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THE DYNAMICS OF INSTITUTIONAL ARRANGEMENTS IN MAINSTREAMING CLIMATE CHANGE IN ESWATINI

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A Minor Dissertation submitted in partial fulfilment of the requirements for the degree of Magister Scientiae in Environmental Management in the Department of Geography, Environmental Management and Energy Studies in the Faculty of Science at the University of Johannesburg.

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August 1st 2019
ABSTRACT

Whilst the symptoms of the changing climate are occurring at an unprecedented frequency and severity, the need to adapt to climate change effects (from community level through national government) has never been this urgent. Such adaptation requires the establishment of a functional institutional arrangement and a policy framework for climate change implementation and mainstreaming. The present study investigated the dynamics of institutional arrangements – formal and informal structures that help institutions to increase the involvement of national governmental organizations and promote the integration of climate change issues into national planning processes – for climate change implementation and mainstreaming in Eswatini, Southern Africa.

To this end, two objectives were set: (I) to understand how institutional arrangements and policy frameworks have shifted over time (since 1996) and (II) to identify the strengths, and key weaknesses, opportunities and threats to the implementation and mainstreaming of climate change into national developmental priorities in Eswatini. Data collected were analysed using a qualitative approach including a SWOT analysis. As a result, three periods were identified as key during the course of developing of institutional arrangements in Eswatini. The first period (1991-1997) was characterised by the establishment of meteorological services and the ratification of some international conventions. The second period (2000-
2010) mostly witnessed the development and ratification of national and international policy/documents whilst the most recent period (2012-2016) was exclusively characterised by national policy/documents development. Furthermore, the SWOT analysis identified several strengths to this institutional arrangement (e.g. ratification of the UNFCCC, the Kyoto protocol and Paris agreement), but also Weaknesses (e.g. inadequate implementation of the national climate change policy), Opportunities (e.g. small size of the country and its population) as well as Threats (e.g. high poverty rates and poor economic growth). Overall, these findings indicate that the Government of Eswatini has reached important milestones in term of institutional arrangements for climate change whilst, at the same time, facing some weaknesses and threats that need to be addressed urgently.
ACKNOWLEDGEMENTS

I would like to dedicate this study to my beloved family for enduring my absence while engaged in my studies. Special appreciation is also extended to my supervisor Dr Kowiyou Yessoufou for his encouragement and valuable advice during the inception and development of this research.
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<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR5</td>
<td>Fifth Assessment Report</td>
</tr>
<tr>
<td>CDM</td>
<td>Clean Development Mechanism</td>
</tr>
<tr>
<td>CF4</td>
<td>Perfluorocarbons</td>
</tr>
<tr>
<td>CH4</td>
<td>methane</td>
</tr>
<tr>
<td>CO2</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>COP</td>
<td>Conference of the Parties</td>
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<tr>
<td>GHG</td>
<td>Greenhouse Gases</td>
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<tr>
<td>HFCs</td>
<td>Hydrofluorocarbons</td>
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<tr>
<td>INC</td>
<td>International Negotiating Committee</td>
</tr>
<tr>
<td>INDC</td>
<td>Intended Nationally Determined Contributions</td>
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<tr>
<td>IPCC</td>
<td>Intergovernmental Panel on Climate Change</td>
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<td>NCCC</td>
<td>National Climate Change Committee</td>
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<tr>
<td>NDC</td>
<td>Nationally Determined Contributions</td>
</tr>
<tr>
<td>N2O</td>
<td>Nitrous oxide</td>
</tr>
<tr>
<td>SADC</td>
<td>Southern African Development Community</td>
</tr>
<tr>
<td>SF6</td>
<td>Sulphur hexafluoride</td>
</tr>
<tr>
<td>SNL</td>
<td>Swazi Nation Land</td>
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<tr>
<td>Acronym</td>
<td>Description</td>
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<tr>
<td>SWOT</td>
<td>Strengths, Weaknesses, Opportunities and Threats</td>
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<td>TDL</td>
<td>Title Deed Land</td>
</tr>
<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<tr>
<td>UNFCCC</td>
<td>United Nations Framework Convention on Climate Change</td>
</tr>
<tr>
<td>WCP</td>
<td>World Climate Programme</td>
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<tr>
<td>WMO</td>
<td>World Meteorological Organisation</td>
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GLOSSARY OF TERMS

Adaptation: Adaptation to global warming refers to action aimed at coping with climatic changes that cannot be avoided and at reducing their negative effects. Adaptation measures include the prevention, tolerance or sharing of losses, changes in land use or activities, changes of location and restoration.

Anthropogenic: Caused by humans, relating to or resulting from the influence of humans on the natural world.

Climate: Climate encompasses the statistics of meteorological conditions, that is, temperature, humidity, atmospheric pressure, wind, rainfall, atmospheric particle count and other meteorological elements in a given region over long periods of time (usually 30 years).

Climate action: Increased efforts to reduce greenhouse gas emissions and strengthen resilience and adaptive capacity to climate-induced impacts, including climate related hazards in all countries; integrating climate change measures into national policies, strategies and planning; and improving education, awareness-raising and human and institutional capacity with respect to climate mitigation, adaptation impact reduction and early warning.
Climate change: A change of climate, which is attributed directly or indirectly to human activities that alter the composition of the global atmosphere, and which is additional to natural variability, and observed over comparable periods of time.

Conference of the Parties (COP): Is a meeting of countries, world leaders, organisations, businesses, individuals, etc., under the auspices of the United Nations Framework Convention on Climate Change.

Greenhouse gases (GHGs): Greenhouse those gaseous constituents of the atmosphere, both natural and anthropogenic that absorb and re-emit infrared radiation. The Kyoto Protocol deals with six anthropogenic greenhouse gases, namely, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), sulphur hexafluoride (SF6) and two groups of gases: hydrofluorocarbons (HFCs e.g. HFC-23) and perfluorocarbons (e.g. CF4).

Emissions: Are used interchangeably with GHGs in this document.

Institutional arrangements: are the policies, systems, and processes that organizations use to legislate, plan and manage their activities efficiently and to coordinate effectively with others in order to fulfil their mandate.

Intergovernmental Panel on Climate Change (IPCC): Is a body or institution formed jointly by the United Nations Environment Programme
(UNEP) and the World Meteorological Organization (WMO) in 1989 to provide broad and balanced information about climate change.

**Mainstreaming**: is the iterative process of integrating considerations of climate change into policy-making, budgeting, implementation and monitoring processes at national, sector and sub-national levels.

**Mitigation**: refers to human efforts that seek to prevent or slow down the increase of atmospheric GHG concentrations by limiting current and future emissions and enhancing potential sinks for greenhouse gases.
1 INTRODUCTION

1.1 BACKGROUND

The Fifth Assessment Report (AR5) of the Intergovernmental Panel on Climate Change (IPCC) indicated that anthropogenic climate change is the most severe and challenging social, economic and environmental global problem the world is currently facing (Myhre, 2013). To respond to this problem, actions need to be taken (henceforth referred to as climate action) by all countries (Brownstein, 2013). Specifically, climate change impacts must be mitigated or adaptive measures to be taken, not only to reduce the level of greenhouse gas (GHG) emissions into the atmosphere but also to adapt to the on-going or anticipated changes in climate (prolonged drought, erratic rainfall, etc.) (Hegerl et al., 2007; Myhre, 2013). Such actions required that climate change should be implemented and mainstreamed into national policy documents at all spheres of government (local, provincial and national) (Halsnæs et al., 2014).

However, climate change implementation and mainstreaming require an enabling environment with appropriate institutional arrangements relevant to a country’s national priorities and needs (Adaptation Committee, 2014; Fussel, 2007). Therefore, to respond comprehensively to climate change and its impacts, national governments need to institutionalise processes
and governance structures in order to monitor report on climate change and verify the level of GHG emissions (UNFCCC, 2009). The institutional arrangements must be designed such that mitigation actions undertaken are tracked and the adaptive capacity and resilience of communities is sustained (Tompkins & Adger, 2003; United Nations, 1992, 2015). It is only then that a country would be able to facilitate ambitious and effective actions on climate change (Chakravarty & Ahuja, 2016). This is not the case yet in Eswatini, formerly known as Swaziland.

1.2 Problem
Climate change implementation and mainstreaming require an enabling environment with appropriate institutional arrangements and policy framework relevant to the national priorities and needs of a given country (Fussel, 2007). Even though some structures have been set up to guide systematic response processes, e.g. the national communications to the UNFCCC in Eswatini (Government of Swaziland, 2016; Government of Swaziland, 2013, 2016d), the current response is still insufficient and under-developed as it is still project based (Government of Swaziland, 2016b). To date, existing legal instruments in the country presents a void in that they do not provide for the specific mandates to implement the international obligations flowing from the Framework Convention on Climate Change (Government of Swaziland, 2013, 2016c).
The effectiveness of the country’s response to climate change impacts is further compounded by several internal factors to the country (Winkler, 2005). These factors include restrictions in existing structural and systematic paradigms (OECD, 2008), limited knowledge and capacity to adapt to the impacts of climate change (Government of Swaziland, 2016), limited human resource capacity and insufficient funding for climate change related activities (Jordan, Liefferink, Jordan, & Liefferink, 2004; Urquhart & Lotz-Sisitka, 2014; Verschuuren, 2013).

Although Eswatini has contributed little to the global greenhouse gas (GHG) emissions into the atmosphere, averaging less than 0.002% of global emissions (Government of Swaziland, 2016a), the cost of inaction to the changing climate (OECD, 2008) would be insurmountable for Eswatini, given the almost exclusive reliance of the country’s economy on climate-sensitive sectors such as water and agriculture (Government of Swaziland, 2016; Masud et al., 2017).

1.3 JUSTIFICATION

Understanding the limitations of mainstreaming climate change in Eswatini will ensure that it informs the design and organisation of institutional arrangements comprehensively respond to climate change impacts, through the reduction of greenhouse gases while building the adaptive
capacity and resilience of vulnerable communities (Tompkins & Adger, 2003; United Nations, 1992). In this regard, the present study aims to assess what has been Eswatini’s policy course of action in response to climate change and what have been the challenges, opportunities and threats of institutional arrangements as well as policy measures put in place to comprehensively minimize the negative externalities arising from climate change impacts.

1.4 General Objectives

The aim of the present minor dissertation is to elucidate the trend in national institutional arrangements and policy framework in response to the need for climate change implementation and mainstreaming in Eswatini, ex-Swaziland.

1.4.1 Specific Objectives

To reach this aim, two main objectives are set. The first objective is to identify the strengths, and key weaknesses, opportunities and threats to the implementation and mainstreaming of climate change into national developmental priorities in Eswatini. The second objective is to understand how institutional arrangements and policy frameworks have evolved over time (since 1996) to overcome the weaknesses and threats to climate change implementation in Eswatini.
1.5 **STRUCTURE OF THE MINOR DISSERTATION**

The study is structured as follows:

- Chapter 1, the present chapter, introduces the subject matter and provides the problem and its justification. It also consists of the aim and the objectives of the study.

- Chapter 2 presents the Literature Review and discussions on institutional arrangements in relation to climate change implementation. The discussions include the definitions of climate change and why there is a need to systematically respond to it. This chapter also traces the historical and recent activities that have informed climate change arrangements at political and scientific levels, including international agreements and instruments. It also delves into the institutional arrangements as a concept and how it is defined in relation to climate change mitigation and adaptation action.

- Chapter 3 presents the methods used to explore the qualitative approach of the study to assess the problem. The chapter presents the three parts to the methodology consisting of the comprehensive analysis of literature, project reports, government reports, and international reports. It provides a detailed description of the temporal dynamic patterns for institutional arrangements in Eswatini. It further elaborates on the analytical approach of the SWOT and explores the study area of Eswatini in greater detail.
Chapter 4 focuses on the results of the study as per the two objectives. This chapter summarizes the temporal dynamic patterns observed over time in Eswatini towards climate change implementation and mainstreaming. It also presents the findings of the SWOT analysis of Eswatini’s institutional arrangements and policy framework on climate change implementation and mainstreaming.

Finally, Chapter 5 focuses on synthesis of key findings and associated implications. It further presents Recommendations based on the Key Findings.
2 LITERATURE REVIEW

2.1 INTRODUCTION

The United Nations Framework Convention on Climate Change was adopted in 1992 (United Nations, 1992) based on the provisions and principles of the UN Charter (United Nations, 1945) and the Declaration of the United Nations Conference on the Human Environment (United Nations, 1972). It was agreed upon that those countries which are parties to the Declaration need to ensure that all environmental activities must safeguard against negative impacts of human activities on the environment (United Nations, 1945, 1972, 1992). Therefore, the United Nations Framework Convention on Climate Change (UNFCCC) was established, recognizing that human activities were adversely affecting the earth’s climate system (United Nations, 1992). Its main objective was to ensure that greenhouse gas concentrations in the atmosphere were reduced such that anthropogenic disturbances of the climate system are controlled (United Nations, 1992). Furthermore, the Convention expressed the significance of acting in a timely manner to allow ecosystems to adapt naturally to ensure that food security is not threatened, and sustainable development progresses without disruption (Sathaye, Shukla, & Ravindranath, 2006; United Nations, 1992, 2011). The main principle of the Convention on Climate Change Equity based on Common but
Differentiated Responsibilities (CBDR) and Respective Capabilities (RC)’ (United Nations, 1992) gave way to the Kyoto Protocol, which committed countries to mitigating greenhouse gas emissions and adapting to climate change (United Nations, 1996). The Kyoto Protocol required developed countries to set emission reduction targets and continually report on their national measures through national inventory and communication reports, with commitment periods extending to 2020 after the Doha Amendment.

The Protocol also developed the Clean Development Mechanism to facilitate sustainable development in developing countries through carbon markets and credits. However, with country parties not fully agreeing to these commitments (Sathaye et al., 2006), negotiations on another agreement post 2020 was initiated and eventually led to the 2015 agreement, the Paris Agreement (United Nations, 2015). The Paris Agreement negotiated under the UNFCCC was unanimously adopted by 196 countries (United Nations, 2015). The agreement’s provisions called for nationally-determined efforts to further enhance the implementation of the Convention and to propel countries to accelerate their climate action (United Nations, 2015).

Overall, successful implementation of climate change action rests on an effective legal, policy and institutional arrangement, which provides an enabling environment framework for capacity development (Nygaard &
Hansen, 2015), training, mainstreaming and ensuring implementation in all affected sectors (Urquhart & Lotz-Sisitka, 2014). To minimize these limitations, O’Riordan and Jordan (1999), in their study, indicated that institutional arrangements and policy framework are crucial steps. This view has been supported by Alhusien and Kozova (2014) who indicated that these policy and institutional arrangements provide an enabling framework for acting against climate change impacts in a proactive and responsive manner (Adger, 2000; Alhuseen & Kozová, 2014; Boehmer-Christiansen, Spector, Sjöstedt, & Zartman, 1994; Winkler, 2005). They further argued that responses to climate change can only be effective once they are well planned and integrated into national development processes with effective mitigation and adaptation measures defined by relevant institutions and national policies (Adaptation Committee, 2014; Adger, Arnell, & Tompkins, 2005; Alhuseen & Kozová, 2014). Therefore, distinct and defined institutional arrangements offer a degree of permanence, stability and sustenance in organizing the climate change response (Sathaye, Shukla, & Ravindranath, 2006) and preparing for future climate change impacts (Agder, 2007; O’Riodan & Jordan, 1999).

2.2 CLIMATE CHANGE

The global climate is changing faster because of atmospheric emissions contributing to, among others, variations in rainfall and snowfall patterns,
increased frequency and intensity of extreme weather events, such as droughts and floods (Hegerl et al., 2007; Tompkins & Adger, 2003). These changes are a result of natural and human activities such as deforestation, unsustainable agricultural practices and industrial activities (Brownstein, 2013; Hegerl et al., 2007), leading to gases and aerosols being stored in the atmosphere (Enríquez-de-Salamanca, Díaz-Sierra, M-Martín-Aranda, & Santos, 2017; UNFCCC, 2006). The UNFCCC explains climate change as the changes in the climate system resulting from human activities which alter the composition of the global atmosphere over comparable time periods (Myhre, 2013; United Nations, 1992). The rate at which the earth's climate is changing has surpassed the ability of terrestrial and aquatic ecosystems to adapt (Agder, 2007). Therefore, climate change impacts on ecosystems have propelled environmental and socio-economic problems, including unsustainable land practices, pollution, and competition for natural resources (Hegerl et al., 2007).

The warning signs of the changing climate such as the increased average temperature and greater incidence and severity of extreme weather events has considerable consequences for a developing country’s environmental and developmental status quo (Berrang-Ford, Ford, & Paterson, 2011; Engels & Contexts., 2003). The anticipated climate change risks and impacts pose considerable threats to sustainable development and environmental management (Banuri, 2009; Winkler, 2005). The high
poverty rates for sub-Saharan Africa countries including Eswatini, means that there is increased climate vulnerability of communities to external shocks such as droughts and floods. According to the IPCC report in 2007, climate change is highly likely to exacerbate the current environmental and socio-economic challenges and introduce new problems in the environment (Hegerl et al., 2007).

2.3 CLIMATE CHANGE ARRANGEMENTS FOR INTERNATIONAL CORPORATION

The First World Climate Conference which took place in February 1979 in Geneva, Switzerland, introduced the climate change process by forming the World Climate Programme (WCP) under the World Meteorological Organisation (WMO) which sought supports from nations and coordination among international bodies on climate change issues (Brownstein, 2013; O’Riordon & Jäger, 1996). The establishment of the Intergovernmental Panel on Climate Change (IPCC) in 1988 by WMO and United Nations Environment Programme gave way to the publishing of the First Assessment Report by the IPCC in 1990, providing a coherent scientific view on the current state of knowledge in climate change and its potential impacts (Albrecht & Arts, 2005; Kouw & Petersen, 2018) Based on the recommendations of the initial Assessment report, countries and multilateral organizations during the Second World Climate Conference
held in Geneva in 1990, resolved that a global climate change on climate change was necessary for climate action (Kouw & Petersen, 2018). WMO established the International Negotiating Committee (INC) based on the resolutions of the Second World Climate Conference, to negotiate the United Nations Framework Convention on Climate Change (UNFCCC). Thereafter, the INC held five sessions where more than 150 countries discussed binding commitments, targets, and timetables for emissions reductions, financial mechanisms, technology transfer, and "common but differentiated" responsibilities of developed and developing countries (Fletcher, 2005; Rolfe, 1998). The discussions and negotiations culminated in the text of the UNFCCC being adopted at the United Nations Headquarters in New York in May 1992 (UNFCCC, 1992).

2.4 INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

The Intergovernmental Panel on Climate Change (IPCC) is not an institution of the United Nations Framework Convention on Climate Change, but it contributes important scientific information to the climate change process (UNFCCC, 2009). The World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP) established the IPCC in 1988 for the provisioning of climate change information on its political and economic impacts. Its main aim is to review and assess data about the earth's climate and collate scientific evidence
for climate change from global research or monitoring by scientists (Brownstein, 2013). The IPCC releases extensive analyses of scientific research on climate change in 7-year cycles resulting in the production of Assessment Reports structured around three Working Groups. While the Working Group I address the science of climate change, the Working Group II deals with impacts, vulnerability, and adaptation and the Working Group III with mitigation and a Task Force on National Greenhouse Gas Inventories.

The IPCC, over the years, has naturally progressed to be a knowledge monopoly on climate science and policy, unmatched in its network and reputation (Brownstein, 2013). The IPCC is the sole authority designated to advice on climate change policy at the international level cascading
down to national policies. Cooperation of the UNFCCC with the IPCC has improved and strengthened because of several COP decisions (UNFCCC, 2006). The Assessment reports by the IPCC has aided and informed the annual plenary sessions and negotiations that occur among government in the Conference of the Parties (UNFCCC, 2006). In its Assessment Reports, the IPCC through the Special Committee on the Participation of Developing Countries identified that developing countries had challenges that were preventing their full participation in climate action because of their limited national competencies and institutional difficulties to implement the practical response strategies for national and regional applications (Kouw & Petersen, 2018). Over the years the need to improve and strengthen institutional arrangements at international and national levels has been a core issue in the climate change negotiations and has resulted in various instruments which have aided especially developing countries to track their progress in climate change implementation and mainstreaming (Geiger et al., 2017; Kouw & Petersen, 2018).

2.4.1 THE UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

The Convention on Climate Change is a non-binding global agreement on climate change, which recognizes that the climate system is a shared resource and that emissions of carbon dioxide and other greenhouse
gases can affect its stability. It sets an overall framework for intergovernmental efforts to tackle the challenges posed by climate change (UNFCCC, 1992, 2006). It recognizes that the climate system is a shared resource, and the increase in emissions can be detrimental to its stability (Urquhart & Lotz-Sisitka, 2014). The United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty that binds its signatories to cooperate in limiting global temperature increases, and in addressing the adverse effects of unavoidable climate change (Rosenstock et al., 2018; UNFCCC, 2006). The UNEP Governing Council and the WMO Executive Council recommended the formation of the UNFCCC based on the resolutions from the First IPCC Assessment report. Countries envisioned the Convention to start negotiations on climate change policy as a basis for mitigation of greenhouse gases and adaptation to climate change impacts. Subsequently, the negotiations resulted in the adoption of the United Nations Framework Convention on Climate Change and its Secretariat in 1992, in recognition of the adverse effects of humans on the earth's climate system (UNFCCC, 1992). The main aim of the Convention is to ensure that countries reduce greenhouse gas concentrations in the atmosphere from anthropogenic disturbances. The UNFCCC expresses the significance of acting promptly to allow ecosystems to adapt naturally to ensure that there is no threat to food security and sustainable development progresses (Sathaye et al., 2006; United Nations, 1992). The UNFCCC has principles, which include "equity"
and “common but differentiated responsibilities and respective capabilities”, calling for developed countries to take the lead in combating climate change and the adverse effects thereof (Winkler, 2005). Besides climate change adaptation and mitigation, the Convention made provisions for financial support for developing countries to implement their commitments under the Convention, technology development and transfer; and public awareness and training (Office, 2013).

2.4.2 CONFERENCE OF THE PARTIES

The Conference of Parties (COP) is the highest decision-making body of the Convention and usually meets annually. According to Article 7.2, the COP reviews the implementation of the Convention and any related legal instruments and must decide on the necessary working modalities to promote the effective implementation of the Convention (UNFCCC, 1992, 2006). The Conference of the Parties also cooperates with and receives support from numerous other international organizations and other groups, including scientific bodies, UN agencies, and other conventions. These include the Intergovernmental Panel on Climate Change (IPCC), which publishes comprehensive reviews on climate change science every five to six years, and other technical reports and papers (Brownstein, 2013).
2.4.3 National Communications and Inventories Under the Framework Convention on Climate Change

National communications and inventories are a medium for information exchange mandated by Article 4, paragraph 1 and Article 12, paragraph 1 of the UNFCCC (UNFCCC, 1992). National governments periodically prepare communications and biennial reports under the guidelines developed and adopted by the Conference of the Parties (COP). Countries use the national inventories and communications as a tool to implement the provisions of the Convention and to highlight various challenges, gaps and constraints experienced in their countries (UNFCCC, 2009). The Conference of the parties uses these tools to aggregate all the adaptation actions implemented in countries and to track the level of reduction in greenhouse gas emissions released to the atmosphere (Oberlack & Eisenack, 2014).

2.4.4 Kyoto Protocol

The Kyoto Protocol is an international binding agreement linked to the UNFCCC (Theilmann, 2013). The Kyoto Protocol mechanized the Framework Convention on Climate Change by making provisions for voluntary reductions of greenhouse gases and setting benchmarks for reducing greenhouse gas emissions (Fletcher, 2005).
required developed countries to set emission reduction targets and continually report on their national measures through national inventory and communication reports, with commitment periods extending to 2020 (Theilmann, 2013). The Protocol also established the Clean Development Mechanism which allows the implementation of emission reduction projects in developing countries to facilitate sustainable development in these countries through carbon markets and credits (Oberthür & Ott, 1999). However, with country parties not fully agreeing to these commitments negotiations started on a new post-2020 agreement committing all nations to increase their efforts in climate action, leading to the Paris Agreement in 2015 (Grubb, Vrolijk, & Brack, 1999; null, 1998; Oberthür & Ott, 1999; Rolfe, 1998; Yamagata, Yang, & Galaskiewicz, 2013).

2.4.5 THE PARIS AGREEMENT

In total, 196 countries unanimously adopted the Paris Agreement negotiated under the UNFCCC (United Nations, 2015). The Paris Climate Agreement differs from the Kyoto Protocol in that it does not consider the set emission targets for each country negotiated under the Kyoto Protocol (Theilmann, 2013) thus disregarding the international fair burden-sharing arrangement to mitigate GHG emissions (Clemencon, 2016). The 2015 agreement’s provisions require countries to determine their own
contributions to enhance the implementation and mainstreaming of the Convention. Therefore, countries submitted their proposed emissions reduction pledges in the form of “Intended Nationally Determined Contributions” (INDCs) well before the Paris conference to show their commitments (Clemencon, 2016; Geiger et al., 2017). The INDCs became an integral part of the new climate agreement and countries would continue using them to communicate their commitments and efforts towards adaptation and mitigation (Carraro, 2015; Clemencon, 2016).

However, Clemencon (2016) argued that though the Paris agreement offered a vehicle for climate change targets, its main shortfall is that it disadvantaged developing countries by putting aside the massive historical contributions of carbon dioxide emissions by developed countries that have already accumulated in the atmosphere (Carraro, 2015).

2.4.6 Nationally Determined Contributions

Nationally Determined Contributions are the backbone of the Paris Agreement (Clemencon, 2016). NDCs represent national targets and action that each party is willing and able to make towards the global effort to limit a global average temperature increase to a maximum of 2°C (United Nations, 2015). Countries prepare their Contributions at national level guided by national priorities, capacities and capabilities. The
voluntary pledges enable countries to define their own emission targets and future objectives on climate action based on their national circumstances and financial capabilities.

2.5 COOPERATION WITH OTHER ENVIRONMENTAL AGREEMENTS

Global inter-linkages and interventions on biodiversity, desertification and climate change are connected because of their common concern and aim to ensure that anthropogenic activities do not adversely affect the environment and humankind (Beg et al., 2002). The Rio Earth Summit held in 1992 established the connection of the Convention on Biological Diversity (CBD), UNFCCC and the Convention to Combat Desertification (UNCCD) based on their mutual concern to conserve the earth's biosphere and its systems (Liniger, 2005). Global efforts to combat climate change and to conserve ecosystems and their services has significantly increased (Smith et al., 2019) with nations coming together for this common cause not only under the Rio Conventions but also with the Ramsar Convention on Wetlands, the Paris Agreement, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (Thambiran, Thambiran, & Diab, 2010).

The Montreal Protocol on the control of Ozone-Depleting substances (ODS) has also developed complementarities with the Framework Convention on Climate Change (Jacobs, 2014; Kaniaru, Shende, Stone, & Zaelke, 2010). The complementarities between the UNFCCC and the
Protocol on ODS is due to the industrial substances such as chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) which are both ozone-depleting stances and greenhouse gases and are controlled by the Protocol (Yamagata et al., 2013; Zaelke, Andersen, & Borgford-Parnell, 2012). The inter-linkages between the Conventions and Protocols provides an enabling environment for collective action to combat global environmental challenges. The synergies between the multilateral agreements ensure that there is avoidance of duplication of efforts in countries (Halsnæs et al., 2014; Yamagata et al., 2013).

Interventions on biodiversity, desertification and climate change have always been intrinsically connected because of their common concern and objective to ensure that anthropogenic activities do not adversely affect humankind (Smith et al., 2019). Their connection was further affirmed in the Rio Earth Summit held in 1992 where three United Nations (UN) conventions, i.e. the Convention on Biological Diversity (CBD), the Framework Convention on Climate Change (UNFCCC) and the Convention to Combat Desertification (UNCCD) came into life with their mutual concern to conserve the earth's biosphere and its systems. Global efforts to combat climate change and to conserve ecosystems and their services, has significantly increased with nations coming together for this common cause not only under the Rio Conventions but also with the Ramsar Convention on Wetlands, the Paris Agreement, the Convention on International Trade in Endangered Species of Wild Fauna and Flora to
ensure that the earth is protected (Smith et al., 2019). Additionally, the international instruments on the protection of the ozone layer namely the Vienna Convention on the Protection of the Ozone Layer and the Montreal Protocol on the control of Ozone Depleting substances have developed complementarities with the UNFCCC (Jacobs, 2014). The cooperation is a result of the link with the climate action as they control industrial substances such as CFCs and HCFCs which are the ozone depletingstances and are also greenhouse gases. The Interlinkages between environmental and environment-related Conventions provides an enabling environment for collective action to combat global environmental challenges and avoids duplication of efforts (Zaelke et al., 2012).

2.6 THE NEED FOR CLIMATE CHANGE ARRANGEMENTS

International arrangements for climate change have been crucial in guiding and assisting countries on how to adapt and mitigate climate change (Oberlack & Eisenack, 2014). Though countries experience differing climate change impacts and vulnerabilities at a local level (Adger, Huq, Brown, Conway, & Hulme, 2003), the need to make provisions for institutional mechanisms has helped countries to work as a collective to address climate change. Oberlack and Eisenack (2014) explained that the rationale for international cooperation informs a “moral obligation” to ensure that developed nations account for their “historical responsibility” in
global greenhouse gas emissions and acknowledge the disadvantage developing countries inherited in relation to climate change impacts. These multilateral collaborations have afforded countries a platform on which they can negotiate for support and technical capacity to adapt and mitigate climate change (Godfrey & Nahman, 2007). These arrangements have provided a mechanism to track progress towards climate action in countries and avail financial instruments to ensure that countries with limited capacity and resources can also implement climate change adaptation and mitigation strategies (Alhuseen & Kozová, 2014).

Likewise, as the Government of Eswatini had ratified the Convention in 1996, it was expected that the Government would put in place national policies and strategies to contribute to the attainment objective of the Convention (Geiger, Swim, & Fraser, 2017; UNFCCC, 1992). However, since the country committed itself to the UNFCCC, climate actions have not been fully operational due to an inadequate legal, policy and institutional framework (Government of Swaziland, 2016b, 2016c). This problem has been acknowledged in the country's State of Environment Report, which clearly indicated that the implementation of climate actions has been dependant "upon the foresight of individuals or consultants (Government of Swaziland, 2013). Understanding the role of institutional arrangements is therefore important to address the challenges of mainstreaming climate change.
The Intergovernmental Panel on Climate Change describes institutional arrangements as basic institutional structures created to increase the involvement of national governmental organizations and promote the integration of climate change issues into national planning processes (Brownstein, 2013). Institutional arrangements (Figure 2.2) represent defined formal and informal structures that help institutions to accomplish their mandates (Cuevas, Peterson, Robinson, & Morrison, 2016). These arrangements in a country denote formal governmental structures for the arrangement, implementation and mainstreaming of policies (Roy, 1992). Cuevas et al (2016) defined institutions as the rules and norms in a social structure consisting of laws, policies, agreements and procedures.

Institutional arrangements can also be in different forms, e.g. a climate technology or orgware offering an enabling environment to adapt to climatic stimuli (Brownstein, 2013; Nygaard & Hansen, 2015). This enabling environment with a required set of conditions within hierarchical structures is important to support national response to climate change impacts (Adger et al., 2005; Nygaard & Hansen, 2015). Similarly, as outlined in the overall objective of the Framework Convention on Climate Change, measures for an institutional arrangement should be developed in a sustainable manner taking into consideration that all climate action
does not undermine national efforts to achieve poverty reduction targets and economic development (United Nations, 1945, 1992).

In the face of the systematic threat of climate change, systemic responses through policy and legislation are required (Adaptation Committee, 2014). Alhusie and Kozova (2014) further add that these policies and institutional arrangements provide an enabling framework for acting against climate change impacts “in a proactive and responsive manner”. Responses to climate change can only be effective once well planned into national development processes with effective mitigation and adaptation measures integrated into relevant institutions and national policies Adger et al. (2005) agreed that adjusted behaviour directed towards climate change response is climate change adaptation. However, an enabling environment with a required set of conditions within hierarchical structures is a requirement to support the national response to climate change (Adger et al., 2005; Nygaard & Hansen, 2015). Likewise, as outlined in the overall objectives of the UNFCCC, these measures should have to take into consideration country priorities and sustainable development.
Figure 2-1 An illustration of institutional arrangements (Cuevas et al. 2016)
2.8 CONCLUSION

The outline of the evolution of the climate change policy and arrangements at the international level shows that climate change implementation is a priority for global action and considerations on its functionality in the international policy arena are still under construction. The literature shows that climate change arrangements have evolved incrementally since the inception of the UNFCCC and gradually with the introduction of the Kyoto Protocol and the Paris Agreement based on the UNFCCC processes. The dynamic changes show that climate change policies are influenced not
only by the observed climate change impacts by the IPCC and UNFCCC
but also by the politics and national circumstances of countries around the
world. The literature describes the following key factors as important in the
analysis of institutional arrangements for climate change implementation
and mainstreaming:

I. The provisions made by the climate treaties on national policies and
   mandated activities under the conventions

II. National circumstances and capabilities.

The present study investigates specifically how institutional arrangements
in Eswatini have changed over time since the ratification of the UNFCCC.
It also seeks to assess their strengths, weaknesses, opportunities, and
threats towards climate change implementation and mainstreaming to
provide recommendations for future action.
3 METHODOLOGY

3.1 STUDY AREA

3.1.1 Physical Context

3.1.1.1 Geographical Location

The Kingdom of Eswatini previously known as Swaziland is a landlocked and mountainous country situated in the south eastern part of the African Continent, bounded by the Republic of South Africa on the north, west and south and by the Republic of Mozambique to the east as shown in Figure 3-1. The country covers a land area of 17,364 km² and has an elevation range of 600-1,860 metres (Nkonde, Masuku, & Manyatsi, 2013). The general climatic characterization of Swaziland is subtropical with wet hot summers (about 75% of the annual rainfall in the period from October to March) and cold dry winters (April to September). The physiographic zones show clearly different climatic conditions, ranging from sub-humid and temperate in the Highveld to semi-arid and warm in the Lowveld (Monadjem, 2002; Nkonde, Masuku, & Manyatsi, 2014).
3.1.1.2 Relief

Eswatini has a variety of relief, climate and soils. There are four well-defined physiographic regions, extending longitudinally from north to south in roughly parallel belts. From west to east they are the Highveld, the Middleveld, the Lowveld, and the Lubombo (Lebombo) escarpment. Each of the physiographic regions has its own climate. In terms of altitude Swaziland’s highest point summit stands at 6,108 feet (1,862 metres) above sea level, and the lowest point at 500 feet (152.4 metres) (Government of Swaziland, 2016c).

3.1.1.3 Climate

Eswatini lies at the transition of major climatic zones, being influenced by air masses from different origin: equatorial convergence zone (summer rains) (Dlamini, 2008), subtropical eastern continental moist maritime (onshore flow with occasional cyclones), dry continental tropical and marine west Mediterranean (winter rains, with rare snow) (Matondo, Peter, 2016c).
Mean annual rainfall ranges from about 1,500 mm in the northern Highveld to 500 mm in the southern Lowveld (Matondo, Peter, & Msibi, 2005). Precipitation varies considerably from year to year, which either may lead to periods of flash flooding or drought (Matondo et al., 2004). Drought is an inherent feature of the current semi-arid climate. Mean annual temperature varies from 17°C in the Highveld to 22°C in the Lowveld (Dlamini, 2008).

3.1.2 Economy

Eswatini is classified as a lower-middle income country even though it exhibits features like those of Africa’s low-income countries (Sikhondze et al., 2015). About 70% of the population derive their livelihoods from agriculture, which also provides raw material for the agro-based manufacturing sector. About 63% of the population live below the poverty line (one in two people who are poor in the country tend to suffer from food poverty as well) and output and trade are less diversified (Mapfumo et al., 2014). The economy is diversified, and exports are predominantly sugar, beef, textiles forestry, citrus and sugarcane. Eswatini is an open economy where the degree of openness presents opportunities for growth, but it also places the country at a high level of vulnerability to external shocks because of limited output and market diversification (Mashinini, Obi, & Schalkwyk, 2006). The country continues to post poor economic performance compared to its neighbouring countries in SADC (Whiteside, ...
This is mainly attributed to persistent drought leading to poor performance of the agricultural sector, changes in the global market environment for the country’s exports, failure to attract more FDI, difficult and changing macro-economic environment and the impact of the recent economic recession (Whiteside et al., 2007).

3.2 RESEARCH DESIGN

The research design is based entirely on a qualitative approach. The study divided the method into three main parts. The first part consisted of a comprehensive analysis of literature, project reports, government reports, and international reports. The second part comprised of a detailed description of the temporal dynamic patterns for institutional arrangements in Eswatini and the final part concluded with the brief description of climate change implementation synthesized using the SWOT Analysis or matrix. To understand the change over time of climate change institutional arrangements in Eswatini and the study used the time series approach to illustrate the temporal dynamic patterns since the ratification of the UNFCCC.
3.3 Data Collection

All information collected for this study were retrieved from existing literature, that is, from secondary sources (Kothari, 2004). A desktop review of key climate- and development-related strategic, policy and planning documents, journal articles, relevant books, government reports, and climate change policies in Eswatini. Primary documents and sources of information reviewed included:

- First National Communication to UNFCCC, 2002
- Second National Communication to UNFCCC, 2012
- Swaziland’s State of Environment Report, 2013
- Swaziland National Development Strategy, 1997
- Swaziland’s Intended nationally Determined contributions, 2015
- National Climate Change Policy, 2016
- Swaziland’s Third National Communication to the UNFCCC, 2016
- Technology Needs Assessment – Climate change adaptation, 2016

The national policy documents provided information on the country’s status of implementation on climate change issues. The Third National Communication provided detailed information on the country’s national circumstances, its mitigation and adaptation actions as well as the challenges it faces in the implementation of climate change programmes. Reviews of national reports, government documents produced to track the
path of climate actions in Eswatini provided the information needed not
only for the SWOT analysis but also to reconstruct the temporal dynamics
of institutional arrangements and mandates for climate change
implementation in Eswatini.

3.4 DATA ANALYSIS

All information used in the present study were analysed following a
qualitative approach. However, the method for data analysis differed
according to the objectives of the study.

The first objective is about assessing the temporal dynamic pattern of
institutional arrangements over time in Eswatini using a time series
analysis (Kothari, 2004). The time series format depicted the temporal
dynamism summarizing graphically key milestones (Alhuseen & Kozová,
2014) at the national level since the ratification to the UNFCCC in
Eswatini.

The second objective is about assessing the effectiveness of the past and
current institutional arrangement and policy framework in implementing
and mainstreaming climate change into national development priorities in
Eswatini. For this objective, the study used SWOT approach, which is an
effective technique for evaluating organizational and environmental factors
of institutions, involved in fields of strategic management. A SWOT
analysis (alternatively called a SWOT matrix) is a structured method
derived from its name (Alhuseen & Kozová, 2014).
The SWOT matrix is a tool used in strategic analysis to study the strengths and weaknesses of an organization or sector and the opportunities and threats in its environment. Gurel and Tat (2017) continues to summarize the SWOT analysis in the Figure 3.2. For this study, the strengths and weaknesses highlight the national positive and negative impacts of climate change implementation in terms of legal and policy framework and organizational capacity and the opportunities and threats that positively or negatively affect climate change implementation and mainstreaming in Eswatini.

Figure 3.2: Brief description of the SWOT analysis (adapted from Gurel & Tat, 2017)
4 RESULTS

4.1 TEMPORAL DYNAMIC PATTERNS OF INSTITUTIONAL ARRANGEMENTS FOR CLIMATE CHANGE MAINSTREAMING IN ESWATINI

The institutional arrangement in Eswatini can be grouped in three categories: National bodies, national policies/documents and international conventions (Figure 4.1) as explained below.

4.1.1 1991-1997: ESTABLISHMENT OF INSTITUTIONAL ARRANGEMENTS FOR CLIMATE CHANGE MAINSTREAMING IN ESWATINI

The year 1991 marked the start of institutional arrangement in Eswatini with the establishment of what was then known as Swaziland Meteorological Services, the first national body established in the field of climate monitoring (Figure 4.1). In 1992, Eswatini took part in the 1992 Rio Earth Summit and since then, became a Party to the UNFCCC. However, it was four years later, i.e. in 1996 that it deposited its instrument of ratification to the UN and agreed on the United Nations Framework on Climate Change. It also ratified the Convention on Biodiversity and the United Nations Convention to Combat Desertification (UNCCD) in 1994 and 1996, respectively. The Government of Eswatini then mandated the Ministry of Tourism and Environmental Affairs to monitor environmental and climate change issues at the national level. The Ministry ensured that
there was the creation of synergies with relevant ministries and mainstreaming of climate change into national sectoral policies, planning, and programmes. Subsequently, the Ministry established interim arrangements under the Department of Meteorology and temporarily assigned it to coordinate, monitor and report on all climate change implementation in Eswatini. The Ministry nominated the National Climate Change Focal Point under the Department of Meteorology to lead and coordinate climate change activities in the country.

In 1997, further national policy/documents and international conventions were signed and ratified. For example, the then Government of Swaziland developed the Eswatini Environment Action Plan. It also ratified the Convention on International Trade in Endangered Species (CITES) of Wild Flora and Fauna in 1997. Also, in 1997, the National Development Strategy (NDS) and what is known as the Vision 2022, which articulated the vision of transforming Eswatini into a developed country, were planned.
Figure 4-1 Temporal dynamic patterns of the Institutional Arrangements for climate change mainstreaming in Eswatini
4.1.2 2000-2010: DEVELOPMENT OF ADDITIONAL ENVIRONMENTAL NATIONAL POLICIES RELATED TO CLIMATE CHANGE MAINSTREAMING

The National Action programme to the UNCCD was developed in 2001 in Eswatini to nationalise the Convention on combating desertification. In 2002 and in line with the reporting obligations under the Convention, Eswatini prepared and submitted its Initial National Communication (INC). This was the second national policy arrangement in the process of institutional arrangement in the country (Figure 4.1). The only international event that took place in this period (2000-2010) was the ratification of the Kyoto Protocol.

In 2010, recognising the interdisciplinary nature of climate change, Eswatini established and gazetted a multi-stakeholder National Climate Change Steering Committee. Specifically, the Ministry of Tourism and Environmental affairs established the National Climate Change Committee (NCCC) through Cabinet approval to guide the work on climate change in the country. The primary function of the NCCC is to strengthen and mainstream the national climate change policymaking process locally by enhancing coordination between the various sectors affected and the varying government levels. The NCCC included various bodies involved in environmental management, which had important roles to play in mainstreaming climate change into their respective works. These bodies include the Ministry of Natural Resources and Energy, Sectoral Ministries...
such as those responsible for water and agriculture, Eswatini National Trust Commission, Eswatini Environment Authority (SEA), National Disaster Management Authority, Town Councils, Municipalities, Universities, Research Centres, River Basin Authorities, Development partners, and Non-Governmental Organizations (NGO). Finally, in this period 2000-2010, the First Technology Need Assessment (TNA) study took place.

4.1.3 2012-2016: EXCLUSIVE PERIOD SHOWING ESWATINI’S AMPLIFIED COMMITMENT TO CLIMATE CHANGE MAINSTREAMING

It was in this period that the Second National Communication (SNC) and Third National Communications (TNC) were produced in 2012 and 2016, respectively. The TNC provided key information on institutional arrangement as indicated in Table 4.1. Furthermore, the NCCC spearheaded the development and subsequent approval of the National Climate Change Policy in 2016. It was accompanied by the Eswatini’s National Climate Change Strategy and Action Plan to provide information regarding the country's priorities for climate change management. The National Policy on Climate Change emphasised the country's intentions in committing to building a low carbon and climate resilient economy in line with Vision 2022 as outlined in the National Development Strategy. Eswatini also conducted its first national Technology Needs Assessment (TNA) in 2010 and the second in 2016, to identify the priority areas where mitigation and adaptation measures to address the key impacts of Climate
Change were most needed. As part of its contribution to the new climate change agreement, Eswatini submitted its Intended National Determined Contributions (INDCs) to the UNFCCC Secretariat in 2015. The INDC supported the achievement of Eswatini’s developmental objectives of sustainable development, poverty eradication and enhanced adaptive capacity. The contributions in the INDC were in alignment with the country’s National Development Strategy and the National Climate Change Policy (Figure 4.1; Table 4.1). The INDC, therefore, became a vehicle for Eswatini under the Paris agreement that is ratified in 2016. Finally, in this period (2012-2016) the drafting of the Climate Change Bill in 2016 and the ratification of the Paris Agreement occurred. The build-up of all these national policy documents revealed the need to develop an overarching legislation to ensure that the management of climate change was efficient and there was no duplication of efforts in the country.
### Table 4-1 Summary of Climate Change Specific National policy instruments in Eswatini

<table>
<thead>
<tr>
<th>National Policy Instruments</th>
<th>Synopsis</th>
</tr>
</thead>
<tbody>
<tr>
<td>First National Communication to UNFCCC, 2002</td>
<td>It describes the country’s position to issues and effects of climate change. The national communication considered Eswatini’s unique national circumstances and capabilities in playing an effective role in international cooperation towards obligations outlined in articles of the Convention on Climate Change. The Communication shows that whilst Swaziland’s emission of GHGs in per capita CO2 equivalents is modest, the country also commands a rather large CO2 sink owing to its man-made forests are amongst the largest in the world.</td>
</tr>
<tr>
<td>Second National Communication to UNFCCC, 2012</td>
<td>Builds on the work done under the first national communication by updating and reporting additional information to reflect new developments and any other changes that have taken place since the submission of the second national communication.</td>
</tr>
<tr>
<td>INDC (2015)</td>
<td>Submitted ahead of COP21 to highlight the country’s response to climate change both to reduce GHG emissions and adapt to the impacts of climate change. Supports the achievement of Swaziland’s developmental objectives of sustainable development, poverty eradication, and enhanced adaptive capacity</td>
</tr>
<tr>
<td>National Climate Change Policy</td>
<td>Aims to provide the enabling policy framework to guide Swaziland to address the challenge posed by climate change. Also provides an enabling environment for communities and investors to take advantage</td>
</tr>
<tr>
<td>Year</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>2016</td>
<td>of the opportunities presented by climate change to invest in activities that work to eliminate poverty and build a climate-resilient Eswatini.</td>
</tr>
<tr>
<td>Third National Communication to the UNFCCC 2016</td>
<td>Builds on the work done under the second national communication by updating and reporting additional information to reflect new developments and any other changes that have taken place since the submission of the second national communication. It presents the country's national climate and socioeconomic circumstances, a national greenhouse gas inventory, a vulnerability assessment, adaptation and mitigation measures, a stock-take of the existing capacities and gaps.</td>
</tr>
<tr>
<td>TNA – Climate change adaptation (2016)</td>
<td>Identifies and prioritizes technologies that can contribute to mitigation and adaptation goals, identifying barriers hindering the acquisition, deployment, and diffusion of prioritized technologies; and including the development of Technology Action Plans (TAP).</td>
</tr>
</tbody>
</table>
4.2 SWOT ANALYSIS OF THE INSTITUTIONAL ARRANGEMENTS FOR CLIMATE CHANGE MAINSTREAMING IN ESWATINI

The results of the SWOT analysis are presented in Table 4.2. This table summarizes the strengths, weaknesses, opportunities and threats for legal and policy frameworks as well as institutional structures and technical capacities. This SWOT reveals that, although there are weaknesses and threats to current legal and policy frameworks as well as institutional structures, there are also strengths and opportunities that can be maximized for an effective institutional arrangement.
Table 4.2 Summary of the results of SWOT analysis

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>STRENGTHS</th>
<th>WEAKNESSES</th>
<th>OPPORTUNITIES</th>
<th>THREATS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal and policy frameworks</td>
<td>- Ratification of the UNFCCC, Kyoto Protocol and Paris Agreement</td>
<td>- Inadequate implementation of the National Climate Change Policy</td>
<td>- Small country and population size</td>
<td>- High poverty rates and poor economic growth</td>
</tr>
<tr>
<td></td>
<td>- Consistency to international reporting obligations under the UNFCCC through the National Communications</td>
<td>- Out-dated national climate change strategy and action plan</td>
<td>- Foundational enabling policy framework for effective implementation of climate change adaptation and mitigation measures</td>
<td>- Lack of buy in from ministries and institutions</td>
</tr>
<tr>
<td></td>
<td>- Climate change considerations mainstreamed into national policies</td>
<td>- Absence of overarching legislation for climate change implementation</td>
<td>- Climate change mainstreamed into the National Development</td>
<td>- Low awareness of individuals, organizations and institutions about climate change vulnerability, impacts and adaptation to build individual and</td>
</tr>
</tbody>
</table>
- Drafting of Climate Change Bill initiated
- Intended National Determined Contributions (INDCs) to the UNFCCC as part of its contribution to the Paris Agreement submitted.
- Developed National Climate Change Policy and National strategy and Action Plan

<table>
<thead>
<tr>
<th>- Drafting of Climate Change Bill initiated</th>
<th>- Inefficiencies, duplication and conflicting mandates among national institutions and ministries in implementation of national climate related strategies</th>
<th>- Strategy and climate related policies</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Intended National Determined Contributions (INDCs) to the UNFCCC as part of its contribution to the Paris Agreement submitted.</td>
<td>- Possible synergies among institutions leading climate and related agreements, conventions and protocols</td>
<td>- Possible synergies among institutions leading climate and related agreements, conventions and protocols</td>
</tr>
<tr>
<td>- Developed National Climate Change Policy and National strategy and Action Plan</td>
<td>- Inefficiencies, duplication and conflicting mandates among national institutions and ministries in implementation of national climate related strategies</td>
<td>- Insufficient capacity for adaptation</td>
</tr>
<tr>
<td>- National Focal Point</td>
<td>- No legal arrangements to</td>
<td>- Insufficient public awareness of the options that individuals and communities can play in responding to climate change; and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Insufficient understanding of climate change (causes, effects and implications) at national and community level.</td>
</tr>
<tr>
<td>Institutional Structures and technical capacities</td>
<td>designated to lead all climate change activities in Ministry of Tourism and Environmental Affairs</td>
<td>put in place permanent organizational structures.</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>- Established interim arrangements for climate change coordination under the Department of Meteorology</td>
<td>- Project based implementation of climate change measures</td>
<td></td>
</tr>
<tr>
<td>- Cabinet approved National Climate Change Committee established</td>
<td>- Insufficient capacity of the coordinating institution</td>
<td></td>
</tr>
<tr>
<td>- Trained national experts under climate change projects</td>
<td>- Scarcity/unavailability of national experts and over reliance on external consultants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Lack of incentives and</td>
<td></td>
</tr>
<tr>
<td>adequate funds to maintain a permanent team</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weak National Climate Change Committee</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
5 DISCUSSIONS

5.1. INSTITUTIONAL ARRANGEMENT AND POLICY DEVELOPMENT

Institutions can be categorized into three groups, i.e. private, public and civic, and these can be subdivided into formal or informal institutions (Casson, Giusta, & Kambhampati, 2010). Alternatively, institutions may include both tangible governance and organizational structures (formal) as well a ‘rules of the game’ (here legal documents, policies, regulations, conventions, etc.; institutional arrangements) which regulate the nature of human interactions (Knill, 2001). In the context of the present study, the focus was on public institutions with a formal existence in Eswatini. Specifically, for climate action, institutions play important role (Jakimow, 2015) as climate change implementation and mainstreaming requires effective institutional leadership, relevant policies and programs to respond to future climate impacts, catalyse interest and action of stakeholders for climate action (Smith et al., 2019). In several countries, some milestones have been reached in terms of institutional arrangement (Chevallier, 2012; Giddens, 1979). Specifically, in Eswatini for example, the establishment of Meteorological Services and the subsequent ratification of several international conventions (1991-1997) marked the start of institutional arrangements for climate change. In 2000-2010,
national policies were formulated and adopted and the most recent period (2012-2016) was dominated by the development of further national policydocuments (see Table 5-1). As such, the present study reveals not only the different institutions put in place in Eswatini to respond to the need of climate change actions but also it also reveals when these institutions have gradually come into existence. In this arrangement, the Ministry of Tourism and Environmental Affairs is the national designated authority for climate change and environmental management in Eswatini (Government of Swaziland, 2016b). However, the lack of legal mandates to define clearly institutional structures and modalities at the national level is a barrier towards climate change implementation and mainstreaming (Banuri, 2009).

In addition, the study reveals different policy and conventions on climate change inherent to the dynamic of institutional arrangements (Mapfumo et al., 2014). For example, there has been the ratification of international agreements and protocols and development of various policies by the Government of Eswatini over the past 20 years. However, climate change specific policies and organisational structures are few, showing the piecemeal approach in the implementation of climate change policy in the country (Manyatsi, Masarirambi, & Hachigonta, 2012). Nonetheless, this piecemeal implementation is somewhat an evidence of progress towards mainstreaming climate change into several sectors even though, initially,
there was no coordinated actions for implementation (Mavuso, Manyatsi, & Vilane, 2015). National policy and strategies on climate change only came into existence in 2016 (Government of Swaziland, 2016b). Indeed, the action towards climate change implementation and mainstreaming in Eswatini has been predominantly reactionary driven by the processes, provisions, and recommendations of the UNFCCC. Similarly, in Zambia, noted that climate change activities have, to date, been entirely driven by its adherence to the UNFCCC process through National Adaptation Plans and National Communication (Chevallier, 2012). The principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR&RC) under the UNFCCC recognises that countries’ responses to climate change cannot be the same (Verschuuren, 2013). Therefore, it recommends that countries use the UNFCCC processes to guide the national policy framework and ensure that any institutional arrangement for climate change is relevant and effective (Gagnon-Lebrun & Agrawala, 2006).

Considering the lack of coordinated actions, the National Climate Change Policy and the Intended Nationally Determined Contributions provide an opportunity for the country to guide climate change implementation and management (Government of Swaziland, 2016a). From the same perspective, the country’s ratification of the international environmental agreements such as the UNFCCC, UNCBD, and UNCCD reveals its commitment towards sustainable development (Government of
Swaziland, 2016). The study noted that most countries, to date, had policies and strategies relevant to climate change implementation as depicted in Figure 5-1 (Law, 2019). However even with the existence of these policies, (SADC, 2010) noted that most actions found in the policies are not specifically created to address issues of climate impacts, but some are of importance in the response to climate change. However, the present study also notes that even with Eswatini ratifying the UNFCCC and its protocols, in comparison to other Southern African countries, it has always been delayed in its response to show commitment as depicted in Figure 5-2 and Figure 5-3 (Walmsey & Tshipala, 2007).

Nevertheless, the present study found that climate change specific policies were developed as part of the reporting requirements of the UNFCCC and related platforms (Alhuseen & Kozová, 2014). This means that climate change has not been receiving funding from the national fiscal budget but relies on external financing mechanisms under the Convention (Government of Swaziland, 2016d). Arguably, this means that the country has been implementing and mainstreaming mainly under Convention-led processes. Gupta et al. (2003) showed that consistency in climate change policy and mainstreaming must go beyond the scope of the UNFCCC framework to realise its full potential. They also observed that the international institutional environment has grown more intricate with an increase in environmental conventions and protocols (Halsnæs et al., 2014). This international institutional proliferation and expansion have
resulted in institutional density saturating the political manoeuvring space in countries (Jakimow, 2015). Eswatini as a party to various international conventions including the UNFCCC, UNCBD, and UNCCD must adapt continuously its national governance space to accommodate these international mandates and obligations (Adaptation Committee, 2014; Government of Swaziland, 2016d). Despite the institutions and policy documents, the absence of an overarching legislation has resulted in poor implementation and mainstreaming because of the unclear roles and responsibilities among sectors (Jordan et al., 2004). Forming the gazetted National Climate Change Committee was an initial crucial step towards mainstreaming climate change across relevant development and economic sectors but there is more to be done to ensure that its functions are sustainable and effective (Government of Swaziland, 2016b; Van Tatenhove et al., 2000).

OECD (2008) stipulated that the development of climate policy and implementation mechanisms has been on the increase in developing countries. Similarly, Eswatini’s environmental and climate change policy awareness has grown substantially (Government of Swaziland, 2016d). However, compared to other countries in the SADC region, the country is not behind in its institutional response in making up its national overarching legislation for climate change implementation (Mupedziswa & Kubanga, 2017). Eswatini has also taken considerable action towards aligning with the country level priorities; however, the lack of buy-in from
economic sectors has resulted in addressing issues in isolation and missing opportunities for integration and mainstreaming (Government of Swaziland, 2016). As a result, translation to actual action on the ground has faltered because of socioeconomic and political factors (Nygaard & Hansen, 2015). Additionally, not all countries had in place tangible programs and projects to operationalize the actions prioritized in their policy objectives. Like Eswatini, Malawi has quite several policies relevant to climate change including the National Biodiversity Strategy and Action Plan, National Water Policy, National Forestry Policy and the National Agricultural Policy. Nevertheless, with all these policies in place, the Government of Malawi has only implementable projects targeting the Forestry sector through afforestation and reforestation programs with most
Figure 5-1 Global distribution of laws and policies on climate change (Law, 2019)
Figure 5-2 Southern African countries status of ratification under the UNFCCC (Walmsley and Tshipala, 2007)
policy objectives missing in implementable programs. This is also a similar case for Zambia, where identified priority areas still have no clearly outlined programs for implementation. Walmsey and Tshipala (2007) explained that for the Zambian case, non-governmental organizations have tried to fill the gaps through adaptation projects where government is lacking behind. Alhuseen and Kozová (2014) clearly emphasized the need for national governments to ensure that they take the lead in addressing climate change issues by developing a coordination mechanism for widespread complementary climate change implementation. The limitations in local expertise and limited engagement of local experts, in climate change implementation continue to undermine climate action (Berrang-Ford et al., 2011).

Even political influences may slow down the pace of climate change mainstreaming (Alhuseen & Kozová, 2014). From this perspective, the UNFCCC acknowledges the needs for national climate policies to be compatible with development priorities to increase “social acceptability and political feasibility” and improve climate change contributions (Beg et al., 2002). Enhanced integration of climate policy and development goals can strengthen synergies, improve effectiveness and avoid duplication of efforts (Albrecht & Arts, 2005). The lack of political will is fuelled by the limited synergy between climate change and development goals. This is
common in African countries, which is also true for Eswatini. For example, in Kenya, the government developed the Climate Change
Figure 5-3 Climate change laws and policies in Southern Africa (SADC, 2010):
Action Plan (CCAP) to enable the integration of climate considerations into Kenyan Policy context. However, in 2013 the President rejected a climate change Bill that would have solidified the Climate Change Action Plan and introduced national legislation and an independent climate change authority (Naess, Newell, Phillips, & Tanner, 2015). In Eswatini, the preparations for the climate change Bill began in 2016 and still in 2019 progress on its development are still unknown. The same is true for Mozambique even though they have a contentious political atmosphere (Chevallier, 2012).

5.2 THE SWOT ANALYSIS

5.2.1 STRENGTHS

Eswatini has taken notable actions to ensure that climate change is part of the development agenda and such actions communicate the country’s commitment to climate action (Government of Swaziland, 2016c). As a signatory to the UNFCCC and the Kyoto Protocol (United Nations, 2011), Eswatini has committed to promote sustainable development, to contribute to the achievement of the Convention’s ultimate objective and to assist Annex I Parties (Rosenstock et al., 2018) to fulfil their commitments to limit and reduce greenhouse gas emissions. As such, Eswatini takes into consideration the concerns that relate to GHG inventories, assessment of
various sectors vulnerability to climate change, identification and implementation of GHG emissions mitigation actions, through the Clean Development Mechanism (CDM) of the Kyoto Protocol under the UNFCCC (Fletcher, 2005; Government of Swaziland, 2016).

Furthermore, the country developed the National Development Strategy (NDS), an overarching development framework to promote sustainable development and inclusive prosperity in the medium to long term (Fagerber (Fagerberg, Srholec, & Verspagen, 2010; Government of Swaziland, 2013). The National Development Strategy specifies the need to ensure that development processes are more climate-resilient and lower in carbon emissions to meet the challenges and uncertainties of climate change (Government of Swaziland, 2016). Integration of climate change issues into the country’s development agenda shows that the country identifies climate change as a national priority and that there is a political will to ensure its integration to developmental processes, which is a noteworthy strength for future climate action in the country (Adger, 2000; Government of Swaziland, 2013, 2016a).

Eswatini also took concrete steps in solidifying its ambition to mitigating and adapting to climate change by developing the National Climate Change Policy and National Climate Change Strategy and Action Plan, approved by Cabinet, to promote low carbon and climate resilient
development (Government of Swaziland, 2016b). The two instruments on climate change show the intent to create an enabling environment for climate change implementation and mainstreaming in national development policies and programmes (Government of Swaziland, 2016). The National Climate Change Policy aligns with national priority sectors and national policy documents. Several National Policies address actions on how to mitigate and adapt to climate change impacts to a satisfactory level. Table 5-1 below shows a detailed description of some national policies relevant to climate change.

Table 5-1 Eswatini climate change related national policies (Government of Swaziland, 2016c)

<table>
<thead>
<tr>
<th>Title/ Year</th>
<th>Description</th>
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<tr>
<td>Swaziland Environment Action Plan (1997)</td>
<td>Aims to ensure the integration of environmental concerns into the national development planning process. The report comprises sections on the overall state of the environment, the infrastructure for environmental management, major environmental problems and recommended solutions, the implementation plan (a medium-term plan for implementing recommended strategies to address major environmental issues and problems), and implementation and monitoring strategies</td>
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and a policy and strategy framework

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<th>National Disaster Risk Management Policy (2011)</th>
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| Drafted as the country experienced a combination of extreme weather-related hazards associated with epidemics and exogenous economic shocks. It aims to provide a well-coordinated framework to disaster risk management and disaster risk reduction in Swaziland aligned with national development instruments, regional and international instruments for Disaster Risk Management and Disaster Risk Reduction and current and emerging challenges such as climate change.

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<tr>
<th>Swaziland’s State of Environment Report (2013)</th>
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| Fulfils a legal obligation of the Eswatini Environment Authority to produce a State of the Environment report once every two years that reports to the nation on the condition of the country’s environment and the multiplicity of factors and influencers that affect the environment. It intends to provide strategic guidance on the action that needed to improve the overall management of the country’s environment at policy and technical level. Theme 3 on the “Atmosphere” also covers climate change issues.

In addition, the country has continuously adhered to its reporting obligations under the UNFCCC, preparing and submitting its Initial
National Communication (INC), Second National Communication (SNC) and Third National Communications (TNC) in 2002, 2012 and 2016, respectively. The national communications have not only fulfilled the international reporting obligations of the country under the UNFCCC, but they inform national policies on the country’s status on its GHG emissions, mitigation, and adaptation action and the capacity needs for the country (Masud et al., 2017; Oppenheimer & Petsonk, 2005). In its efforts to institute climate change, the Ministry of Tourism and Environmental Affairs established interim arrangements for climate change coordination in the country under the Department of Meteorology, which is acting as the country’s Designated National Authority reporting to the UNFCCC on all climate change related works (Government of Swaziland, 2016). The Department has gained considerable experience in climate change implementation and mainstreaming over the years. The Climate Change Unit in the Department of Meteorology works on projects focusing on developing national GHG inventories, vulnerability and adaptation assessments, climate readiness and national communications to inform national policies (Government of Swaziland, 2013; Office, 2018). Implementation and coordination of climate change projects and programmes have directly benefited national stakeholders and experts through capacity building and awareness-raising initiatives by the Ministry of Tourism and Environmental Affairs, thus adding to the national human technical capacity on climate change (Government of Swaziland, 2016).
The National Focal Point designated to lead all climate change activities in the country has been constant over the past 20 years and has gained considerable experience at national and international level (Government of Swaziland, 2016). The Cabinet also approved another organizational structure specific to climate change mainstreaming, that is, the National Climate Change Committee in 2010, a multidisciplinary committee with representation from all government ministries, the private sector, civil society, academia, and communities (Government of Swaziland, 2016; Government of Swaziland, 2016d). The primary role of the committee is to serve as an overall country coordination mechanism that provides strategic and policy guidance on climate change issues in the country. According to Halsnæs et al. (2014) this inter-ministerial approach adopted by Eswatini for coordination is used extensively by countries for multilateral conventions to improve resource mobilization and to enhance concerted efforts for climate change implementation (Bele et al., 2011).

5.2.2 Weaknesses

The establishment of the National Climate Change Policy was crucial in bridging the gap in climate change policy. However, according to the Third National Communication, climate change implementation has resulted in inadequate action to date. The successful implementation of this policy rests on effective institutional arrangements and an improved internal
capacity of the Ministry of Tourism and Environmental Affairs to address its existing and new tasks under the National Climate Change Policy (Government of Swaziland, 2016b). However, as a coordinating institution, the Ministry of Tourism and Environmental Affairs does not have the working or legal arrangements to put in place permanent organizational structures. Climate change mainstreaming in Eswatini therefore is still done on an ad hoc basis without a permanent national coordination unit (Government of Swaziland, 2016b). As a result, the National Climate Change Policy has not been translated into tangible actions on the ground, even though strategies and action plans are in place (Government of Swaziland, 2016b), thus demonstrating the inadequacy and limitations of the national response to climate change (Government of Swaziland, 2016d).

Mabobane and Kola (2014), in their analysis of regulatory frameworks, noted that although countries develop climate change laws and policies, concrete measures are usually not well articulated in context. This can also be said for the case of Eswatini where application of the existing policy and action plan on climate change is still slow. Conversely, Kouw and Petersen (2018) supported by Pauleit et al. (2018) stated that well-articulated legal and policy frameworks do not always translate to adequate application, enforcement and compliance.
The absence of overarching legislation for climate change implementation in Eswatini also has led to the uncoordinated implementation of national strategies, leading to inefficiencies, duplication and conflicting mandates among other national institutions and ministries (Government of Swaziland, 2016). This is also true for the case of South Africa. In comparison to policy development, South Africa has implemented more diverse policies and laws to deal with climate change than Eswatini. However, according to Mabobane and Kola (2014) South Africa is also plagued by issues of inadequate implementation due to weak enforcement and poor compliance. In most countries fragmentation and the siloed approach are the biggest barriers to environmental management which the SWOT analysis for Eswatini has shown resulting from conflicting and competing mandates (Kotze, 2009).

Furthermore, climate change policy development in Eswatini is still in its early stages driven by international reporting obligations (SADC, 2010). However, the limited simultaneous bottom up approach also at sectoral level has resulted in difficulty in integrating and mainstreaming climate change in key economic sectors (Alhuseen & Kozová, 2014).

Climate change implementation is interdisciplinary, thus requiring coordinated efforts among national institutions (Adger, 2000). The lack of
defined and demarcated domains, roles and responsibilities among ministries has caused overlaps regarding climate change actions in the country (Chevallier, 2012). The Ministry of Tourism and Environmental Affairs established the National Climate Change Committee to serve as an overall country coordination mechanism that provides strategic and policy guidance on climate change issues in the country (Government of Swaziland, 2016b). However, even though the committee exists, there has been very weak coordination to date, mainly due to a limited capacity of members of the committee, weak institutional arrangements and the non-existence of formal cooperation arrangements (Government of Swaziland, 2013, 2016a, 2016d). Such challenges have limited the reach of the committee in fulfilling its duties to facilitate the integration of climate change into the broader development agenda, both horizontally across sectors and vertically through different levels of society (Brown, 2011).

Furthermore, although the Government of Eswatini has made progress since the submission of the First National Communication to UNFCCC in 2002, Eswatini still faces several challenges in undertaking detailed GHG inventories under the national communications (Government of Swaziland, 2016; Whiteside et al., 2007). The national communication processes have crucial components that inform the development of effective policies, strategies, and mitigation measures (Chevallier, 2012; Office, 2013). Most work on climate change implementation and
mainstreaming is done in an adhoc manner through project staff and consultants (Government of Swaziland, 2013). Because of the lack of a legal framework to establish permanent hierarchical structure and inadequate resources to maintain a permanent team, there is very limited continuity in climate change implementation (Agder, 2007; UNFCCC, 2013). There is also an over-reliance on international consultants for climate change projects and policy developments because of limited technical capacity locally, which diminishes the country's self-sufficiency in climate change implementation (Fussel, 2007). Since the country submitted its Nationally Determined Contribution (NDC) under the Paris Agreement, it is necessary to review and update the current National Climate Change Strategy and Action Plan to ensure synergies and coherence in national development priorities and the NDC priority sectors.

Eswatini’s National Development plan highlighted the importance of climate change in ensuring the sustainable development of the country towards the prosperity vision of a first world status by 2022 (Government of Swaziland, 2016c). The study notes that poverty eradication, employment creation and the HIV/AIDS are priority action areas for the country (Mashinini et al., 2006). Climate change is not a priority area in the eSwatini’s national development plan. The plan merely mentions climate change disregarding the socio-economic benefits that result from adopting and implementing climate change. Brown (2011) highlights that
policymakers need to understand that sustainable development, environmental management and climate change are not contradictory, but can be actioned in such a way that they simultaneously respond to these issues.

**5.2.3 OPPORTUNITIES**

The National Climate Change Policy of 2016 provides a backbone for climate policy in the country (Government of Swaziland, 2016b). It proposes and explores the institutional arrangements, roles, and responsibilities of Eswatini government actors within climate change. The National Climate Change Policy also provides an enabling policy framework for effective implementation of climate change adaptation and mitigation measures to enhance climate-resilient and inclusive low-carbon green growth investments. These proposed arrangements provide a foundation that can be useful to inform the drafting of the new legislation arrangements (Cuevas et al., 2016; Mavuso et al., 2015). The alignment of climate change considerations into national policies also provide an opportunity for strengthening the implementation and mainstreaming of future climate action (Adaptation Committee, 2014; Albrecht & Arts, 2005; Naess et al., 2015; Winkler, 2005). Eswatini is a party to various climate and environmental agreements, conventions, and protocols, which have designated institutions to lead their activities to fulfil the commitments and
goals of the conventions. Many of these activities overlap and hence there is an opportunity to reinforce synergies by working together especially with the small population size (Smith et al., 2019). For example, Swaziland is a signatory to UNFCCC, a UN Convention to Combat Desertification and UN Convention on Biodiversity, which supports the projection of the environment for sustainable development. Although climate change is a threat to sustainable development, it still provides an opportunity for transitioning into a low carbon and climate resilient developmental pathway to drive economic growth (Oberlack & Eisenack, 2014). Climate change integration into national priorities provides a unifying force and propels key economic sectors to work together (Ayers, Huq, Wright, Faisal, & Hussain, 2014). Another opportunity is the help provided by the various multilateral agreements for developing countries to strengthen their institutions through the provision of technical capacities and financial mechanisms to fund enabling activities like reporting, monitoring capacity building and implementation (Bachus, Herck, & Dyck, 2015). The help received can supplement and support the limited resources the Government of Eswatini, for example, the Global Environmental Facility and Green Climate Fund (Vanderheiden, 2015). According to SADC (2010) the weakness of the existing institutional arrangement for climate change implementation for African counties can be an opportunity for reconfiguring redesigning new institutions that for long term climate resilience as new climate change technologies emerge.
5.2.4 Threats

The major threat to the achievement of national climate change objectives is the socio-economic dynamics of Eswatini driven by the high poverty rates, high unemployment rates, poor economic growth and food insecurities (Urquhart & Lotz-Sisitka, 2014). With the country burdened with increasing vulnerabilities of communities its actions, therefore, translate into prioritizing reduction of poverty levels, improving food security and health and education systems than climate change implementation and mainstreaming (Matondo et al., 2005; Mavuso et al., 2015). Beyond the inadequate availability of financial resources and limited human capacity to address climate change, the major threat is the low level of public awareness of the threats of climate change (Mapfumo et al., 2014; Nkonde et al., 2014). The various gaps pertaining to climate change public awareness are highlighted as follows:

- Low awareness of individuals, organizations, and institutions about climate change vulnerability, impacts, and adaptation to build individual and institutional capacity for adaptation (Chen, 2017).
- Insufficient public awareness of the options that individuals and communities can adopt in responding to climate change (Office, 2018), and
- Insufficient understanding of climate change (causes, effects, and implications) at national and community level.
These low levels of awareness have resulted in the lack of buy-in from government and ministries in ensuring that they give climate change activities the support and prioritization required to create a sustainable system (Government of Swaziland, 2013, 2016d). Climate change implementation and mainstreaming in Eswatini is contingent upon the continuous strengthening of the country's technical capacities, financial support, policy framework and institutional arrangements (Government of Swaziland, 2016b, 2016d). The study observed that the challenges towards climate change implementation and mainstreaming are similar across African countries from technical, political, institutional and organisational, economic, social and biophysical dimensions. Climate change challenges are not specific to Eswatini but a reality that other countries in the Southern African Development Community (SADC) experience (Chevallier, 2012). The SADC yearbook on climate change detailed the various challenges associated with climate change and are summarised in Table 5-2. There are many capacity and technology constraints that Eswatini is facing regarding climate change. However, these constraints are not unique to Eswatini. For example, climate change affects Eswatini like other countries in the SADC region in various sectors including the land, agriculture, water, forests, and health sectors, and several challenges are (see Tables 5-2, 5-3 and 5-4). Pauleit et al. (2018) agreed that climate change issues have received little attention from many African governments over the past two decades. This is largely because of
high poverty rates, an increase in natural disasters and poor economic development, all of which have reduced the ability of countries to respond effectively to climate change (Pauleit, et al., 2015).

Table 5-2 Challenges associated with climate change, climate variability and global warming in SADC countries (adapted from SADC; 2010)

| Challenges associated with climate variability, global warming and climate change | Angola | Botswana | DRC | Lesotho | Madagascar | Malawi | Mauritius | Mozambique | Namibia | Seychelles | South Africa | Swaziland | Tanzania | Zambia | Zimbabwe |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Floods | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Brought | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Extreme Events | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Hydrological Changes | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Soil / Coastal Erosion | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Water Stress | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Drought | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Declining Water Quality | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Sea Level Rise | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Sea Surface Temperatures (SST) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Mangrove Destruction | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Outbreak of vector borne diseases | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Temperature | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Salt water Intrusion | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Changing precipitation patterns | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Receding shorelines | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Wind storms / Storm surges | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Destruction of coral reefs | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Tidal Surges | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Coastal inundation | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Water pollution | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |

This is also true for Eswatini, where efforts towards poverty alleviation and economic development are given priority over environmental and climate change management (Nkonde et al., 2014). However, the findings from
the present study show that Eswatini has gradually implemented various measures including the development policies and establishment of committees to coordinate efforts on tackling climate change (Government of Swaziland, 2016a).

Table 5-3 Vulnerable sectors in SADC countries (adapted from SADC, 2010)
Table 5-4 Vulnerability and challenges SADC countries (adapted from SADC, 2010)

<table>
<thead>
<tr>
<th>Vulnerability and Challenges</th>
<th>Angola</th>
<th>Botswana</th>
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<th>Malawi</th>
<th>Mauritius</th>
<th>Mozambique</th>
<th>Namibia</th>
<th>Seychelles</th>
<th>South Africa</th>
<th>Swaziland</th>
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There is a vast number of policies and institutional structures for Eswatini related but not specific to aspects of climate change (Brown, 2011). Several policies address anthropogenic activities, which contribute to climate change. The Government itself highlighted the urgent need for enhancing climate change adaptation: “For Eswatini, adaptation is not an option but is a necessity; however, there is still a need for strengthening institutional and human resources for the country to adapt to the impacts of climate change” (Government of Swaziland, 2013). Therefore, there is a need to harmonise these climate change challenges and constraints, so that climate action progress is maximised and tracked against the set targets under the National Climate Change Policy, the National Climate
Change Strategy and Action Plan and the Intended Nationally Determined Contributions.
6. CONCLUSION AND RECOMMENDATIONS

6.1 TEMPORAL DYNAMIC PATTERNS OF INSTITUTIONAL ARRANGEMENTS FOR CLIMATE CHANGE MAINSTREAMING IN ESWATINI

The temporal dynamic patterns show that Eswatini has always used a top-down approach in policy development, where most policy documents in the country are based on the recommendations and obligations of reporting requirements to the United Nations Framework Convention on Climate Change. In this regard, the results show that the major barrier in climate change mainstreaming is the lack of an overarching legislation that clearly outlines the appropriate institutional arrangements for coordination and sectoral integration. Even with the existence of the National Climate Change Policy that shows the country’s intent on climate action, a legal instrument would cement all the prioritised action in the NCCP. However, it is critical that Eswatini uses the past twenty years of ad-hoc climate change implementation and use it as a foundation to define and legally set the stage for what climate change implementation and mainstreaming will be for the country situation for now and in the future. This will not only ensure improved coordination and integration of climate change in priority sectors, but it will clearly show that climate change is a developmental priority for the country.
6.2 SWOT ANALYSIS OF THE INSTITUTIONAL ARRANGEMENTS FOR CLIMATE CHANGE MAINSTREAMING IN ESWATINI

The analysis by the SWOT show that the major weakness and in the existing institutional framework on climate change in Eswatini have been predominantly because of the use of predefined arrangements from the climate change projects financed through bilateral and multilateral agencies. On the same note, the study also concludes that the same weakness also provided an opportunity for the country with limited resources; to fund the enabling activities of climate change mainstreaming which would have been otherwise overlooked. The study also notes that even though for Eswatini clearly outlines sustainable development as a priority in its National Development Plan and Strategy. However with the current existing state of affairs, the country is not taking advantage of how climate change implementation can be a driver for sustainable development.

Apart from the reporting requirements to the UNFCCC, Eswatini does not have a formalised national system for monitoring climate change implementation and mainstreaming. It is clear in the study that the country reports to the UNFCCC on climate change; however, there is no tangible information on how the country translates the said information to sectors to inform policies and ensure that there is continuous improvement. Setting monitoring systems with institutional frameworks for climate change
mainstreaming in the country can ensure that climate action is embedded in all sectoral strategies and there is no duplication of efforts. The SWOT analysis shows that the National Climate Change Focal point has been the only constant position since the inception of climate change processes in the country beyond the auspices of the climate change projects. Occasionally the National Climate Change Committee in the latter years had been operational, but with very limited impact. Therefore this means implementation of climate change have been the enabling activities under the UNFCCC which also have solely relied on projects in the past two decades. This means that there has been a heavy reliance on external consultants and project staff to drive climate processes making the statement by the State of Environment Report true, climate action in Eswatini has been dependant upon the foresight of individuals or consultants. This has greatly eroded the institutional memory of the National Designated Authority. Since climate change coordination in country is still mainly supported by project funds and not part of the fiscal budget, the country stands at a loss of losing the critical human resource capacity that it builds each time a climate change project is implemented.

6.3 RECOMMENDATIONS

It is therefore the view of this study that for successful climate change mainstreaming in Eswatini rests on the following recommendations to
improve its institutional arrangements and policy framework in response to climate change:

I. Developing a national climate change overarching legislation to elaborate the mandates of the Ministry of Tourism and Environmental Affairs on climate change implementation and coordination

II. Building the human and technical capacity of the national designated authority, improve its coordination.

III. Reviving the National Climate Change Committee (NCCC) to enhance its performance and give it real decision-making oversight on climate change in the country.

IV. Establish a national climate change monitoring and reporting system on climate change implementation to track the progress of the country toward a low carbon and climate resilient Eswatini.

V. Establishing a national research platform for climate change in the country to ensure that policies in the country are informed by evidence based scientific research.

VI. Conducting public awareness-raising initiatives to keep the conversation on climate change going among national stakeholders.

The cost of inaction for Eswatini would be insurmountable; therefore more concerted efforts towards climate action would propel the country towards a low carbon and climate resilient development pathway.
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