processes*. Cheltenham (UK): Edward Elgar.

Abaza, H; Bisset, R. and Sadler, B. 2004. *Environmental Impact Assessment and Strategic Environmental Assessment: Towards an Integrated Approach*. First edition, UNEP: New York.

Abbott, J. 2001. A method-based planning framework for informal settlement upgrading. *Habitat International*, 26(2002): 317-333.

Achieng Ogola, P. 2007. Environmental Impact Assessment General Procedures. Paper Presented at Short Course II on Surface Exploration for Geothermal Resources, organized by UNU-GTP and KenGen, 2-17 November, Lake Naivasha, Kenya. [Online]. Available: <http://www.os.is/gogn/unu-gtp-sc/UNU-GTP-SC-10-0801.pdf>. [2014, 8 March].

Agano, I. 2002. Environmental Impact Assessment as a Tool for Sustainable Development: The Nigerian Experience. Paper presented at FIG XXII International Congress, April 19-26, Washington, D.C. USA.

Ahmed, K; Mercier, J. and Verheem, R. 2005. Strategic Environmental Assessment –Concept and Practice. *The Environmental Strategy Notes Series*, No. 14. [Online]. Available: <http://siteresources.worldbank.org/INTSTRENVASS/Publications/20687523/ESN14SEA.pdf>. [2014 March 10].

Allen, A. 2001. 'Urban Sustainability under Threat: The Restructuring of the Fishing Industry in Mar del Plata, Argentina'. *Development in Practice*, 11 (2 & 3): 152–173.

Allen, A. 2009. Sustainable cities or sustainable urbanisation? Taken from the Summer, 2009 edition of 'palette', *UCL's journal of sustainable cities*. [Online]. Available: <http://www.ucl.ac.uk/sustainable-cities/results/gcsc-reports/allen.pdf>. [2014, 27 October].

Allen, A. and You, N. 2002. *Sustainable Urbanisation: Bridging the Green and Brown Agendas*; produced in collaboration with DPU, UN-HABITAT and DFID, London: The Development Planning Unit.

Allen, A; Hofmann, P. and Griffiths, H. 2007. 'Report on Rural –Urban Linkages for Poverty Reduction'. Elaborated for the State of the World's Cities Report 2008: 'Creating Harmonious Cities', UCL Development Planning Unit, London.

AllAfrica.com. 2014. East Africa: Serengeti Road in Balance. [Online]. Available: allafrica.com/stories/201406302139.html. [2014, 12 July].

Alshuwaikhat, H. 2004. Strategic environmental assessment can help solve environmental impact assessment failures in developing countries. *Environmental Impact Assessment Review*, 25 (2005): 307-317.

Andersson, J. and Slunge, D. 2005. Tanzania –Environmental Policy Brief. [Online]. Available: <http://sidaenvironmenthelpdesk.se/wordpress3/wp-content/uploads/2013/04/Env-Policy-Brief-Tanzania-2005.pdf>. [2013, 20 December].

AONDA.com. 2014. AONDA Currency Converter. [Online]. Available: <http://www.oanda.com/currency/converter/>. [2014, 18 July].

Appiah-Opoku, S. 2001. Environmental impact assessment in developing countries, the case of Ghana. *Environmental Impact Assessment Review*, 21: 59-71.

Australian Public Service Commission, 2007. Tackling Wicked Problems: A Public Policy Perspectives. Contemporary Government Challenges, Australian Government. [Online]. Available: http://www.apsc.gov.au/_data/assets/pdf_file/0005/6386/wickedproblems.pdf. [2014, 13 October].

Bailey, K. 1994. *Methods of Social Research*, Fourth Edition, New York: The Free Press.

Bailay, C; Deans, J. and Pettigrew, D. 2003. Integrated Impact Assessment: UK Mapping Project. [Online]. Available: http://www.nice.org.uk/media/hiadocs/Integrated_impact_assessment_report_final.pdf. [2014, 26 March].

Bass, S; Dalal-Clayton, B. and Pretty, J. 1995. *Participation in Strategies for Sustainable Development*. Environmental Planning Group, IIED: London.

Baxter, P. and Jack, S. 2008. Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*, 13 (4): 544-559.

Beatley T. 1989. Environmental ethics and planning theory. *Journal of Planning Literature*, 4: 1-32.

- Berger, G. 2007. Sustainability Impact Assessment: Approaches and application in Europe. ESDN Quarterly Report. [Online]. Available: http://www.sd-network.eu/?k=quarterly%20reports&report_id=22#qr23. [2014, 12 March].
- Betey, C. and Godfred, E. 2013. Environmental Impact Assessment and Sustainable Development in Africa: A Critical Review. *Environment and Natural Resources Research*, 3(2): 37-51.
- Bina, O. 2007. A Critical Review of the Dominant Lines of Argumentation on the Need for Strategic Environmental Assessment. *Environmental Impact Assessment Review*, 27(7): 585-606.
- Bina, O. 2008. Context and systems: Thinking more broadly about effectiveness in strategic environmental assessment in China. *Environmental Management*, 42: 717-733.
- Bless, C. and Higson-Smith, C. 2000. *Fundamental of Social Research Methods: An African Perspective*. Third Edition. Cape Town: Juta.
- Blewitt, J. 2008. *Understanding sustainable development*. London: Earthscan.
- Bob, B; Kristal, B; Gary, J; Denise, M; Russell, R; Denis, T; Geoff, G; Mark, H; Sean, S. and Jenny, B. 2006. *Australia, state of the environment 2006: Independent report to the Australian Government Minister for the Environment and Heritage*, Department of the Environment and Heritage, Canberra, ACT.
- Boko, M; Niang, A; Nyong, C; Vogel, A; Githeko, M; Medany, B; Osman-Elasha, R. and Yanda, P. 2007. *Africa. Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the InterGovernmental Panel on Climate Change*, Parry, M.L; Canziani, O.F; J.P. Palutikof, J.P; van der Linden, P.J. and Hanson, C.E. (Eds). Cambridge University Press: Cambridge UK.
- Bond, A. and Morrison-Saunders, A. 2009. Sustainability Appraisal: Jack of all Trades, Master of None? *Impact Assessment and Project Appraisal*, 27(4): 321-329.
- Bond, R; Curran, J; Kirkpartick, C; Lee, N. and Francis, P. 2001. Integrated Impact Assessment for Sustainable Development: A Case Study Approach. *World Development*, 29 (6): 1011-1024.
- Bruhn-Tysk, S. and Eklund, M. 2002. Environmental impact assessment –a tool for sustainable development? A case study of biofuel energy plants in Sweden. *Environmental Impact Assessment Review*, 22: 129-144.
- Buselich, K. 2002. An Outline of Current Thinking on Sustainability Assessment. Background paper prepared for the Western Australian State Sustainability Strategy. Institute for Sustainability and Technology Policy, Murdoch University, Western Australia. [Online]. Available:

<http://www.sustainability.dpc.wa.gov.au/docs/BGPapers/KathrynBuselich.pdf>. [2014, 12 March].

Cashmore, M. 2003. The role of science in environmental impact assessment: process and procedure versus purpose in the development of theory. *Environmental Impact Assessment Review*, 24 (2004): 403-426.

Cashmore, M; Gwilliam, R; Morgan, R; Cobb, D. and Bond, A. 2004. The interminable issue of effectiveness: substantive purpose, outcomes and research challenges in the advancement of environmental impact assessment theory. *Impact Assessment and Project Appraisal*, 22 (4): 295-310.

Cashmore, M; Bond, A. and Sadler, B. 2009. Introduction: The effectiveness of impact assessment instruments, *Journal of International Impact Assessment*, 27 (2): 91-93.

Cilliers, P. 2000. What Can We Learn From Theory of Complexity? *Emergence* 2(1): 23-33.

Clayton, A.M.H. and Radcliffe, N.J. 1996. *Sustainability: A systems approach*. London: Earthscan.

Clissett, P. 2008. Evaluating qualitative research. *Journal of Orthopaedic Nursing*, 12 (2008): 99–105.

ClientEarth, 2011. Sustainable Development as a Key Policy Objective of the European Union. Identifying Opportunities for Sustainable Public Procurement Briefing Series No. 1. [Online]. Available: www.clientearth.org. [2014, 8 February].

Climate-zone.com. 2004. Tanzania map. [Online]. Available: <http://www.climate-zone.com/img/tanzania/map.gif>. [2014, 12 May].

Coetsee, M. 2002. *Local Pathway to Sustainable Development in South Africa: Summary document of the IDP-LA21 Relationship*; prepared by CSIR Boutek for the World Summit IDP-LA21 Partnership, DPLG, DEAT, SALGA, CSIR, GTZ, DBSA, UNDP.

Conyers, D and Hills, P. 1984. *An Introduction to Planning in the Third World*. John Wiley and Sons, New York.

Cousins, B. 2007. Agrarian Reform and the two economies: transforming South Africa's countryside, In Hall, R. and Ntebeza, L. (eds.). *The Land Question in South Africa: The Challenge of Transformation and Redistribution*. Human Science Research Council, HSCR Press.

Curtis, S; Gesler, W; Smith, G. and Washburn, S. 2008. Approaches to sampling and case selection in qualitative research: examples in the geography of health. *Social Science and Medicine*, 50 (2000): 1001-1014.

Dade, A. 2013. Communicating sustainability: A content analysis of websites communications in the United States. *International Journal of Sustainability in Higher Education*, 14 (3): 254-263.

Dagne, T. 2011. Tanzania: Background and Current Conditions. Congressional Research Service (CRS) Report Prepared for Members and Committee of Congress, August, 31 2011. [Online]. Available: <https://www.fas.org/sgp/crs/row/RS22781.pdf>. [2014, 8 April].

Dalal-Clayton, B. and Sadler, B. 2004 Sustainability Appraisal: A Review of International Experience and Practice. [Online]. Available: <http://pubs.iied.org/pdfs/G02194.pdf>. [2014, 14 March].

DEAT (Department of Environmental Affairs and Tourism), 2004. Overview of Integrated Environmental Management, Information Series 0, DEAT, Pretoria: CSIR.

DEAT (Department of Environmental Affairs and Tourism), 2007. Strategic Environmental Assessment Guideline, Integrated Environmental Guideline Series 4, DEAT, Pretoria: CSIR.

DEAT (Department of Environmental Affairs and Tourism), 2008. A National Framework for Sustainable Development, DEAT, Pretoria: CSIR.

DEAT (Department of Environmental Affairs and Tourism), 2011. The National Strategy for Sustainable Development and Action Plan, DEAT, Pretoria: CSIR.

Death, C. 2014. Legitimacy and Governmentality in Tanzania: Environmental Mainstreaming in Developing World, In: Gabay, C. and Death, C. (Eds). 2014. *Critical Perspectives on African Politics: Liberal interventions, state-building and civil society*. London: Routledge. [Online]. Available: <http://www.routledge.com/9780415818247>. [2014, 13 September].

Devuyst, D. 2000. Linking impact assessment and sustainable development at the local level: the introduction of sustainability assessment systems. *Sustainable Development*, 8: 67–78.

Devuyst, D; Hens, L. and De Lannoy, W. (Eds). 2001. *How Green is the City? Sustainability Assessment and the Management of Urban Environments*. New York: Columbia University Press.

Dovers, S. 2005. Clarifying the imperative of integration research for sustainable environmental management. *Journal of Research Practice*, 1 (2).

Drexhage, J. and Murphy, D. 2010. Sustainable Development from Brundtland to Rio 2012. Paper prepared for consideration by the High Level panel on Global Sustainability at its first meeting, 19, September, UN Headquarters, New York.

DSD (Division of Sustainable Development), 2009. National sustainable development strategies – the global picture. [Online]. Available:

http://www.un.org/esa/dsd/dsd_aofw_nsd/nsds_pdfs/NSDS_map_bg_note.pdf. [2014, 13 September].

Duvail, S; Hamerlynck, O; Nandi, R; Mwambeso, P. and Elibariki, R. 2006. Participatory Mapping for Local Management of Natural Resources in Village of the Rufiji District (Tanzania). *EJISDC*, 25 (6): 1-6.

Ecologic, Institute for European and Environmental Policy, and Vrije Universiteit Amsterdam, 2007. *Improving Assessment of the Environment in Impact Assessment*, Final Report, Project No. ENV.G.1/FRA/2004/0081. [Online]. Available: http://www.ecologic-events.de/eu-impact-assessment/en/documents/Env_in_IA_final.pdf. [2014, 14 March].

EEAC (European Environment and Sustainable Development Advisory Councils), 2006. Impact Assessment of European Commission Policies: Achievements and Prospects. Statement of the EEAC Working Group on Governance: Statement on Impact Assessment, 28, July. [Online]. Available: www.oecd.org/greengrowth/40033017.pdf. [2014, 23 March].

Elling, B. 2009. Rationality and Effectiveness: does EIA/SEA treat them as synonyms? *Journal of International Impact Assessment*, 27 (2): 120-132.

Elo, S. and Kyngas, H. 2008. The qualitative content analysis process. *Journal of Advanced Nursing*, 62 (1): 107-115.

Energy-pedia.com. 2010. Songo Songo Island Map. [Online]. Available: <http://www.energy-pedia.com/news/tanzania/canadas-orca-exploration-planning-new-well-to-boost-songosongofield-gas-production>. [2014, 22 July].

FAO.Org. 2008. Rufiji River Delta Map. [Online]. Available: <http://www.fao.org/docrep/008/ad793b/AD793B03.htm>. [2014, 22 July].

FAO.Org. 2009. Bagamoyo District Map. [Online]. Available: <http://www.fao.org/docrep/009/a0182e/a0182e05.htm>. [2014, 22 July].

Fischer, T. 2002. Strategic environmental assessment in post-modern times. *Environmental Impact Assessment Review*, 23 (2003): 155-170.

Flyvbjerg, B. 2006. Five Misunderstandings about Case Study Research. *Qualitative Inquiry*, 12 (2): 219-245.

Gallopín, G. 2003. *A systems approach to sustainability and sustainable development: project NET/00/063*. Santiago, Economic Commission for Latin America.

Gardener, R. 2014. Sustainable Regional Development: Developing a Sustainability Assessment Framework for District and Metropolitan Integrated Development Plans. Thesis presented in partial fulfilment of the requirements for the degree of Master of Philosophy in Sustainable Development Planning and Management In the Faculty of Economic and Management Sciences: Stellenbosch University.

Gehring, M. 2010. Sustainability Impact Assessment of Trade Agreements in the Americas: A Tool for Sustainable Development. [Online]. Available: <http://cisdl.org/public/docs/legal/SUSTAINABILITY%20IMPACT%20ASSESSMENT%20OF%20TRADE%20AGREEMENTS%20IN%20THE%20AMERICAS%20%20A%20TOOL%20FOR%20SUSTAINABLE%20DEVELOPMENT%20-%20Gehring.pdf>. [2014, 20 March].

Geographia.com. 2012. Exploring Tanzania. [Online]. Available: <http://www.geographia.com/tanzania/>. [2014, 8 May].

George, A.L. and Bennett, A. 2004. *Case Studies and Theory Development in the Social Science (BCSIA Studies in International Security)*. The MIT Press: 19-20.

Gibson, R; Hassan, S; Holtz, S; Tansey, J. and Whitelaw, G. 2005. *Sustainability Assessment: Criteria, Processes*. London: Earthscan.

Gibson, R. 2006. Sustainability assessment: basic components of a practical approach. *Impact Assessment and Project Appraisal*, 24(3): 170-182.

Gibson, R. 2006. Beyond the Pillars: Sustainability Assessment as a Framework for Effective Integration of Social, Economic and Ecological Considerations in Significant Decision-making. *Environmental Assessment Policy and Management*, 8 (3): 259–280.

Gibson, R. 2013. 'Why Sustainability Assessment?' In Bond, A; Morrison-Saunders, A. and Howitt, R. *Sustainability Assessment: Pluralism, Practice and Progress*. London: Routledge.

Gilbert, N. 2008. *Researching Social life*. Third Edition. Thousand Oaks: Sage.

Glaser, G. and Bates, P. 2011. Enhancing Science-Policy links for Global Sustainability, International Council for Science (ICSU). [Online]. Available: <http://www.ieg.earthssystemgovernance.org/sites/default/files/files/publications/Glaser,%20Bates%20Enhancing%20Science-Policy%20Links%20for%20Global%20Sustainability.pdf>. [2014, 27 October].

Griggs, D; Smith, M; Gaffney, O; Rockstrom, J; Ohman, M; Shyamsundar, P; Steffen, W; Glaser, G; Kanie, N. and Noble, I. 2013. Sustainable Development Goals for People and Planet. *Nature*, 495 (2013): 305-307.

Guy, S. and Marvin, S. 2001. Urban Environmental Flows: Towards a New Ways of Seeing. In: Guy, S., Marvin, S. and Moss, T. (Eds.). *Urban Infrastructure in Transition: Networks, Buildings, Plans*. London: Earthscan.

Hartin, K. 2011. Serengeti Highway: Roadblocks to Resolution. [Online]. Available: http://www.uvm.edu/~shali/Serengeti_Highway.pdf. [2014, 23 July].

Hirsch Hadorn, G; Pohl, C. and Bammer, G. 2010. Problem solving through transdisciplinary research and integration. In: Frodeman, R; Klein, J.T; Mitcham, C; and Holbrook, J.B. (eds.). *Oxford handbook on interdisciplinarity*. Oxford: Oxford University Press.

Hopwood, B; Mellor, M. and O'Brien, G. 2005. Sustainable Development: Mapping Different Approaches. *Sustainable Development*, 13: 38–52.

Huchzermeyer, M. 2003. From “contravention of laws” to “lack of rights”: redefining the problem of informal settlement in South Africa. *Habitat International*, 28 (2004): 333-347.

Huge, J. 2010. Achieving synergy between competitiveness, good governance and sustainable development through impact assessment: discourse and practice. Paper presented at the 2010 Conference of the International Sustainable Development Research Society, Hong Kong.

Huge, J. 2013. Sustainability Assessment and RIA: A Natural Convergence? [Online]. Available: http://www.evaluatieplatform.be/doc/100430_Huge.pdf. [2014, 14 March].

Hughes, R. 1996. Environmental Impact Statement for an Ecologically Responsible Shrimp Farming Project in the Rufiji Delta, Tanzania: Some thoughts, review, Report for Institute of Resource Assessment, University of Dar es Salaam, 5 September 1996.

Hughes, R. 1998. Environmental Impact Assessment and Stakeholder Involvement. *Environmental Planning Issues*, No. 11. [Online]. Available: <http://pubs.iied.org/pdfs/7789IIED.pdf>. [2014, 8 August].

IAIA (International Association of Impact Assessment), 1999. Principles of Environmental Impact Assessment Best Practice. [Online]. Available: <http://www.iaia.org> [2014, 22 February].

IAIA (International Association of Impact Assessment), 2009. Impact Assessment Law, Policies and Practice. [Online]. Available: <http://www.iaia.org/iaiwiki/ialaw.ashx> [2014, 22 March].

IMF (International Monetary Fund), 2010. “About the IMF.” International Monetary Fund. [Online]. Available: <http://www.imf.org/external/about.htm>. [2014, 8 February].

IMF (International Monetary Fund), 2012. Tanzania: Poverty Reduction Strategy Paper—Joint Staff Advisory Note. Country Report No. 12/118. [Online]. Available: <http://www.imf.org/external/pubs/ft/scr/2012/cr12118.pdf>. [2014, 5 May].

Innes, E. and Booher, D. 2000. Indicators for Sustainable Communities: A Strategy Building on Complexity Theory and Distributed Intelligence. *Planning Theory and Practice*, 1 (2): 173-186.

Jacob, K; Ferretti, J. and Guske, A. 2012. A Review of Impact Assessment Systems in selected OECD countries and the European Commission. [Online]. Available: [http://www.oecd.org/gov/regulatorypolicy/Sustainability%20in%20impact%20assessment%20S-G-SD\(2011\)6-FINAL.pdf](http://www.oecd.org/gov/regulatorypolicy/Sustainability%20in%20impact%20assessment%20S-G-SD(2011)6-FINAL.pdf). [2014, 28 February].

Jepson, E. 2004. Human Nature and Sustainable Development: A Strategic Challenge for Planning. *Journal of Planning Literature*, 19 (1): 3-15.

Jones, C; Jay, S; Slinn, P. and Wood, C. 2007. Environmental assessment: dominant or dormant? In: Holder, J. and McGillivray, D. *Taking stock of environmental assessment, Law, Policy and Practice*, London: Routledge.

Katima, J. 2003. Environmental Impact Assessment for whose needs?, In: *UNEP EIA Training Resource Manual: Case studies from developing countries*. [Online]. Available: www.unep.ch/etn/publications/26%20183%20to%20191.pdf. [2013, 2 August].

Kibbassa, J. 2003. Towards “Sustainable Development” in the Southern African Development Community (SADC), In: *UNEP EIA Training Resource Manual: Case Studies from Developing Countries*. [Online]. Available: <http://www.unep.ch/etu/publications/27%29%20193%20to%20202.pdf>. [2014, 28 February].

Kirkpatrick, C.; Lee, N. and Morrissey, O. 1999, *WTO New Round: Sustainability Impact Study*, Phase One and Phase Two Reports, University of Manchester, Manchester, UK.

Kumar, R. 2011. *Research Methodology: a step-by-step guide for beginners*. Third Edition. Thousand Oaks: Sage: 94-107.

Lafferty, W. and Hovden, E. 2003. Environmental policy integration: towards an analytical framework, *Environmental Politics*, 12 (3): 1-22.

Landman, T. 2003. *Issues and Methods in Comparative Politics: An Introduction*. Third Edition. London: Routledge.

Lang, D; Wiek, A; Bergmann, M; Stauffacher, M; Martens, P; Moll, P; Swilling, M. and Thomas, C. 2012. Transdisciplinary research in sustainability science: practice, principles, and challenges. *Sustainability science*, 7 (Supplement 1): 25–43.

Lawrence, D. 2000. Planning theories and environmental impact assessment. *Environmental Impact Assessment Review*, 20 (2000): 607–625.

Lehtonen, M. 2007. 'Environmental policy integration through OECD peer reviews: Integrating the Economy with the environment or the environment with the Economy?' *Environmental Politics*, 16 (1): 15 -35.

Lindhjem, H; Aronsen, I; Bråten, K. and Gleinsvik, A. 2011. Experience with Benefit Sharing: Issues and Options for REDD+. International Union for Conservation of Nature (IUCN), Pöyry Management Consulting (Norway) AS. [Online]. Available: www.unredd.net/index.php?option=com_docman&task=doc. [2014, 14 October].

Lobos, V. and Partidario, M. 2010. Rationale behind the current practice in SEA. The Role of Impact Assessment in Transitioning to the Green Economy, 30th Annual Meeting of the International Association for Impact Assessment, 6-11 April, International Conference Centre, Geneva-Switzerland.

Macaulay, B. and Richie, S. 2013. Variation and Challenges in the Global Practice of Environmental Impact Assessment (EIA). *International Journal of Innovation and Applied Studies*, 4 (4): 628-635.

Mahanty, S; Guernier, J. and Yasmi, Y. 2009. A fair share? Sharing the benefits and costs of collaborative forest management. *International Forestry Review*, 11 (2): 268-280.

Mallya, T. 2002. A Critical look at Tanzania's Development Vision [Online]. Available: <http://unpan1.un.org/intradoc/groups/public/documents/idep/unpan002404.pdf>. [2013, 20 December].

Manyasa, M. 2005. An Assessment on Effectiveness of Environmental Impact Assessment in Project development in Tanzania. A Dissertation in Partial Fulfilment of the Requirements for the Degree of Masters of Engineering Management of the University of Dar es Salaam, November 2005.

Marara, M; Okello, N; Kuhanwa, Z; Douven, W; Beevers, L. and Leentvaar, L. 2010. The importance of context in delivering effective EIA: Case studies from East Africa. *Environmental Impact Assessment Review*, 31 (2011): 286–296.

Martine, G.; McGranahan, G.; Montgomery, M. and Fernandez-Castilla, R. 2008. 'Introduction'. In: Martine, G; McGranahan, G; Montgomery, M. and Fernandez-Castilla, R. (Eds.). *The New Global Frontier: Urbanization, Poverty and the Environment in the 21st Century*. London: Earthscan.

Maxwell, S. and Conway, T. 2000. *New Approach to Planning. Operation Evaluating Department Working Paper Series, No. 14*. The World Bank, Washington, D.C.

Meadowcroft, J. 2007. National Sustainable Development Strategies: Features, Challenges and Reflexivity. *European Environment*, 17(3): 152-163.

Mebratu, D. 1998. Sustainability and Sustainable Development: Historical and Conceptual Review. *Environment Impact Assessment Review*, 18: 493-520.

Mekuriaw, A. and Teffera, B. 2013. The role of Environmental Impact Assessment for sustainable development. IAIA13 Conference Proceedings, 33rd Annual Meeting of the International Association for Impact Assessment, 13-16 May 2013, Calgary Stampede BMO Centre, Calgary, Alberta, Canada.

Miller, M. and Mansilla, V. B. 2004. *Thinking across perspectives and disciplines*. Boston, MA: Harvard Graduate School of Education.

Mills, M; Van de Bunt, G. and De Bruijn, J. 2006. Comparative Research: Persistent Problems and Promising Solutions. *International Sociology*, 21(5): 619–631.

Mobjork, M. 2010. Consulting versus participatory transdisciplinarity: A refined classification of transdisciplinary research, *Futures*, 42 (2010): 866–873.

Mogalakwe, M. 2006. The Use of Documentary Research Methods in Social Research. *African Sociological Review*, 10, (1): 221-230.

Mohamed-Katerere, J. 2007. From Environment and Development to Environment for Development: Evolution of ideas from “*Our Common Future*” to Global Environmental Outlook (GEO-4): Brundtland +20 Seminar Background paper. [Online]. Available: http://www.unep.org/geo/geo4/media/Brundtland_24_10_07.pdf. [2014, 12 March].

Morin, E. 1999. *Homeland Earth- A Manifesto for the new millennium*. Cresskill, NJ: Hampton Press.

Morrison-Saunders, A. and Fischer, T. 2006. What’s wrong with EIA and SEA anyway?: A Sceptic’s Perspective on Sustainability Assessment. *Journal of Environmental Assessment, Policy and Management*, 8(1): 19-39.

Mouton, J. 2002. *Understanding Social Research*. Third Edition. Pretoria: Van Schaik.

Mukhija, V. 2010. N of One plus Some: An Alternative Strategy for Conducting Single Case Research. *Journal of Planning Education and Research*, 29 (4): 416-426.

Muller, A. 2006. Sustainability and Sustainable Development as the making of Connections: Lessons for Integrated Development Planning in South Africa. SAPI Planning Africa Conference, March, 2006. [Online]. Available: www.saplanners.org/new/index2.htm#. [2014, 12 July].

Muller, A. 2014a. What is Planning? Unpublished class notes, Masters Programme in Sustainable Development (Planning), School of Public Leadership: Stellenbosch University.

Muller, A. 2014b. Planning Theoretical Positions. Unpublished class notes, School of Public Leadership: Stellenbosch University.

Murombo, T. 2008. Beyond Public Participation: The Disjuncture between South Africa's Environmental Impact assessment (EIA) Law and Sustainable Development. *PER/PELJ*, 11 (3): 106-169.

Mwalyosi, R. 2004. Impact Assessment and the Mining Industry: Perspective from Tanzania. IAIA'04, Vancouver, Canada. [Online]. Available: <http://www.tzonline.org/pdf/impactassessmentandtheminindustry.pdf>. [2013, 19 December].

Mwalyosi, R. and Hughes, R. 1998. *The performance of EIA in Tanzania: an assessment*. Institute of Resource Assessment and International Institute for Environmental and Development. IRA Research Paper No. 41 an IIED Environmental Planning Issue No. 14: 1-95.

Mwalyosi, R; Hughes, R. and Howlett, D.J.B. 1999. *Introduction Course on Environmental Impact Assessment in Tanzania: Resource Handbook*. International Institute for Environment and Development and Institute for Resource Assessment. [Online]. Available: [2014, 12 March].

Nchimbo, E. and Mgaya, Y. 1997. Environmental Impact Assessment for an Environmentally Responsible Prawn Farming Project in the Rufiji Delta, Vol. 1. Dar es Salaam, Tanzania.

NEMC (National Environmental Management Council), 2010. Statistics of Certificates on Environmental Impact Assessment (EIA) and Environmental Audit (EA) in Tanzania, Environment and Development Series. [Online]. Available: www.nemc.or.tz/index.php?option=com_docman&task=doc. [2014, 12 January].

NEMC (National Environmental Management Council), 2013. Statistics of Certificates on Environmental Impact Assessment (EIA) and Environmental Audit (EA) in Tanzania, Environment and Development Series. [Online]. Available: www.nemc.or.tz. [2014, 12 January].

NEMC (National Environmental Management Council), 2014. Environmental and Social Impact Assessment Report for the Proposed Development of a Cement Factory at Talawanda and Magulu Mtali Villages, Talawanda Ward, Bagamoyo District, Pwani Region, Dar es Salaam.

Ness, B; Urbel-Piirsalu, E; Anderberg, S. and Olsson, L. 2006. Categorising tools for sustainability assessment. *Ecological Economics*, 60 (2007): 498-508.

Network of European Environment and Advisory Councils (EEAC), 2006. Impact Assessment of European Commission Policies: Achievements and Prospects, Statement of the EEAC Working Group on Governance. [Online]. Available: <http://www.eeac-net.org/>. [2014, 12 March].

Nooteboom, S. 2007. Impact assessment procedures for sustainable development: A complexity theory perspective. *Environmental Impact Assessment Review*, 27 (2007): 645–665.

Nugent, C. 2009. Review of environmental impact assessment and monitoring in aquaculture in Africa. In FAO. Environmental impact assessment and monitoring in aquaculture. *FAO Fisheries and Aquaculture Technical Paper*, No. 527. Rome: FAO.

Pallangyo, D. 2005. Environment Impact Assessment for Mining Activities in Tanzania: Legal Analysis, Research dissertation submitted as a component in partial fulfilment of the academic requirements for the degree of Master of Laws in the Faculty of Law, University of KwaZulu-Natal, Pietermaritzburg.

Pallangyo, D. 2007. Environmental Law in Tanzania: How Far Have We Gone? *Law Environment and Development Journal*, 3(1): 26-40.

Persson, A. 2004. Environmental Policy Integration: An Introduction. [Online]. Available: www.sei-international.org. [2013, 19 December].

Pezzoli, K. 1997. Sustainable Development: A Transdisciplinary Overview of the Literature. *Journal of Environmental Planning and Management*, 40(5): 549- 574.

Pham, T.T; Brockhaus, M; Wong, G; Dung, L.N; Tjajadi, J.S; Loft, L; Luttrell C. and Mvondo, S. 2013. Approaches to benefit-sharing: A preliminary comparative analysis of 13 REDD+ countries. Working Paper 108. CIFOR, Bogor, Indonesia.

Pisano, U; Lepuschitz, K. and Berger, G. 2013. National Sustainable Development in Europe: Taking stock and exploring new developments. ESDN Quarterly Report July, 29. [Online]. Available: <http://www.sd-network.eu/quarterly%20reports/report%20files/pdf/2013-July-National Sustainable Development Strategies in Europe 2013.pdf>. [2014, 28 February].

Pisano, U; Berger, G; Endl, A. and Sedlacko, M. 2011. Sustainable development governance and policies in the light of major EU policy strategies and international developments, ESDN Quarterly Report September 2011. [Online]. Available: http://www.sd-network.eu/?k=quarterly%20reports&report_id=22#qr23. [2004, 12 march].

- Pope, J. 2003. "Sustainability Assessment: What is it and how do we do it", Institute for Sustainability and Technology Policy, Murdoch University, Australia. [Online]. Available: <http://www.sustainability.dpc.wa.gov.au/conferences/refereed%20papers/Pope,J%20%20paper.pdf>. [2014 23 February].
- Pope, J. 2012. Sustainability assessment: What does it mean and is it really happening? Paper presented at the Nordic-Baltic Impact Assessment Conference, September 13-14, Kuressaare, Estonia. [Online]. Available: http://www.nordicbaltic.eu/wp-content/uploads/2012/04/Pope_Nordic_Baltic_Conf_Sustainability_assessment.pdf. [2014, 17 March].
- Pope, J. 2013. Sustainability assessment overview. [Online]. Available: http://disciplinas.stoa.usp.br/pluginfile.php/128734/mod_resource/content/1/Brazil%20presentation%201%20-%20Sustainability%20assessment%20overview.pdf. [2014, 19 March].
- Pope, J; Annandale, D. and Morrison-Saunders, A. 2004. "Conceptualising Sustainability Assessment". *Environmental Impact Assessment Review*, 24 (2004): 595- 616.
- Rafols, I. and Meyer, M. 2010. Diversity measures and network centralities as indicators of interdisciplinarity: Case studies in bionanoscience. *Scientometrics*, 82, 263–287.
- Rahman, A. 2002. Poverty and environment linkages: An emerging concern needs greater attention and focused action. *IHDP Update*, 4: 4-5.
- Ringo, C; Khamis, Z. K; Peter, A. and Pazi, R. 2013. The creeping decentralization in Tanzania: Is the strategy accorded full support by the Government? *International Journal of Social Sciences and Entrepreneurship*, 1(5): 204-227.
- Rittel, H. and Webber, M. 1973. "Dilemmas in a General Theory of Planning," *Policy Sciences*, 4: 155-160.
- Robinson, P. 2014. *Future, Change and Choices: Strategic planning methods for built environment professionals*, Second Edition, Westville: Osborne.
- Rutasitara, L; Lokina, R. and Yona, F. 2010. Mainstreaming Environmental into MKUKUTA II process. Interim Report to Ministry of Finance and Economic Affairs. [Online]. Available: <http://www.policyforum-tz.org/files/interimreportenvironment.pdf>. [2014, 18 February].
- SADC (Southern African Development Community). 1996. *SADC policy and strategy for environment and sustainable development*. Maseru: SADC-ELMS.

Sachiko, M. and Durwood, Z. 2007. Rule of Law, Good Governance, and Sustainable Development. Paper presented at the 7th International Conference on Environmental Compliance and Enforcement, 2141 Wisconsin Ave. NW, Suite D2, Washington, DC 20007, United States.

Sadler, B. 1996. Environmental Assessment in Changing World: Evaluating Practice to Improve Performance. Final Report of the International Study of the Effectiveness of Environmental Assessment. Ottawa, Canada Environmental Assessment Agency and International Association for Impact Assessment.

Sadler, B. and Verheem R. 1996. *Strategic Environmental Assessment: Status, Challenges and Future Directions*. Ministry of Housing, Spatial Planning and the Environment, the Netherlands, and the International Study of Effectiveness of Environmental Assessment.

Sadler, B. and Weaver, A. 1999. 'Impacts assessment and sustainable development: A framework for change and an agenda for research action'. Plenary paper presented at the 19th Annual Meeting of the International Association for Impact Assessment, June 1999, Glasgow, Scotland.

Said, T. 2010. Environmental Impact Assessment as a Policy Tool for Integrating Environmental Concerns in Development. AISA Policy Brief, No. 19. [Online]. Available: <http://www.ai.org.za/wp-content/uploads/downloads/2011/11/No-19.-Environmental-Impact-Assessment-as-a-Policy-Tool-for-Integrating-Environmental-Concerns-in-development.pdf>. [2014 26, March].

Scammon, D. 2012. Recognizing Cultural Sustainability. [Online]. Available: <http://specialdee.wordpress.com/2012/04/07/recognizing-cultural-sustainability/>. [2014, 12 July].

Schmidt, S. 2011. The Serengeti Road: An Analysis of Environmental and Social Impact Assessment (ESIA). [Online]. Available: <https://courses.cit.cornell.edu/crp5540/Serengeti%20Road%20EIS%20Analysis.pdf>. [2014, 23 July].

Scholz, R. 2002. *Embedded Case Study Methods: Integrating Qualitative and Quantitative Knowledge*, United Kingdom: Sage.

Schroede, D. 2006. Benefit-sharing: it's time for a definition. *Journal for Medical Ethics*, 33 (4): 1-5.

Scott, J. 1990. *A Matter of Record, Documentary Sources in Social Research*, Cambridge: Polity Press.

Scottish Natural Heritage, 2013. *A handbook on Environmental Impact Assessment*, Fourth Edition. Guidance for Competent Authorities, Consultees and others involved in the Environmental Impact Assessment Process in Scotland. [Online]. Available: <http://www.snh.org.uk/pdfs/publications/heritagemanagement/eia.pdf>. [2014, 26 March].

SDSN (Sustainable Development Solutions Network), 2013. An Action Agenda for Sustainable Development. Report for the United Nations Secretary-General Prepared by the Leadership Council of the Sustainable Development Solutions Network. [Online]. Available: www.undsn.org. [2014, 12 September].

Sezibera, R. 2012. Regional Integration and Sustainable Development in the East African Community: Progress and Achievements. Speech provided in the EAC side event at Rio+20 Summit, 20th June, 2012: Reo de Janeiro, Brazil.

Smeets, E. and Weterings, R. 1999. *Environmental indicators: Typology and overview*. European Environment Agency: Copenhagen. [Online]. Available: http://databases.eucc-d.de/files/documents/00000641_Envir_Indicator.pdf. [2014, 10 October].

Sneddon, C; Howarth, R. and Norgaard, R. 2006. Sustainable Development in a Post Brundtland World. *Ecological Economics*, 57 (2006): 253-268.

Spinks, A; Luger, M; Shippey, K; and de Villiers, C. 2003. EIAs as an Obstacle to Sound Environmental Management in South Africa. A Practitioner's Perspective. International Association for Impact Assessment South African Affiliate 2003 Annual National Conference, September, 1-3. Cape Town: 305-316.

Sosovele, H. 2002. The Administration of the EIA process in Tanzania: Lessons for Practice. *African Journal of Environmental Assessment Management*, 4 (2): 1-1.

Sosovele, H. 2011. Governance challenges in Tanzania's environmental impact assessment practice. *African Journal of Environmental Science and Technology*, 5 (2): 126-130.

State of the Environment Committee, 2011. *Australia state of the environment 2011: Independent report to the Australian Government Minister for Sustainability, Environment, Water, Population and Communities*. Canberra: DSEWPac, 2011. [Online]. Available: <http://www.environment.gov.au/science/soe/2011-report/download>. [2014, 10 October].

Stockholm Resilience Centre, What is resilience? An introduction to social-ecological research. [Online]. Available: http://www.stockholmresilience.org/download/18.10119fc11455d3c557d6d21/1398172490555/SU_SRC_whatisresilience_sidaApril2014.pdf. [2014, 10 October].

Stoeglehner, G; Brown, A. and Kørnøvn, L. 2009. SEA and Planning: —Ownership|| of Strategic Environmental Assessment by the Planners is the Key to its Effectiveness. *Impact Assessment and Project Appraisal*, 27(2): 111–120.

Stokols, D; Fuqua, J; Gress, J; Harvey, R; Phillips, K; Baezconde-Garbanati, L; Unger, J; Palmer, P; Clark, M; Colby, S; Morgan, G. and Trochim, W. 2003. Evaluating transdisciplinary science. *Nicotine and Tobacco Research*, 5 (Supplement 1): 21–39.

Summers, R. 2011. Defining Sustainability: A Legal Perspective on the Utilization of Sustainability Criteria and Indicators to Enhance the Achievement of Sustainable Development in Environmental Decision-making, IAIA.

Swilling, M. 2004. ‘Rethinking the Sustainability of South African City’, *Development Update*, 5(1): 215-242.

Swilling, M. and Annecke, E. 2012. *Just Transitions: Explorations of sustainability in an unfair world*. South Africa: UCT Press.

Tarr, P. 1999. ‘The potential role of environmental assessment in promoting sustainable development in Namibia’. Unpublished PhD thesis, University of Aberdeen, Scotland.

Tassa, D; Da Re, R. and Secco, L. 2010. Benefit-sharing mechanisms and governance issues in Participatory Forest Management-REDD related projects: A Community Forest case-study in Tanzania. Paper presented at Berlin Conference on the Human Dimensions of Global Environmental Change, Berlin, 8-9 October 2010.

Tec, S. and Eckstein, G. 1997. “Of solemn oaths and obligations: the environmental impact of the ICJ’s decision in the case concerning the Gabčíkovo-Nagymaros project”. In: Brunnee, J. and Hey, E. *Yearbook of International Environmental Law*, 1997 (Vol. 8), Clarendon Press: Oxford.

Tripathi, S. 2012. Population and Environmental Sustainability: Tanzanian Experiences in Climate-Friendly Energy Solutions. [Online]. Available: <http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CCgQFjAA&url=http%3A%2F%2Fleadpanafricansession.files.wordpress.com%2F2012%2F11%2Ftanzania-case-study1.doc&ei=LOuMUraeOo6ThQf4YC4Bg&usg=AFQjCNEBrLvZGiE-rLag9NI0nA93P1P9TA>. [2013, 19 December].

Turner, S. 2001. Sustainable development: What’s land got to do with it? *Policy Brief Debating land reform and rural development*. No. 2. Pp 1-4. [Online]. Available: <http://www.plaas.org.za/plaas-publication/PB02>. [2013, 23 July].

UNCED (United Nations Conference on Environment and Development), 1992. *Agenda 21: The Rio Declaration on Environment and Development*. United Nations Conference on Environment and Development, Rio de Janeiro, Brazil, 3-14 June, 1992.

UNCHE (United Nations Conference on the Human Environment), 1972. Report of the United Nations Conference on the Human Environment. [Online]. Available: <http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=97>. [2014, 12 March].

UNCSD (United Nations Conference on Sustainable Development), 2012. The future we want – final outcome document. A/CONF.216/L.1. [Online]. Available: http://www.uncsd2012.org/content/documents/774futurewewant_english.pdf. [2014, 12 March].

UNDESA (United Nations Department of Economic and Social Affairs), 2002. Guidance in Preparing a National Sustainable Development Strategy: Managing Sustainable Development in the New Millennium. Background Paper No. 13. [Online]. Available: http://www.un.org/esa/sustdev/publications/nsds_guidance.pdf. [2014, 28 February].

UNDESA (United Nation Department of Economic and Social Affairs), 2004. Assessment Report on National Sustainable Development Strategies: the Global Picture 2003. Division for Sustainable Development, UNDESA: New York. [Online]. Available: <http://sustainabledevelopment.un.org/>. [2014, 12 October].

UNECA (United Nations Economic Commission for Africa), 2005a. The Sustainable Development Report on Africa: *Managing Land-Based Resources for Sustainable Development*. [Online]. Available: www.uneca.org/sites/default/files/publications/sdra1-full.pdf. [2014, 28 February].

UNECA (United Nations Economic Commission for Africa), 2005b. Review of the Application of Environmental Impact Assessment in Selected African Countries. [Online]. Available: <http://www.uncsd2012.org/content/documents/Review%20on%20the%20Application%20of%20Environmental%20Impact%20Assessment.pdf>. [2014, 7 March].

UNECA (United Nations Economic Commission for Africa), 2011. National Strategy for Sustainable Development in Africa: A Sixteen-Country Assessment. [Online]. Available: <http://www.uneca.org/sites/default/files/publications/natlstratsforsustdev.pdf>. [2014, 19 September].

UNECA (United Nations Economic Commission for Africa), 2012. Progress towards sustainable development in Eastern Africa. [Online]. Available: http://www.uneca.org/sites/default/files/uploaded-documents/rio20_15-eastern-africa-summary-for-policy-makers.pdf. [2014, 2 March].

UNEP (United Nations Environment Programme), 2002a. Agenda 21 for Sustainable Construction in Developing Countries: A discussion document. CSIR Building and Construction Technology, Pretoria. [Online]. Available: http://www.cidb.org.za/documents/kc/external_publications/ext_pubs_a21_sustainable_const_ruction.pdf. [2004, 12 July].

UNEP (United Nation Environmental Programme), 2002b. *EIA Training Resource Manual*. Second Edition. [Online]. Available: www.unep.ch/etu/publications/UNEP_EIA_Manual.pdf. [2014, 8 February].

UNEP (United Nation Environmental Programme), 2007. Revised Final Report Benefit Sharing Issue: Compendium on Relevant Practices - 2nd Stage, Dams and Development Project. [Online]. Available: http://www.unep.org/dams/files/Compendium/Report_BS.pdf. [2014, 14 October].

UNEP (United Nation Environmental Program), 2012. Rio+20 Declaration on Justice, Governance and Law for Environmental Sustainability. [Online]. Available: http://www.unep.org/rio20/Portals/24180/Rio20_Declaration_on_Justice_Gov_n_Law_4_Env_Sustainability.pdf. [2013, 16 December].

UNESCO (United Nations Economic and Social Council), 2002. *Implementing Agenda 21: Report of the Secretary General*. Commission on Sustainable Development acting as the preparatory committee for the World Summit on Sustainable Development, Second preparatory session, 28 January – 8 February 2002.

UN (United Nations), 1991. Convention on Environmental Impact Assessment in a Trans-boundary context, Espoo Convention. [Online]. Available: http://www.unece.org/fileadmin/DAM/env/eia/documents/legaltexts/Espoo_Convention_authentic_ENG.pdf. [2014, 12 March].

UN-HABITAT (United Nations Human Settlements Programme), 2008. *The State of African Cities 2008: A Framework for Addressing Urban Challenges in Africa*. Nairobi: United Nations Human Settlements Programme (UN-HABITAT). [Online]. Available: <file:///C:/Users/17741564/Downloads/The%20State%20of%20the%20African%20Cities%20Report%202008.pdf>. [2014, 10 October].

URT (United Republic of Tanzania), 1977. Constitution of the United Republic of Tanzania, Dar es Salaam: Government printer. [Online]. Available: <http://www.judiciary.go.tz/downloads/constitution.pdf>. [2014, 17 April].

URT (United Republic of Tanzania), 1997. National Environmental Policy, Dar es Salaam, Government printer.

URT (United Republic of Tanzania), 1999. Tanzania Vision 2025. President Office, Planning Commission, Dar es Salaam.

URT (United Republic of Tanzania), 2004. Environmental Management Act, Dar es Salaam, Government printer.

URT (United Republic of Tanzania), 2005. The Environmental Impact Assessment and Audit Regulations, Dar es Salaam, Government printer.

URT (United Republic of Tanzania), 2006. State of Environment Report. Vice President's Office-Division of Environment, Dar es Salaam.

URT (United Republic of Tanzania), 2007. Environmental and Social Impact Assessment, Feasibility Study and Preliminary Design for Natta-Mugumu-Tabora B-Klein's Camp-Loliondo Road (239 km) Upgrading Project, Final Report. Ministry of Infrastructure and Development (MOID), Tanzania National Road Agency (TANROADS): Dar es Salaam.

URT (United Republic of Tanzania), 2008. The Strategic Environmental Assessment Regulations, Dar es Salaam, Government printer.

URT (United Republic of Tanzania), 2009. Evaluation of Progress in the Implementation of the Tanzania Development Vision 2025, President's Office-Planning Commission, Dar es Salaam. [Online]. Available:

http://www.google.co.za/url?sa=t&rct=j&q=&esrc=s&source=web&cd=5&ved=0CD8QFjAE&url=http%3A%2F%2Fwww.mipango.go.tz%2Findex.php%3Foption%3Dcom_docman%26task%3Ddoc_download%26gid%3D6%26Itemid%3D16&ei=lcdfU-OvG4LGPIGFgYgP&usq=AFQjCNFnSKeaUg3E_gC2D4J_XyEuYPAJkQ&bvm=bv.65397613,d.ZWU

[2014, 26 April].

URT (United Republic of Tanzania), 2010a. MKUKUTA Annual Implementation Report 2009/10: "Taking stock of achievements and challenges over the last five years". Ministry of Finance and Economic Affairs, Dar es Salaam. [Online]. Available: http://www.povertymonitoring.go.tz/WhatIsNew/MAIR_BOOK_2010_FINAL.pdf. [2014, 2 May].

URT (United Republic of Tanzania), 2010b. National Strategy for Growth and Reduction of Poverty (NSGRP II). Ministry of Finance and Economic Affairs, Dar es Salaam. [Online]. Available: [http://www.acdi-cida.gc.ca/inet/images.nsf/vluimages/tanzania/\\$file/national-strategy-for-growth-and-reduction-of-poverty-tanzania.pdf](http://www.acdi-cida.gc.ca/inet/images.nsf/vluimages/tanzania/$file/national-strategy-for-growth-and-reduction-of-poverty-tanzania.pdf). [2014, 2 May].

URT (United Republic of Tanzania), 2012a. National Report for the United Nations Conference on Sustainable Development, Rio+20. Vice President Office, Division of Environment, Dar es Salaam.

URT (United Republic of Tanzania), 2012b. The Tanzania Five Year Development Plan: Unlashing Tanzania's Talent Growth Potential. President Office, Planning Commission, Dar es Salaam. [Online]. Available: www.mipango.go.tz/index.php?...2012...five-year-development-plan. [2014, 17 April].

URT (United Republic of Tanzania), 2012c. Southern Agriculture Growth Corridor of Tanzania (SAGCOT), Strategic Regional Environmental and Social Assessment Report (SRESA). [Online]. Available: http://www.sagcot.com/uploads/media/Interim_Report_-_SAGCOT_SRESA_Final_12_02.pdf. [2014, 12 June].

URT (United Republic of Tanzania), 2013. National Environmental Action Plan (NEAP), Vice President Office, Division of Environment, Dar es Salaam. [Online]. Available: <http://www.vpo.go.tz/userfiles/NEAP%20B5.pdf>. [2014, 16 April].

URT (United Republic of Tanzania), 2014. Draft Constitution of the United Republic of Tanzania, Dar es Salaam, Government printer.

USEPA (United States Environmental Protection Agency), 1998. Principles of Environmental Impact Assessment. [Online]. Available: <http://www.epa.gov>. [2014, 28 February].

Verheem, A. 2002. *Environmental impact assessment in the Netherlands*. Views from the Commission for EIA in 2002. The Netherlands.

Wackernagle, M. and Rees, W. 1996. *Our Ecological Footprint*, British Columbia. New Society Publishers.

Wagner, C; Roessner, J; Bobb, K; Klein, J; Boyack, K; Keyton, J; Rafols, I. and Börner. K. 2010. Approaches to understanding and measuring interdisciplinary scientific research (IDR): A review of the literature. *Journal of Informetrics*, 165 (2011): 14-26.

Wallington, T; Bina, O. and Thissen, W. 2007. Theorising Strategic Environmental Assessment Fresh Perspectives and Future Challenges. *Environmental Impact Assessment Review*, 27(7): 569–584.

Walmsley, B. and Patel, S. 2011. *Handbook on environmental assessment legislation in the SADC region*. Third Edition. Pretoria: Development Bank of Southern Africa (DBSA) in collaboration with the Southern African Institute for Environmental Assessment (SAIEA).

WCED (World Commission on Environment and Development), 1987. *Our Common Future*. Oxford: Oxford University Press. [Online]. Available: <http://www.un-documents.net/our-common-future.pdf>. [2014, 12 March].

Weaver, A. 2003. EIA and sustainable development: Key concepts and tools. In; Southern African Institute for Environmental Assessment. 2003. *EIA in Southern Africa*. Windhoek: Southern African Association for Environmental Assessment.

Wildlifeextra.com. 2010. Map of North-Eastern Tanzania illustrating proposed road across Serengeti and alternative southern routes. [Online]. Available: <http://www.wildlifeextra.com/go/news/highway-serengeti.html#cr>. [2014, 22 July].

Wilkinson, C. 2012. Social-ecological resilience: Insights and issues for planning theory. *Planning Theory*, 11(2): 148-169.

Wood, C. 2003. Environmental Impact Assessment in Developing Countries: An Overview. Paper presented on Conference on the New Directions in Impact Assessment for Development: Methods and Practice, 24-25 November, EIA Centre School of Planning and Landscape, University of Manchester.

World Bank, 1989. *Environmental Assessment Sourcebook*. Volume I, Policies, Procedures, and Cross-Sectoral Issues.

World Bank, 1996. *World Development Report-From plan to market*. *World Development Report*. New York, Oxford University Press.

World Bank, 2005. *Integrating Environmental Considerations in Policy Formulation: Lessons from Policy-based SEA Experience*. Economic and Sector Work. [Online]. Available: <http://siteresources.worldbank.org/INTUNITFESSD/Resources/integratingenvironmental.pdf>. [2014, 4 March].

World Bank, 2010. "About Us." *The World Bank*. [Online]. Available: <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/0,,contentMDK:20040565~menuPK:1696892~pagePK:51123644~piPK:329829~theSitePK:29708,00.html>. [2014, 18 February].

World Bank, 2011. *Tanzania - Songo Songo Gas Development and Power Generation Project*. Washington, DC: World Bank. <http://documents.worldbank.org/curated/en/2011/09/15217406/tanzania-songo-songo-gas-development-power-generation-project>. [2014, 12 June].

World Bank, 2012. Tanzania Country Databank: World Development Indicators. [Online]. Available: <http://databank.worldbank.org/data/views/reports/tableview.aspx>. [2014, 17 April].

World Economic Forum, 2010. Redesigning Africa's Growth Strategy, Dar es Salaam, Tanzania 5-7 May 2010. [Online]. Available: http://www3.weforum.org/docs/AF10/WEF_AF10_Report.pdf. [2014, 30 October].

WSSD (World Summit on Sustainable Development), 2002. Report of the World Summit on Sustainable Development. [Online]. Available: http://www.un.org/jsummit/html/documents/summit_docs/131302_wssd_report_reissued.pdf. [2014, 18 February].

Yin, R. 2009. *Case Study Research: Design and Methods*. Fourth Edition. Thousand Oaks: Sage.

Appendix A

Matrix of legislation

No	Themes	Environmental Management Act (EMA), 2004	EIA and Audit Regulations, 2005	SEA Regulations, 2008	National Environmental Policy (NEP), 1997	Tanzania Vision, 2025	Tanzania Five Year Development Plan (TFYDP), 2012/16	National Environmental Action Plan (NEAP), 2013/18	National Strategy for Growth and Reduction of Poverty (NSGRP), 2010/15
1	Perceptions concerning Sustainable Development (SD)	Meets needs: present and future generation (s. 3); Maintain carrying capacity of ecosystem: guided by certain principles (s.3 & 5(3)); Conservation of biodiversity (s. 67(2)(e)); Sustainable use and management of natural resources and environment	Meets needs: present and future generation; Maintain carrying capacity of ecosystem: guided by certain principles (s.3); Overriding principle in Env. Audit (s.44 (2) (f)), 45(a), 46(4) (8), 51(2) (a); Main goals for EIA (s.12 (g)).	Overriding principle for impact assessment (s. 4); key aspect in decision-making (s. 4); key aspect to meet the needs of the present and future generation (s. 3); key component for ensuring ecological sustainability (enhance growth while maintain the carrying	Integral component in economic growth and environmental protection (paragraph 2, 3 & 6); Overriding principle in alleviating poverty and achieving quality of life (para. 3 & 5); embracing short and long-term planning (para. 5 & 6); overriding principle for	A vision of the country to attain sustainable growth and shared benefit (embedded with competitive economy, high quality livelihood, good governance, educated society as well as peace, stability and unity): Pg, 3;	Overriding principle for policy planning and economic growth: (Pg, iii); key aspect in human capital development and social service delivery: (Pg, 32); key component in addressing environmental challenges and climate change: (Pg, 38); key aspect for enabling institutional	Key priority in decision-making (mainstreaming environmental issues into policies, plans and strategies): (Pg, i); key aspect in addressing environmental challenges and climate change: (Pg, ix); key aspect in environmental management initiatives: (pg, 7, 8, 9, & 15); key aspect for integration and	Overriding principle for poverty reduction as well as equitable and employment-generating growth: (Pg, 27, 32, & 87); overriding principles for socio-economic growth and shared benefits; Key aspect in decision-making: (Pg, 27);

				capacity of ecosystem) (s. 3).	international cooperation (para. 7, 18(f)); overriding principle for public participation and education in decision-making (para. 34, 35 & 38); overriding principle for policy integration (para. 78).		framework for integration and coordination: (pg, 39); key aspect for gender mainstreaming : (Pg, 42); key component for resources allocation: (Pg, 50);	coordination: (Pg, 50).	
2	Integration and Coordination mechanisms	In the process of conservation of biodiversity (s.66(3)(c); NEAP instrument of integration (s.44(2)(a)); Overriding principle of environmental management (s.7(3)(b),(4)); Consideration of environmental	Overriding objective of EIA (s.12(c, d)); Key tool in EIA study (s.16); Key tool in EIA decision-making (s.22, 23, 24, 31, 32):criteria for decision); Key aspect in	Tool for integration of Sustainability dimensions in decision-making process (s. 4(d)); key aspect for institutional capacity and capability (Director of Environment to coordinate SEA process	Key component in decision-making and policy integration (para. 8, 9(c), 45, 70, & 78); key component for public participation (para. 34, 35 & 38); key component for achieving	key aspect for enhancing good governance and rule of law including institutional capacity and capabilities, transparency, public participation and accountability: (Pg, 23);	Key aspect for enhancing institutional capacity and capability: (Pg, 25); key aspect in regional and international cooperation: (Pg, i, 42 &44); key aspect for resources mobilisation and policy implementation (vertical	Key aspect for achieving sustainable development: (Pg, 50); key aspect for resources mobilisation: (Pg, 50); key component in planning: (Pg, 50); key pillar in institutional capacity and capability: (Pg, ix, 7, & 17); key	Overriding principle for poverty reduction as well as equitable and employment-generating growth: (Pg,38); enhancing institutional capacity and capability (vertical and horizontal

	<p>issues into PPP and Project through SEA (s.15(a)); Guidelines proposed for integration (s.44(2)(i)); Tool for environmental education and awareness (s.176(1)); Tool for enforcement, compliance, review and monitoring of EIA (s.17); Vertical & horizontal coordination (s.7 (4), 17 (1), 30, 34, 36, & 39).</p>	<p>compliance (s.57 (2)).</p>	<p>by consultation of Sector Ministries and LGAs (s. 9), Minister responsible for environmental matters to approve or disapprove SEA report (s. 22, 10), Sector Ministries to notify the Minister on whether to conduct SEA or not (s. 6, 10), LGAs are not authorised to conduct SEA.</p>	<p>SD (para. 45); key aspect in planning (para. 9(d), & 13); key factor causing environmental deterioration (para. 13), key aspect in gender equality and equity (para. 43); key aspect for multi and trans-disciplinary learning and decisions making (para. 79(3) & 94); key aspect for enhancing institutional capacity and capability (para. 86, 87, 89, 93 & 94); key component for information</p>		<p>integration): (Pg, 99-102); key aspect in monitoring and evaluation (M&E): (Pg, 102 & 103).</p>	<p>aspect in stakeholder participation: (Pg, ix).</p>	<p>integration between sectors): (Pg, 45, 51, 88, & 90); key aspect for policy integration and dialogue to enhance decision-making: (Pg, 2, 89, 90, & 96); key aspect in planning, resources mobilisation, and stakeholders participation: (pg, 21); key aspect for enhancing good governance and rule of law (ensure compliance, accountability, transparency and enforcement): (Pg, 72, 84); key aspect for</p>
--	---	-------------------------------	--	--	--	--	---	---

					sharing and data (para. 39, & 61); indigenous knowledge and culture, (para, 97); key aspect for EIA to consider (para. 65).				collaboration and cooperation between the actors: (Pg, 85).
3	Public/stakeholders participation	Overriding principle of environmental management and sustainability (s.7(3)(e), 5(3)(d)); A principle for access to justice (s.5(3)(g)); Key tool in environmental decision-making e.g. in EIA (s.17), preparation of NEPA (s.46), PPP (s.178); Proposed guideline for public	Key tool in EIA study: mandatory to developer (s.17, 18(3)(d)(ii)); discretion to the part of the Council 26, 27-30), Fourth Schedule item seven; criteria for Environmental Audit s.52(3)(j), making decision for the audit- perhaps discretion s.53(2);	Key aspect in decision-making process and integration of Sustainability dimensions (s. 4(b)); key aspect in the impact assessment process: three bodies shall be consulted, Sector Ministries, Government Agencies and Departments, and Local Government Authorities (s. 9(1). General	Key component for achieving SD (para. 6, 34, 35 38 & 40); NGOs and Private sectors); key component for impact assessment (para. 38); key aspect for women empowerment, gender equality and equity (para. 43 & 44); key objective for NEP (para. 18 (e); key aspect for	Key aspect for promoting good governance and rule of law including transparency and accountability: (Pg, 22); key aspect for resources mobilisation: (Pg, 24); key aspect for enhancing people’s development inspirations and be responsible for their own life (Pg, xi); key	Key aspect in sustainable development: (Pg, 8); key aspect for sectors performance: (Pg, 23); key aspect in service delivery e.g. water and sanitation: (Pg, 38); key aspect in promoting good governance and rule of law: (Pg, 40); key component in resources mobilisation: (Pg, 96); key	Key aspect for achieving SD: (Pg, 50); key aspect in decision-making and compliance, env. awareness and dissemination of env. information): (Pg, 12, & 50); key aspect in M&E and integration: (Pg, 50); key aspect in planning: (Pg, ix).	Key aspect for achieving good governance and rule of law: (Pg, 152); key aspect in gender mainstreaming and human right protection: (Pg, 155); key aspect in poverty eradication and benefit-sharing: (Pg, iii & 28); key aspect for compliance and enforcement: (Pg, 21); key

		participation in EIA (s.89) .	among criteria in the EIA certificate (Form E, item 7). Among criteria in conducting EIA study-steps (Fourth Schedule)	public consultation is not mandatory requirement (s. 9(2)). Key stakeholders shall be invited in the consultation process however no interpretation of who are those key stakeholders will be invited (s. 12(b)) & s. 15(1) (c)) Sector Ministry to determine opportunities for public participation in scoping stage.	international cooperation (para. 18(f); key aspect in policy integration (para. 35 & 38); key component for information sharing and data (para. 36, 37 & 39).	aspect for promoting quality livelihood and gender equality: (Pg, 3).	aspect in decision-making and coordination: (Pg, 101 & 102); key aspect for ensuring gender equality: (pg, 173);		aspect in decision-making: (Pg, 21 & 25);
4	Addressing poverty alleviation, inequality, and benefit-sharing	Overriding principle of environmental management and	Key principle in social analysis for project developmen	No specific sections which link SEA process and poverty alleviation,	Clear linkage between poverty and environment (para. 3, 4 & 5): addressing	Key aspects for achieving sustainable growth and quality livelihood: (Pg,	key aspect for gender mainstreaming : (Pg, 42); key component for sustainable	Key aspect in regional integration: (Pg, 20). No clear linkage between	Key aspect in achieving SD principles as well as achieving quality of life

	<p>sustainability (s.7(3)(i), 5(3)(f)); Utilisation of genetic resource should benefit all (s.66(1),(3)(f)), 67(2)(l); To be considered in environmental management planning (s.44(1)(f), 49(3)(d)); Criteria for reviewing EIS (s.88 (2) (a)). However, there are not clear provisions which provide for benefit-sharing mechanisms.</p>	<p>t or policy (S.3); Project benefits to be communicated to stakeholders (s.17(2)(a)); No specific provisions links to benefit-sharing in EIA study. However, there are not clear provisions which provide for benefit-sharing mechanism.</p>	<p>equity consideration and benefit-sharing. The objective of the SEA is to ensure that environmental concern are integrated in draft policies, programmes, plans, strategies, Bills and some projects (s.4(a) and Second Schedule of the SEA regulations). However, there are not clear provisions which provide for benefit-sharing mechanisms.</p>	<p>poverty are necessary for SD; Key aspect for empowering women and enhancing gender equality (para. 44); income and employment generation (in rural & urban areas) key for poverty alleviation (para. 4); key for policy integration (para. 19-21, & 24, 46): in agriculture sector, (para. 55): in human settlement (brown agenda),; economic benefits vs SD benefits (para. 9(a)); utilization of</p>	<p>3, 12, & 13); the creation of wealth and its distribution in society must be equitable and free from inequalities and all forms of social and political relations which inhibit empowerment and effective democratic and popular participation of all social groups: (Pg, 3); Key aspect for achieving competitive economy capable of producing sustainable growth and shared benefit: Pg, x, 4; key aspect for realising physical</p>	<p>development: (Pg, 10, & 12); key aspect for integrated planning: (Pg, 24); key component for land, housing and human settlement development (brown agenda): (Pg, 37); key aspect for pro-poor growth and job creation: (Pg, 51); key aspect for improving quality of life: (Pg, i); key aspect in decision-making such as changes in policies etc. (Pg, 6); key aspect for resources distribution and service delivery: (Pg, 12 & 17); key</p>	<p>poverty, benefit-sharing and environment. Key aspects (Poverty and inequality) in addressing environmental management initiatives though are addressed in the specific sector police. However, there are not clear sections which provide for benefit-sharing mechanisms.</p>	<p>and social well being e.g. equitable distribution of social services especially to vulnerable groups and poor, social protection, social security etc: (Pg, 27); key aspect in achieving good governance and rule of law by ensuring that poor people access and control over natural resources, democratic participation in the monitoring of the resources, sustainable utilisation of the resources for the benefit of local community,</p>
--	---	--	---	---	---	---	--	---

					genetic resource should equitably benefit the citizens (para. 32 & 57): in tourism sector, (para. 58); wildlife sector; key aspect for EIA to consider (para. 65).	sustainability (ICTs as a central for social and economic transformation): (Pg, 21). However, there are not clear sections which provide for benefit-sharing mechanisms. No section for benefit-sharing	aspects for promoting good governance and rule of law: (Pg, 39). However, there are not clear sections which provide for benefit-sharing mechanisms.		and ensure human rights to all (including children and women rights): (Pg, 20, 27, 54, & 78); key aspect in decision-making and integration of Sustainability dimensions. No section for benefit-sharing
5	Governance and the rule of law	Overriding principle of environmental management and sustainability (s.7 (3) (g)); Tool for enforcement, compliance, review and monitoring of EIA (s.17 (1) (f)), 24, 25, & 31); sector Ministry compliance (s. (1) (l)), monitoring	Overriding principle in EIA study s. 16(d), Fourth Schedule-item 8; main objective in Env. Audit (s. 44(1) (c)); overriding principle in Env. Audit (s.44 (2) (1) (a), & 51 (2) (d), s.47) compliance env.	Key aspect for enhancing transparency and accountability (s. 4(c)); key aspect in enforcement and compliance of policies and legislation. Key aspect for strengthening institutions.	Key component for capacity building at the local level (para. 36, 102); key aspect for enforcing policies and laws (para. 70, 59(iii)); specifically in forest sector); key aspect for voluntary compliance (para. 62); key	Key prerequisite for the effective implementation of the vision: (Pg, 25); key aspect for enhancing coordination and institutional capacity for effective implementation: (Pg, 23); key aspect for enhancing the culture of	Key aspect for poverty alleviation, benefit-sharing, transparency and accountability: (Pg, 39 & 40); key aspect for achieving SD: (Pg, 40); key aspect for compliance and enforcement of policies and laws: (Pg, 55, &	Key aspect in addressing environmental management initiatives thought addressed in specific sector policies. Key aspect in implementation of policies and legislation. Key aspect in enhancing institutional capacity and capability: (Pg,	Key aspect for ensuring effective integration and coordination mechanisms: (Pg, 72); key aspect in decision-making; key aspect in reducing poverty and ensuring equitable growth; key aspect in

		(s.100), compliance with standards (s, 141), environmental inspector (s.182), environmental compliance order (s.198).	Standards, (s.49) control audit; Key aspect in decision-making (s.57), Second Schedule-project screen criteria.		aspect for planning, integration and monitoring (para. 97 &98): Env. research); Key component for institution capacity and capability (para. 108 & 17): for monitoring, compliance and evaluation).	accountability, transparency and public participation: (Pg, 23); key aspect for addressing corruption; (Pg, 11 & 22); key aspect for creating morals and cultural uprightness: (Pg, 13); an instrument for the promotion and realisation of development, equity, unity and peace: (Pg, 22).	170-173); key aspect for combating corruption: (Pg, 42, 55, & 170); key aspect for integration and coordination: (Pg, 171).	17); key aspect in M&E and stakeholders involvement: (Pg, 50).	enhancing institutional capacity and capability: (Pg, 84, & 152-155).
6	Impact assessment processes	Overriding principle of environmental management and sustainability (s.7(3)(c)); Facilitate integration	Overriding principle in decision-making (s.32-34, s.3, 4(1)): for projects, (s. 9): project screening, (s. 4, 11, 12,	Tool for integration of environmental concern in decision-making process (s. 4(a)); tool to integrate Sustainability	Embraced by institutional capacity and capability (para. 91, 92 & 100): NEMC to conduct EIA); Key tool to assess sector	No linkage with impact assessment.	Key component in addressing environmental challenges and climate change: (Pg, 39); key aspect in decision-making (policy	Key tool in environmental management. Key aspect in decision-making (EIA for sector projects, assessing climate change impacts, need	Key aspect in monitoring and evaluation: (Pg, 97). No clear linkage between poverty alleviation and

		(s.17,36(3)(f),31(1)(k)); Assess the projects before implementation (EIA) (s.81); Assess PPP and bills before implementation (SEA) (s.104).	15, & 16), and Fourth Schedule: EIA study is mandatory before decision-making; Key principle for public participation (s.17); key tool for integration and coordination (s.22); key aspect in compliance (s.46-48).	dimensions in the higher level of decision-making (Bills, regulations, policies, plans, strategies and programmes) (s. 3, 4, 5, 7, & 8), and Third Schedule (para. 6).	projects, (para. 57): tourism, (para. 58): wildlife, (para. 56(iii)); industry; Key tool for policy integration, coherence and decision-making (para. 65): use of EIA, (para. 67): use of SEA); key aspect for stakeholders participation (para. 38 & 92)		making and project implementation): (Pg, 39).	assessment to identify resources requirements etc: (Pg, 43 & 50).	impact assessment as a tool for policy and Sustainability dimensions integration.
7	Strategic and Long-term planning	Overriding principle of environmental management and sustainability (s.7(3)(b)); Facilitate integration (s.31(1)(c)); Tool for environmental	Key principle in Env. Audit (s. 44(2)(b)); Key aspect in coordination (s.18(3)(d)(iv)).	No section which explicitly links with planning and complexity aspects.	Key component for coordination and policy integration (para. 9(d), 24, & 45); key aspect in planning (para. 35, 88 & 89): central	Key aspect for realisation of the Vision: Pg, vi, key aspect for policy integration: (Pg, vi); the vision is the long-term planning for the country to attain	Key aspect for poverty alleviation and SD through integrated planning process; (Pg, 24); a road map for SD (systematic & long-term planning): (Pg,	Key aspect in public participation: (Pg, ix); key aspect in decision-making: (Pg, 50); key aspect in integration and coordination.	Key aspect for integration and coordination: (Pg, 21); key aspect in decision-making (Government Manual for Strategic Planning, use

		<p>planning in central and local Government e.g. (s.42) for local levels and (s.44) at national level; Guideline for integrated planning proposed (s. 44(2) (i)): take into account-land use planning (s.71) etc.</p>			<p>level, (para. 102): at local level); Key component in EIA (para. 65); key aspect for information gathering and monitoring (para. 97); Key aspect in institutional capacity building (para. 105 & 108); contributing factor for environmental deterioration (para. 13); key aspect in integrated planning eg in land issues: (para. 27), integrated and holistic approach: (para. 46(i), 48(i), & 55(i));</p>	<p>competitive economy, equality livelihood, educated and skilled society as well as good governance and rule of law. Complexity and dynamic character are key aspect for policy coherent to drive the development process (previous planning such as Arusha Declaration didn't articulate this component. However, it is not clear how the current planning document's including Vision 2025 articulate this): (Pg, 6).</p>	<p>5); key aspect in decision-making: (Pg, 5); key aspect for resources mobilisation: (Pg, 97); enhance institutional capacity and capability including coordination mechanisms and M&E: (Pg, 100, 102, & 127).</p>	<p>of integrated planning to promote collaboration etc): (Pg, 22, 30,49, & 50); key aspect in resources mobilisation (the use of Budgeting and M & E Manual for improving coordination of planning, budgeting and reporting): (Pg, 84).</p>
--	--	---	--	--	---	--	---	---

					Collaborative planning; (para. 35).				
8	Complexity and system thinking	There are not direct sections which take note of complexity and system thinking. However, section 7 recognises the integration and cooperation of efforts, which consider the entire environment as a whole entity.	There are not direct sections which take note of complexity and system thinking.	There are not direct sections which take note of complexity and system thinking.	There are not direct sections which take note of complexity and system thinking. However, par. 24 recognises that special emphasis should be placed on those policies that combine environmental concerns and population issues within a holistic view of development, and whose primary objectives include the alleviation of poverty and secures livelihoods.	There are not direct sections which take note of complexity and system thinking.	There are not direct sections which take note of complexity and system thinking.	There are not direct sections which take note of complexity and system thinking.	There are not direct sections which take note of complexity and system thinking.

Matrix of EIAs and SEAs

No	Themes/Category	Project 1 ²⁶	Project 2 ²⁷	Project 3 ²⁸	Project 4 ²⁹	Project 5 ³⁰
1	Perceptions concern sustainable development (SD)	SD dimensions were considered in the SRESA report. Aspects considered in the assessment process include: Key factors in developing mitigation measures to minimise environmental and social risks: (Pg, 4); key aspect for policy integration (Sustainability dimensions) in	Aspects of SD were considered in the assessment process. These include ecological, social, and economic; the proposed mitigation plan and enhancement measures; the assessment process integrate different sector policies and legislation which address some of the key impacts which might be	Sustainable development goals were pointed out in the assessment process; however the adverse negative impacts were overwhelming. The EIA was considered to be a controversial developmental project. There were no evidence indicated that these dimension are mutually integrated for the entire	Sustainable development dimensions were considered in the planning and assessment of the project. These include socio-economic, and ecological development resulted from the project implementation. However, there were	Sustainable development dimensions were observed in the planning and assessment of the project. However, the project didn't indicate how it could contribute to sustainable development due to the existence of huge adverse negative impacts.

²⁶ A SRESA report for the Southern Agricultural Growth Corridor of Tanzania (SAGCOT) Programme

²⁷ The ESIA for the Proposed Development of a Cement Factory at Talawanda and Magulu Matali Villages, Talawanda Ward, Bagamoyo District, Pwani Region

²⁸ The ESIA, Feasibility Study and Preliminary Design for Natta-Mugumu-Tabora B-Klein's Camp-Loliondo Road (239 km) Upgrading Project (Serengeti Road)

²⁹ Songo Songo Gas Exploration Project

³⁰The Prawn Farming Project in Rufiji Delta

		<p>decision-making process (sector policy integration to address Sustainability dimensions, integration different assessment issues such as Resettlement Policy Framework with EMP, M & E Plan, Stakeholders participation, poverty alleviation, benefit-sharing and project planning, as well as through Agriculture Green Growth: (Pg, 11, 36, & 61).</p>	<p>derived from the project implementation e.g. water policy, forest policy, land policy, Tanzania Development Vision etc: (Pg, 34-64). However, there were no evidence indicated that these dimension are mutually integrated for the entire lifespan of the project implementation.</p>	<p>lifespan of the project implementation.</p>	<p>no evidence indicated that these dimension are mutually integrated for the entire lifespan of the project implementation.</p>	
2	<p>Integration and Coordination mechanisms</p>	<p>Integration and coordination mechanisms are pointed out as a key for effective implementation of SAGCOT programme. These include: Key aspect for enhancing intuitional capacity for project implementation e.g. (Project Coordination</p>	<p>Different institutions responsible for the implementation of the project were identified: (Pg, 64). However, the ESIA didn't indicate how these institutions will be coordinated for effective implementation of the project. For instance, Bagamoyo District Council were mandated to work with NGOs and other institutions to</p>	<p>Different institutions responsible for the implementation of the project were identified. However, there was no indication on how these institutions would be coordinated.</p>	<p>Different institutions responsible for the implementation of the project were identified. However, there was no indication on how these institutions would be coordinated.</p>	<p>Different institutions responsible for the implementation of the project were identified. However, there was no indication on how these institutions would be coordinated.</p>

		Unit will be established for coordination purpose: (Pg, 69 & 67); Director of Environment to coordinate SEA processes: (Annex B3); key aspect in project implementation (in SAGCOT multiple sectors and actors need to be coordinated for effective implementation (coordination within Government and field levels: (Annex C3 & C13); key aspect for policy integration (SAGCOT will integrate different sector policies for effective implementation).	raise awareness and prepare locals to take anticipated jobs, as well as the developer to engage local people with relevant skills. This was pointed out as an enhancement measures: (Pg, 98); however the ESIA didn't indicate to what extent this measure will be realised e.g. number of jobs to be created: (Pg, xiv, 147, & 177).			
3	Public/stakeholders participation	Public participation and stakeholder's consultation were conducted. This aspect were viewed as: Key requirement in the project	Public and stakeholders consultation were conducted as section 89 of EMA, 2004 requires. Key stakeholders involved people with interest in the outcome	Public participation was conducted during the assessment as EMA, 2004 requires. Different issues concern socio-economic and environmental concerns	Public participation was conducted during the assessment as EMA, 2004 requires. These include local communities,	Different stakeholders were not consulted in the impact assessment process.

		<p>implementation (legal requirement EMA, 2004 and NEP, 1997): (Pg, 11 & 12); main step in the assessment process: (Pg, 37, 68, Annex B3, & B9) (public participation methodology which including engaging with different specialists, different actors and local communities). However, some key stakeholders such as smallholder famers, local NGOs, media, Members of Parliament were not consulted.</p>	<p>of the project whether positively or negatively and participates in decisions, planning and management of the proposed development: (Pg, 81). However, there was no indication that the stakeholders were consulted during the design of the project and they have influenced the outcome of the project decisions.</p>	<p>were identified by different stakeholders. However, there was no indication that the stakeholders were consulted during the design of the project and they have influenced the outcome of the project decisions.</p>	<p>Government Departments, ministries and key stakeholders. However, there was no indication that the stakeholders were consulted during the design of the project and they have influenced the outcome of the project decisions.</p>	
4	Addressing poverty alleviation, inequality, and benefit-sharing	<p>Most of these aspects were considered in the assessment process. They are amongst: Key issues raised by stakeholders during the scoping stage: (Annex C9 & C12); key aspects of the programme including rapid economic growth (to lift more</p>	<p>Improved social services and economic infrastructure brought by the proposed project, will contribute to peoples livelihood and poverty alleviation in Bagamoyo District: (Pg, 109). This will be conducted by the developer through Corporate Social</p>	<p>Among the positive impacts identified includes improved investment opportunities, more tourism, reduced travel times, lower operating costs, better access to markets and hospitals, and greater government investment in schools, all of which will</p>	<p>Construction and implementation of the project will provide significant employment opportunities to majority of Tanzanians. Availability of local labour, local materials and services within the</p>	<p>There was not enough evidence if the project will contribute to poverty alleviation or benefit local communities.</p>

		<p>than 2 million people from poverty): (Pg, 1 & 5); key aspects to be integrated into decision-making: (Pg, 7 & 12); mandatory aspects in impact assessment required by the World Bank (OP 4.01): (Annex B4); outlined as a key environmental and social issues and risk (benefit-sharing, equity): (Pg, 52, 53, 54, & B26), equity shares accrue from investors; key aspect to ensure gender equality: (Pg, 35). However, there was not clear evidence or statistical data on how this programme will contribute to benefit-sharing and poverty alleviation.</p>	<p>Responsibility (CSR) and Bagamoyo District. However, CSR was not indicated as a mandatory requirement in the implementation plan, monitoring or annual reporting of the company. Project benefit to local community and national at large is viewed in terms of improved socio-economic conditions through provision of social services, job creation and tax collection. Issues such as equity and equality in job creation e.g. gender consideration are not taking into account. However, there was not clear evidence or statistical data that the project will contribute to benefit-sharing.</p>	<p>presumably help in poverty alleviation. However, few benefits were observed from the previous implemented projects such as tourism projects: (Pg, 35 & 36). However, there was not clear evidence or statistical data that the project will contribute to benefit-sharing.</p>	<p>project will create jobs and boost socio-economic development of the surrounding communities. However, there was not clear evidence or statistical data that the project will contribute to benefit-sharing.</p>	
5	Governance and the rule of law	<p>Governance is considered as paramount factor SAGCOT to succeed. It includes as:</p>	<p>Good governance aspects are articulated in the analysis of policy and legal framework govern the project</p>	<p>Governance and rule of law was not observed due to the fact that the Government approved the project despite the</p>	<p>Governance aspects were taking into account including the establishment of Songas for</p>	<p>Governance and rule of law was not observed due to the fact that the Government</p>

		<p>Key aspect for addressing sustainability through Agriculture Green Growth initiative which will be adopted: (Pg, 36); among of the issues identified in the scoping stage (that Governance is weak, institutional capacity is low and corruption is endemic: (Pg, 41), policies are inconsistent, compliance and monitoring is weak, how will SAGCOT ensure this issues? (Pg, 42).</p>	<p>implementation. The assessment process was undertaken in accordance with impact assessment laws and shows the extent of compliance. However, the EIA report didn't indicate how the institutions identified will be coordinated for successful implementation of proposed EMP and Monitoring Plan.</p>	<p>existence of more adverse negative impacts to the environment as revealed by a second review team. EMA, 2004 and EIA regulations, 2005 together with Article 5(3) (c) of the Treaty establishing East Africa were violated.</p>	<p>implementing and coordinating the project. However, there are concerns in the proper compliance of the impact mitigating and monitoring plan.</p>	<p>approved the project despite the existence of more adverse negative impacts to the environment as revealed by second review team. Different legislation would be violated if the project is implemented.</p>
6	Impact assessment processes	<p>Impact assessments were undertaken according to World Bank Operation Policy (OP 4.01) and SEA regulations. SEA was regarded as a key tool for planning and designing investment policies for long-term sustainability, unlike project EIA, SEA was</p>	<p>EIA was conducted in accordance with EMA, 2004 and EIA regulations, 2005.</p> <p>The EIA address the implication of the proposed development on the environment, poverty reduction, economic growth and social well-being of the workers and local</p>	<p>EIA was conducted in accordance with EMA, 2004 and EIA regulations, 2005.</p> <p>Social development and political interest's conflict with conservation aims and the need to maintain biodiversity: (Pg, 25). Impact assessment was conducted and adverse</p>	<p>Impact assessment was conducted in accordance with the World Bank Operation Policy (OP 4.01) requirements before funding the project.</p>	<p>Impact assessment was conducted according to Government Guidelines established under NEMC Act, 1983. However, the EIA was undertaken when it was too late to integrate environmental</p>

		<p>seen as a tool to integrate Sustainability dimensions in the higher level of decision-making: (Pg, 2); by using scenarios the programme would seek to determine probable impacts on a range of environmental and social values and indicators (physical constraints, ecological values, and social values in the assessment process): (Pg, 3); developing mitigation and enhancement measures and preferred alternative, as well as monitoring and evaluation plan are key in the assessment process: (Pg, 55); consultation and public participation was viewed as a key aspect in the assessment process: (Annex B3).</p>	<p>communities and proposed mitigation and enhancement measures: (Pg, 43). As such, the aim of ESIA is to ensure that the potential impacts related to the ecological, social, cultural, health and economic as well as physical environment are foreseen and addressed during the project's planning and design, implementation and decommissioning stages. EIA further identifies measures to mitigate or minimize the negative impacts, enhance positive ones and outlines ways to improve the project sustainability: (Pg, 4).</p>	<p>impacts were identified. However, the Government approved the project to be undertaken until the East Africa Court of Justice issued an injunction for such undertaken.</p>		<p>concern at the creative stage. The point at which an EIA was conducted, the type, scales, and location of the project had already been decided on the basis of economic consideration.</p>
--	--	--	---	--	--	---

7	Strategic and long-term planning	<p>Proper planning procedure is pointed out as a key aspect for implementation of SAGCOT. Other factor which goes together with planning is policy and institutional change: (Pg, 4). It include also strengthening of institutions such establishment of Independent and professional Secretariat – to act as a neutral coordinating body and focal point for planning, implementation and monitoring: Pg, 6; at the local level a District Agriculture Development Planning Process is considered. It includes a participatory planning tool to plan for development at village level (top-down process): (Pg, 10); however no clear link with programme</p>	<p>Planning is recognised as a key aspect in decision-making and achieving good results from project implementation. Planning is a prerequisite factor for project design, implementation and decommission phases, including preparation and implementation of impact mitigation plan and monitoring plan: (Pg, 128). Good planning enhances stakeholder’s participation in decision-making, as well as governance and rule of law: (Pg, 80). Long-term sustainability of the project identified subject to the proper implementation of the impact mitigation and monitoring plan.</p>	<p>Project planning considers socio-economic and ecological impacts of the project. Adverse negative impacts were overwhelming. The project did not consider the complexities which exist in the implementation of the project inside the great Serengeti ecosystem.</p>	<p>Project planning considers socio-economic and ecological impacts of the project. Long-term planning and complexity were not clearly articulated in the project life cycle. Most of the mitigation and monitoring plan were not implemented as recommended.</p>	<p>Project planning didn’t consider the complexities of the project site and the community lived in the areas. The planning didn’t indicate the long-term sustainability of the project.</p>
---	---	--	---	--	---	--

		planning process with the national planning cycle (the need for integrated planning): (Pg, 7). World Bank Planning Framework is adopted in the assessment process (OP 4.10: Pg, 17).				
8	Complexity and system thinking	There were not clear indication that the project design or during the assessment process have taken note of complexity and system thinking.	There were not clear indication that the project design or during the assessment process have taken note of complexity and system thinking.	There were not clear indication that the project design or during the assessment process has taken note of complexity and system thinking.	There were not clear indication that the project design or during the assessment process have taken note of complexity and system thinking.	There were not clear indication that the project design or during the assessment process have taken note of complexity and system thinking.

Appendix B

The CEC/EIA certificates issued in different sectors before EMA, 2004

Year	Tourism	Industry	Mining	Energy	Infrastructure	Communication	Forestry	Agriculture	Fisheries	Construction	Health	Issued/rejected CEC\EIA
Jan. to Dec. 1995	-	-	-	-	-	-	-	-	1	-	-	rejected
Jan. to Dec. 1996	-	-	-	1	2	-	-	-	-	-	-	3
Jan. to Dec. 1997	-	-	1	-	-	-	-	-	-	-	-	1
Jan. to Dec. 1998	-	1	1	-	-	-	-	-	-	-	-	2
Jan. to Dec. 1999	1	1	-	-	-	-	-	-	-	-	-	2
Jan. to Dec. 2000	-	-	2	1	2	-	-	-	1	-	-	6
Jan. to Dec. 2001	-	-	1	1	-	-	-	-	-	-	-	2
Jan. to Dec. 2002	-	-	1	-	1	-	-	1	-	-	-	3
Jan. to Dec. 2003	-	3	3	-	-	-	-	-	1	-	-	6
Jan. to Dec. 2004	1	5	1	1	2	-	-	-	-	-	-	10
TOTAL	2	10	10	4	7	0	0	1	3	0	0	37
Percentage	5.40	27.02	27.02	10.81	18.91	0	0	2.70	8.10	0	0	

The EIA certificates issued in different sectors after EMA, 2004

Year	Tourism	Industry	Mining	Energy	Infrastructure	Communication	Forestry	Agriculture	Fisheries	Construction	Health	Issued EIA/EA certificates
Jan. to Dec. 2005	1	1	1	2	-	-	-	-	-	-	-	5
Jan. to Dec. 2006	3	3	5	-	2	-	-	-	-	-	-	13
Jan. to Dec. 2007	2	1	3	5	1	-	-	1	-	-	-	13
Jan. to Dec. 2008	9	8	6	11	1	1	2	-	1	-	-	39
Jan. to Dec. 2009	16	14	2	10	9	46	2	2	2	9	-	112
Jan. to Dec. 2010	15	19	8	15	21	60	1	1	-	9	-	149
Jan. to Dec. 2011	16	35	11	26	8	37	-	3	-	20	2	157
Jan. to Dec. 2012	16	35	43	60	4	66	1	10	-	50	5	290
Jan. to Nov. 2013	12	41	35	40	12	217	1	12	-	38	3	317
TOTAL	90	157	114	169	58	427	7	29	3	126	10	1190
Percentage	7.56	13.19	9.57	14.20	4.87	35.88	0.58	2.43	0.25	10.58	0.84	

Appendix C

Impact assessment procedures in Tanzania

No.	Stages	Activities
1	Registration of project proposal	The project proponent is required to register a project proposal or concept with the NEMC through special application forms, the EIA Registration Form as prescribed in the Third Schedule of EIA regulations. The forms are available at the NEMC, Sector Environmental Units, Local Authorities and the Tanzania Investment Centre (TIC).
2	Screening	Screening is the process undertaken to classify and decide, which level of environmental assessment is required for a project. It is the first stage conducted in the EIA process after registration of the project to establish the category of project and determine the level of EIA required. It is conducted by the NEMC within 5 working days after submission of the EIA application.
3	Scoping	Scoping is the process of determining issues to be addressed, information to be collected, and the analysis required to assess environmental impacts of a project. This process follows once a screening report indicates that the project undertaken will result in significance adverse impacts. This process will be conducted by the developer through his consultant. The relevant parties and stakeholders will be consulted in this stage. The Draft Terms of References (ToR) will then be prepared to guide the process of the EIA study. A scoping report and the draft ToR are submitted to the NEMC for review and approval. This is done within 10 days after submission of the scoping report.
4	Impact Assessment and EIA Report	A project must undergo a full scale EIA if it complies explicitly by the law or if the initial environmental examination results indicate that an EIA is required. This process will be conducted after approval of the ToR by the NEMC. The consultant uses the ToR to conduct the actual EIA study. A full-scale EIA conducted in this stage includes identifying likely impacts, assessing and evaluating their severity and magnitude and proposing mitigation measures to minimise potential negative impacts and enhance positive benefits. The

		output of this stage is an EIA report, also known as the Environmental Impact Statement (EIS). This includes an Environmental Management plan (EMP) as well as a Monitoring Plan (MP). The EMP and MP outline management and monitoring of anticipated impacts, including those, which affect local communities in the project area. Public consultation is mandatory when conducting an EIA and the proponent (through his consultant) must meet key stakeholders to get their views.
5	EIA Review	The NEMC conducts site verification visit after the proponent has submitted an EIA report (EIS). The site visit is conducted to verify information provided in the EIS report. The NEMC then coordinates a cross-sectoral Technical Advisory Committee (TAC) to review the EIS. The TAC is composed of members from sectors responsible for environment and resource management. The review of EIS is completed by the NEMC within 60 days from the date it was received by the NEMC, and this is as required by the EMA. The Minister may within 30 days, upon receipt of recommendations of the NEMC approve or disapprove the EIS.
6	Public hearing	Public hearing is necessary to address public concerns over a proposed undertaking. This process takes place when major concerns are raised by the public and potential negative impacts of the proposed project are perceived to be far reaching. Other critical factors that may necessitate public hearing are sensitivity of the site location, type and scale of a project, technology used, multiple land use considerations, presence of relocation and resettlement issues, cumulative impacts and any other factor related to a particular project that might cause public concern.
7	Decision-making and Approval	The NEMC assesses the final version of the EIS in order to ascertain whether all the TAC comments and recommendations are adequately addressed by the consultant. Thereafter terms and conditions for issuance of the EIA certificate are prepared by the NEMC. Approval/disapproval of the EIS is done by the Minister responsible for environment as stipulated in the EMA section 92 (1).

8	Appeal	The right to appeal is vested to both proponent and affected or interested parties. As such, the parties may appeal to the Environmental Tribunal or Court of law (the High Court of Tanzania) if there is dissatisfaction on the decision reached.
9	Project implementation (EMP)	The EMP is that part of the project management responsible for implementation of mitigation measures and environmental monitoring. The plan outlines mitigation measures and other measures that will be undertaken to ensure compliance with environmental laws and regulations so as to reduce or eliminate adverse impacts, and promote feasible environmental enhancement measures.
10	Environmental Post Audit and Monitoring	Environmental Audit and Monitoring (EAM) is a follow-up exercise, whose goal is to determine if environmental protection measures were successful implemented. Also, it involves the process of check-up if monitoring data are analysed as well as acted upon during the project operation. The EAM is a series of activities initiated by management to evaluate in one way or another, the environmental performance. It is conducted in two levels i.e. Environmental Impact Audit and Environmental Management Audit. The former involves comparing the impacts predicted in an EIS with those that actually occur after implementation of the project while the latter involves checks against adherence to plans, mitigation measures and general compliance of terms and conditions.
11	Decommissioning	Decommissioning is the end of the project life. The report (Decommissioning Report (DR)) including restoration or rehabilitation activities is prepared by the project proponent and submitted to the NEMC for approval and records.

Appendix D

Institutional framework governing impact assessment and sustainability in Tanzania

