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THE EXTENT OF LESOTHO'S COMPLIANCE WITH THE PROVISIONS OF INTERNATIONAL INSTRUMENTS IN COMBATING CLIMATE CHANGE

BY

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DECLARATION CERTIFICATE

I declare that this Mini-Dissertation which is hereby submitted for the award of Legum Magister (LL.M) in Trade and Investment at International Development Law Unit, Faculty of Law, University of Pretoria, is my original work and it has not been previously submitted for the award of a degree at this or any other tertiary institution.

Sekamotho Khaketla

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LIST OF ABBREVIATIONS

CDM	Clean Development Mechanism
CER	Certified Emission Reduction units
COMESA	Common Market for Eastern and Southern Africa
COP	Conference of Parties
DfID	Department of International Development
EAC	East African Community
ERU	Emission Reduction Units
GHG	Greenhouse Gases
IPCC	Inter-governmental Panel on Climate Change
JI	Joint Implementation
LDC	Least Developed Country
MDG	Millennium Development Goal
NAPA	National adaptation Programme of Action
UNFCCC	United Nations Framework Convention on Climate Change
REDD	Reducing Emissions from Deforrestation and Forest Degradation
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
UN	United Nations
UNCED	United Nations Conference on Environment and Development

1. INTRODUCTION

1.1 Background to study

Climate change has been defined in many ways by scholars, organizations and legal instruments, but all the definitions are intertwined. In some contexts, it is defined as "a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods"[1]. It can also be conceptualized as "…the permanent deviation in weather conditions of a given area over an extended period due to both natural variability and anthropogenic processes"[2] Both these two definitions relate to how climate change is referred to in this study.

In 1992, the UN Conference on Environment and Development was held in Rio de Janeiro. The theme of the conference was the relationship between environmental trends and development at the national and international levels. Among the Conventions agreed on that required signature by members was the Framework Convention on Climate Change[3] (the Convention). Signatories to this Convention have committed themselves to addressing the specific needs and special circumstances of developing country parties, especially those that are particularly vulnerable to the adverse effects of climate change.[4] In its provisions, the Convention states that "parties should protect the climate system for the benefit of future and present generations of human kind on the basis of equity and in accordance with their common but differentiated responsibility and respective capabilities. Accordingly, developed countries should take the lead in combating climate change and the adverse effects thereof"[5].

[1] Article 1, United Nations Framework Convention on Climate Change 1992
[2] P Yanda et al *Managing a changing climate in Africa: Local level vulnerabilities and adaptation experiences,* Mkuki na Nyota Publishers Limited 2011 6-7
[3] United Nations Framework Convention on Climate Change 1992
[4] Yanda n.2 above
[5] Article 3 of UNFCCC

By 1995, countries realized that emission reductions provisions in the Convention were inadequate. They launched negotiations to strengthen the global response to climate change, and two years later, adopted the Kyoto Protocol.[67] The Protocol mainly dealt with issues of carbon emissions reductions, still focused on climate change, and was given a commitment period of 4 years (2008-2012). This Protocol "…provided for a range of so-called flexible instruments to help promote the implementation of the quantitative commitments of the developed countries and the more qualitative commitments of the developing countries"[8]. Both the Convention and the Protocol have based country commitments on the principle of common but differentiated responsibilities.[9] There is however a large number of challenges regarding the implications of the Protocol for individual countries.[10] One of these is the fact that non-Annex 1 countries also have the right to development, which the developed countries have already attained. The problem arises where these countries (non-Annex 1) have to deal with climate change mitigation but lack financial and technical capacity to be able to use clean technology in an attempt to balance development and climate change mitigation. These non-Annex 1 countries include most of African countries**.**

1.2 Statement of Research Problem

Africa is one of the most vulnerable regions in the world to climate change. This vulnerability and the limitations of poor countries to adapt to climate change challenges were highlighted in reports by the Intergovernmental Panel on Climate Change.[11] Africa has experienced warming of approximately 0.7°C across most of the continent in the 20th century.[12] These figures suggest that Africa has to take a stand in the fight against the adverse effects of climate change. The majority

[6]UNFCCC, Background on the UNFCCC: The International Response to Climate Change, http://unfccc.int/essential_background/items/6031.php (accessed on 19.11.11)
[7] Kyoto Protocol 1997
[8] M Faure et al *Climate change and the Kyoto Protocol* Edward Elgar Publishing Limited 2003
[9] Articles of the Protocol refer to obligations of Annex 1 countries. These are developed and industrialized countries and economies in transition, which have made commitments under the Convention and the Protocol. Non Annex 1 countries are developing and least developed countries. These countries have no commitments under either the Convention or the Protocol
[10] Faure n.8 above
[11] http://www.ipcc.ch/

[12] Yanda n.2 above

of African countries is least developed countries and therefore has not undertaken any commitments under the Protocol.[13] The Convention however, provided that all Parties shall formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change. This should be done taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances. They should further cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods.[14] This article gives all countries the responsibility of implementing national and regional measures geared towards addressing climate change. It makes mention of African countries, especially those adversely affected by climate change.

Lesotho is one such country. Lesotho's geographical disposition also places it as a high risk of effects from climate change. It is the only country in the world that has all its territory above 1000 meters. Lesotho experiences periods of dry spells which have over the course of time had an impact on the environment.[15] Lesotho is a signatory to both the Convention and the Kyoto protocol. However, as a least developed country, it has no obligations to undertake any commitments under any of the two instruments. Among Lesotho's biggest industries is the textiles industry. Manufacturing industries contribute adversely to the environment and in turn the climate. Wastewater is one of the largest sources of waste produced by the textile and apparel industries. Because the production of textile and apparel goods requires many different steps, wastewater is produced throughout the manufacturing process.[16] Lesotho as a member of the

[13] Non-Annex 1 countries were not obliged to make any emission reduction commitments under the Protocol
[14] Article 4(b) and (e) of UNFCCC
[15] Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa – Lesotho, http://www.adaptationlearning.net/project/supporting-integrated-and-comprehensive-approaches-climate-change-adaptation-lesotho

[16] Textiles and Apparels: Environmental and Social Issues. http://www.duke.edu/web/mms190/textiles/environmental.html

UNFCCC and the Kyoto Protocol still has a responsibility to address climate change, even if such responsibilities are differentiated from those of developed and industrialized countries.

1.3 Research Questions

The thesis will raise and address the following question (s): (i) What responsibilities, if any, do non-Annex 1 countries have towards addressing climate change? (ii) To what extent has Lesotho complied with international instruments dealing with climate change, in its national laws and policies?

1.4 Objective and significance of study

The issue of climate change is very topical globally. At present, especially in light of the ongoing COP 17 meeting[17] and the impending plans of the international community regarding country commitments in Kyoto as the first period nears its end, also taking into consideration the failure in Copenhagen[18] and Cancun[19] to agree on a successor for Kyoto, it is imperative to establish how far countries have come and how differently they can address the issue of climate change. This research is meant to adopt a legal perspective to the issue of climate change and its adaptation and mitigation. It sheds a light into individual country efforts with regard to climate change with particular emphasis placed on Lesotho as a least developed country (LDC) in Africa. The significance of this research is that LDCs have no binding obligations under both the Kyoto Protocol and the UNFCCC, but it has been shown that climate change is a worldwide problem which needs all countries' input. In doing this, this work will add academic value and

[17] The 17th Conference of the Parties (COP17) to the United Nations Framework Convention on Climate Change (UNFCCC) and the 7th Session of the Conference of the Parties serving as the Meeting of the Parties (CMP7) to the Kyoto Protocol, will be held in the city of Durban, South Africa

[18] 15th Session of the Conference of the Parties to the United Nations Framework on Climate Change (COP15) was held in Copenhagen, Denmark in 2009. The outcome was the Copenhagen Accord, which endorsed the continuation of the Kyoto Protocol but offered nothing post-Kyoto

[19] 16th Session of the Conference of the Parties to the United Nations Framework on Climate Change (COP16) was held in Cancun, Mexico in 2010. The conference called for a green climate fund and a climate technology centre, but no commitments post-Kyoto

make some relevant recommendations with regard to climate change mitigation in the context of Lesotho.

1.5 Hypothesis

There are two schools of thought on climate change. One view, mostly by developing countries, opines that climate change is for the developed countries since they are the ones who caused the environmental damage during the industrialization period- put simply- "The entire climate situation has arisen due to irresponsible and fast paced development initiated by the developed nations since the industrial revolution. They have exploited the natural resources of nearly half the planet (their homeland and colonies) for their vested interests."[20] The other view enunciates that climate change affects everyone hence we all have a duty towards the environment. In the words of Barack Obama, "I don't think I have to emphasize that climate change is one of the defining challenges of our time. The science is clear and conclusive, and the impacts can no longer be ignored. Ice sheets are melting. Sea levels are rising. Our oceans are becoming more acidic. And we've already seen its effects on weather patterns, our food and water sources, our health and our habitats. Every nation on this planet is at risk, and just as no one nation is responsible for climate change, no one nation can address it alone."[21]

1.6 Literature review

Climate change has been hailed as an important aspect of the environment. The UNFCCC defines Climate Change as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods[22]. **Wold et al (2009)**[23] observe that

[20] http://britishcouncil.debatewise.com/debates/1380-the-developed-world-must-shoulder-the-vast-majority-of-the-cost-of-adapting-to-climate-change (accessed: 25.11.2011)
[21] President Barack Obama, 9 July, G8 Summit on the Major Economies Forum on Energy and Climate, L'Aquila available on: https://www.cdproject.net/EN-US/WHATWEDO/Pages/world-views-climate-change.aspx (accessed on 24.11.2011)
[22] Article 1 UNFCCC
[23] Wold (2009)

climate change has become the defining environmental legal policy challenge of the 21st century, as well as one of the most dynamic. **Habtezion (2009)**[24] has laid down the benefits of climate change observance and consequent adaptation. In her own words, "There is now general consensus that existing, as well as future, climate change-related global arrangements, even if they were to be keenly followed through, would not alone stabilize greenhouse gases (GHGs) and avoid climate change. With this realization, adaptation to impacts of climate change and variability is indispensable." From the foregoing it can be stated that the importance of climate change cannot be over emphasized.

Under the Kyoto Protocol of 1992, developed countries undertook to address the issue of climate change. This brought about the principle of common but differentiated responsibilities which has been said to have several strands.[25] It states the unequivocal common responsibility of States to protect the global environment, while also acknowledging the differing contributions of States to climate change, and their differing capacities to take remedial measures.[26] According to studies done by The Intergovernmental Panel on Climate Change, it is concluded that the impact of climate change shall affect all. However, Lesotho being an LDC is excluded from undertaking commitments under the UNFCCC and Kyoto Protocol. The issue in this research is whether Lesotho has complied with provisions of the UNFCCC, in particular Article 4. **Rajamani (2000)**[27] states as follows: "The lack of boundaries in ecological causal networks and the economic interdependence between States with differing resources, income level and social choices has led to increasing globalization of environmental concerns. Common responsibility is thus rooted in the principle of co-operation, a principle that posits that States are obliged, in the spirit of solidarity, to co-operate in preventing transboundary pollution."[28] This situation has led

[24]Z Habtezion Adaptation Policies in Africa. Challenges and Opportunities in the Application of Tools and Methods on Climate Change in R Mwebaza et al (eds) *Environmental Governance and Climate Change in Africa*, Institute for Security Studies 2009 72
[25]L Rajamani L The Principle of Common but Differentiated Responsibility and the Balance of Commitments under the Climate Regime, http://onlinelibrary.wiley.com/doi/10.1111/1467-9388.00243/pdf
[26] Wold n.23 above
[27] Rajamani n.25 above
[28] Rajamani n.25 above

to suggestions that even LDCs must play a part in climate change by regulating their jurisdictions and in turn their industries in pollution.

It is clear from the above that there has been extensive research on the issue of climate change and even in the context of Africa; however this research seeks to address climate change in light of Lesotho and how this country has incorporated these responsibilities into their national laws. **Wold et al (2009)** conducted a similar research, however they concentrated on the United States and this research differs by bringing a different angle of LDCs.

1.7 Definition of terms

Throughout this research there will be use of terms which might be subject to ambiguous definitions, so it is prudent to explain the meaning they carry for purposes of this study.

International community- this is defined as a term used in international relations to refer to all peoples, cultures and governments of the world or to a group of them. The explanation goes further to say that this term implies that there exist common duties and obligations between these groups. In the context of this research, the term will be used in relation to the second part of the above definition which refers to a group. The reason is that the only covered governments/countries will be those which are members of the United Nation, but more specifically those who ratified the UNFCCC. This means that reference to 'international level' will mean on the level of the United Nations.

Regional or sub-regional- the word 'region' has a number of definitions. It can be defined as a term used to describe an area of land or water that is part of a larger whole. This research will use this broad definition of region in the context of Africa as a region of the world, and Southern Africa as a sub-region of Africa.

Climate variability refers to variations in climate on all spatial and temporal scales beyond that of individual weather events, which may be caused by natural internal processes within the climate system. Variations may also be caused by external influences which may be due to naturally-occurring phenomena, such as periodic changes in the earth's orbit around the sun, or

anthropogenic causes. One of the most important examples of natural climate variability is the El Niño-Southern Oscillation (ENSO).[29]

Climate change refers to a change in the average weather experienced in a particular region or location. The change may occur over periods ranging from decades to millennia. It may affect one or more seasons and involve changes in one or more aspects of the weather, e.g. rainfall, temperature or winds. Its causes may be natural e.g. due to periodic changes in the earth's orbit, volcanoes and solar variability, or attributable to human (anthropogenic) activities. In contemporary society the term 'climate change' often refers to changes due to anthropogenic causes. When changes in climate occur, they directly impact livelihoods, food security and potentially how societies, economies and political systems function.[30]

1.8 Limitations of study

The issue of climate change and the effects it has is a very wide one which brings about a convergence of multiple disciplines. This research will neither delve into the scientific nature of climate change nor its economical impact on the world. It will focus only on the legal aspects of climate change, and specifically in the context of Lesotho. This study seeks to investigate what measures, if any, Lesotho is also taking in an effort to address the issue of climate change.

1.9 Research methodology

The research will mainly be desktop. It will be both descriptive and analytical, and will entail the synthesizing of literature with relation to climate change and the efforts to combat its impact, specific emphasis being placed on the international and regional sphere. This will be done by looking at the policies adopted by the international community to address climate change, and

[29] C Davis & A Joubert Southern Africa's climate: Current state and recent historical changes, in C Davis (ed) Climate Risk and Vulnerability: A Handbook for Southern Africa Council for Scientific and Industrial Research 2011 16

[30] Davis n 29 above

how countries, especially Lesotho, have (or have not) implemented these policies in their national policies. Sources like journals, books and internet sources will be utilized to complete this research.

1.10 Overview of Chapters

Chapter 1 is the introduction, problem statement, research questions, rationale, hypothesis and limitation; Chapter 2 focuses on responsibilities of countries on an international level. It also analyzes the instruments put in place to combat climate change on an international level. It will look at the strengths and weaknesses of the instruments. Chapter 3 goes deep by looking at the responsibilities on a regional and sub-regional level in the light of the international instruments. This chapter explores what countries are doing on a regional and sub-regional level to comply with their responsibilities, basing their actions on the provisions of the international instruments. For purposes of this research, the region which will bear focus is the SADC region. Chapter 4 centers on Lesotho's efforts in complying with international and regional responsibilities on a national level. This chapter delves into the national policies of Lesotho in order to discuss the measures, if any, that Lesotho has undertaken in an attempt to fight the impacts of climate change, taking into consideration the fact that Lesotho is a least developed country and is one of the most vulnerable regions to the effects of climate change. Chapter 5 deals with the findings of the entire research and concludes the study. It also offers recommendations, if any, on how the climate change legal and policy framework can be improved better deal with climate change issues.

2. International Climate Change Agreements

2.1 Introduction

"For over a century, scientists have documented the important role that that the climate plays in the geographic distribution of the world's ecosystems and the wildlife they support. Yet, it is now quite evident that the climate these species depend upon is changing. Global temperatures increased by over 1°F during the past century and are projected to increase 2.5-10.4°F by 2100 as a result of human emissions of greenhouse gases. Given the reliance of plants and animals on their natural environment, they are often early barometers of the effects of climate change."[31]

Global climate change is possibly the greatest environmental challenge facing the world this century. Although often referred to as 'global warming', global climate change is more about serious disruptions of the entire world's weather and climate patterns, including impacts on rainfall, extreme weather events and sea level rise, rather than just moderate temperature increases. The developing world faces greater challenges than the developed world, both in terms of the impacts of climate change and the capacity to respond to it. Climate change is an important aspect that has grown into prominence and importance in the last 20 years and has, at its core, two of the most critical agreements: the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto protocol. This chapter looks at these two agreements, as the main international agreements dealing with the issue of climate change. It will look at how the international community, taking into consideration the provisions of these two agreements, addresses the impacts of climate change.

2.1.1 Observed changes in global climate

"The Earth's climate depends on the functioning of a natural "greenhouse effect." This effect is the result of heat-trapping gases (also known as greenhouse gases) like water vapor, carbon dioxide, ozone, methane, and nitrous oxide, which absorb heat radiated from the Earth's surface

[31] E Claussen in C Parmesan & H Galbraith Observed Impacts of global climate change in the U.S., Pew Center on Global Climate Change, 2004. http://www.pewclimate.org/docUploads/final_ObsImpact.pdf Accessed on 27th March 2012.

and lower atmosphere and then radiate much of the energy back toward the surface. Without this natural greenhouse effect, the average surface temperature of the Earth would be about 60°F colder. However, human activities have been releasing additional heat-trapping gases, intensifying the natural greenhouse effect, thereby changing the Earth's climate."[32]

It is widely recognized that there has been a detectable rise in global temperature during the last 100 years, and global average temperature being one of the most-cited indicators of global climate change, shows an increase of approximately 1.4°F since the early 20th Century.[33] The global mean sea level has been rising at an average rate of approximately 1.7 mm/year over the past 100 years, which is significantly larger than the rate averaged over the last several thousand years. Much of this rise is a result of increasing heat of the ocean causing it to expand. It is however, expected that melting land ice will play a more significant role in contributing to future sea level rise.[34] There has also been a serious decline in annual snow cover in the Northern hemisphere, which is consistent with warmer temperatures.

These changes have been observed over long periods of time. Since these changes have no national boundaries, it was up to the entire international community to find a way to deal with these changes, or the impacts of the changes. Therefore in October 1985, at an International meeting in Villach, Austria convened by United Nations agencies, a group of Scientists decided it was time for the World to take action. That meeting concluded that there was a need to combat the perceived danger of global warming that would result from increasing concentrations of so-called green house gases in the atmosphere. These green house gas concentrations, particularly those of carbon dioxide are increasing as a direct consequence of a range of human activities.

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[32] United States Global Change Research Program, Global Climate change, http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts/full-report/global-climate-change Accessed 27th March 2012

[33] Global Climate Change Indicators, National Climatic Data Centre, http://www.ncdc.noaa.gov/indicators/ Accessed on 27th March 2012

[34] Claussen n 31 above

2.2 The Principle of Common but Differentiated Responsibilities

The principle or concept of common but differentiated responsibilities has been part of international law for a number of years. As far back as 1992 in Rio de Janeiro, the United Nations Conference on Environment and Development (UNCED) was held and this brought about the adoption of the Rio Declaration. Integration and interrelation of States were two of the underlying themes of this declaration. "In order to attain this integration and interrelation, the Rio Declaration emphasized a new and equitable global partnership on the one hand, and the priority to be given to the special situation and needs of developing countries on the other."[35] With this, came about the principle of common but differentiated responsibilities. Although the international legal significance of this concept has not yet been fully defined, it seems to be one of the key concepts of climate change.

Climate change "…is significant, not only for its portended circumstances, which are severe, but also for its ability to test the extent of humankind's collective conscience to take moral responsibility for a problem of its own making."[36] Common concern and the shared responsibility of humankind to address climate change underpin the UNFCCC and are longstanding notions of international environmental law, while differentiated responsibility is based upon both historical responsibility of States and differing capacities of States to address climate change.

This principle is two-pronged. It talks about responsibilities which are common and those which need to be differentiated. With relation to climate change, it is clear and has come to the attention of the international community that issues of climate change do not have jurisdiction, and are a common concern of humankind. That is why these common responsibilities, which form the first aspect to this principle, are provided for in a number of international instruments, including but not limited to, the Stockholm Declaration[37], the Rio Declaration[38], the UNFCCC[39], and the

[35] Y Matsui in N Schrijver & F Weiss (eds) International Law and Sustainable Development: Practice and Principles, Martinus Nijhoff Publishers 2004 74

[36] Rajamani n 25 above

[37] Principles 9, 12, 20, 22 and 24 of the Stockholm Declaration

[38] Principles 5-7, 9, 12-14, 18, 19 and 27 of the Rio Declaration

Kyoto Protocol[40]. This is done so that all States concerned can actively take part in the formation and implementation of international law. According to Agenda 21[41], many of the existing international legal instruments and agreements in the field of environment have been developed without adequate participation and contribution of developing countries, and thus may require review in order to reflect the concerns and interests of developing countries and to ensure a balanced governance of such instruments and agreements.

The second aspect related to differentiated responsibilities of the States. This stems from the different contributions to global climate change by different States, which has been emphasized by the developing countries, and the differing technologies and financial resources. This therefore places the burden on developed countries to implement measures to tackle global climate change. "This responsibility of developed countries may be characterized as a kind of application of the polluter-pays principle."[42] This principle comes from the idea that the person or organization [or State] that causes pollution should pay to put right the damage that it causes. [This] damage may include land and water pollution, but also damage to the biodiversity of any protected species or habitat. Some scholars see the application of this principle as some kind of international affirmative action or application of the principle of equity. Since it is believed that the developed countries have in the past had an unfair advantage over the developing countries, it is seen only right and fair to burden the developed countries more, at least to the extent of the previous unfair advantage. Some developed countries, such as the United States, have however disputed this concept when it comes to the differentiated responsibilities, failing to accept "…any international obligations or liabilities, or any diminution in the responsibilities of developing countries."[43]

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[39] Preamble and Articles 3-6, 11 and 12 of the UNFCCC

[40] Article 10 of the Kyoto Protocol

[41] An action plan of the United Nations adopted at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil in 1992

[42] Matsui n above

[43] Matsui n above

The UNFCCC states that "parties should protect the climate system for the benefit of future and present generations of human kind on the basis of equity and in accordance with their common but differentiated responsibility and respective capabilities. Accordingly, developed countries should take the lead in combating climate change and the adverse effects thereof"[44].

2.3 Countries' Responsibilities on an International Level

2.3.1 The UNFCCC

The UNFCCC is an international environmental treaty which came into force on March 21, 1994. Signatories to the UNFCCC are divided into three groups, namely, Annex I Parties, Annex II Parties, and developing countries.[45] There are however, general commitments undertaken by all the Parties, which include developing and updating national inventories of emissions, and implementing national and regional programs to mitigate climate change and communicating information relating to such implementation to the Conference of Parties.[46]

All these categories also have their differentiated responsibilities stipulated in the agreement. Annex I Parties undertook to reduce their greenhouse gas emissions to targets which are below their 1990 levels by the year 2000[47], while the Annex II Parties undertook to provide technological and financial assistance to developing country Parties.[48] After the inception of the agreement, Annex I Parties' commitments came under scrutiny as their legal nature came into question. This brought about the decision to set quantified limitation and reduction objectives within specified time frames, which was done in Berlin in 1995[49]. Developing countries, on the other hand, are not expected to significantly reduce emissions unless sufficient amount of

[44] Article 3(1) of the UNFCCC

[45] Annex 1 Parties are developed country Parties and Parties with economies in transition; Annex 2 Parties are developed countries mainly constituting OECD member countries

[46] Article 4(1) UNFCCC

[47] Article 4(2) (a) and (b)

[48] Article 4(3)-(5)

[49] 1st Conference of the Parties (COP1) held in Berlin 1995

funding and technology is provided. The differentiated responsibilities of these 3 categories can also be seen in the timing allocated for each group's implementation of its commitments. Much flexibility is given to developing countries than to developed countries. As stated above, one of the mandatory commitments for all parties is communication with the Conference of Parties regarding implementation of national programs. In the case of Annex I countries, the time given for such was six months after the coming into force of the agreement, while other parties were given three years, which period was dependant on the availability of financial resources. In this case, least developed countries were given even more flexibility as they were required to make such communications at their own discretion.

Due to all these differences in responsibilities and, the Convention has been considered to lack the legally binding nature of an international agreement. This is also largely due to the fact that it sets no policies on mandatory limits on greenhouse gas emissions for some of its members and contains no enforcement provisions. This can be seen in Article 2 of the Convention, which is supposed to be its cornerstone as it sets out its objective. This article only states that the Convention seeks to achieve "…stabilization of GHG concentrations in the atmosphere *at a level* that would prevent dangerous anthropogenic interference with the climate system…within *a time frame sufficient to* allow ecosystems to adapt naturally to climate change…" The Convention's failure to set the levels or the time frames leaves a big loophole which goes to the core of its entire operation. It therefore becomes difficult, if not impossible to monitor adherence to or compliance with the provisions of the Convention as there is no foundation.

Most of the Convention's articles make use of words and phrases like "promote", "cooperate" and "coordinate as appropriate". While these words may lead Parties to try work together in fighting climate change, these words are not obligatory and therefore leave it up to individual country parties to decide how much to do and when to do it, and this goes against the spirit of the Convention. Furthermore, to add to the fact that non-Annex I parties have no commitments under the Convention, their participation was wholly dependent upon Annex I parties' effective implementation of their commitments with relation to financial resources and technology transfer.[50] This, in short, means the following: Annex I parties have their commitments to reduce emissions and to assist developing countries in doing the same; there are no quantified levels of

[50] Article 4(7) of the UNFCCC

reductions put in place by the Convention; in order for non-Annex I parties to make any meaningful contribution to the objective of this Convention, they have to depend on Annex I parties, which parties have not been given time frames to do anything; therefore it begs the question "when" and "how" the Convention hoped to achieve its objective. There was therefore a serious need for reform in order for the international community to efficiently and effectively fight the effects of climate change.

2.3.2 The Kyoto Protocol

After recognizing that the commitments set out in the UNFCCC were inadequate for achieving its ultimate objective and, after much international negotiation, at COP3[51] held in Kyoto; agreement was reached for the adoption of the Kyoto Protocol.[52] This protocol mandated Annex I Parties to ensure that their emissions did not exceed their specified amounts. The purpose of this was to attempt to reduce overall emissions by 5.2% below 1990 levels, in the commitment period which was set to be 2008-2012[53], and thus strengthen the rather lax commitments in the UNFCCC. This was in relation to Annex I parties, which had already made commitments in the UNFCCC. This Protocol however did not attempt to introduce new commitments for developing and least developed countries.

In addition to the quantified commitments brought by the Kyoto protocol, there was also the introduction of what came to be known as flexibility mechanisms or Kyoto mechanisms. These include Joint implementation (JI)[54], Clean Development Mechanism (CDM)[55] and Emissions trading[56]. These mechanisms have however come under considerable controversy as to their contribution in the fight against the effects of climate change.

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[51] 3rd Conference of the Parties (COP3) held in Kyoto in 1997

[52] Kyoto Protocol to the UNFCCC 1997

[53] Article 3 of the Kyoto Protocol 1997

[54] Article 6 of Kyoto Protocol

[55] Article 12 of Kyoto Protocol

[56] Article 17 of Kyoto Protocol

Joint Implementation

Article 4 (2) (b) of the UNFCCC provides that countries can work as individuals or in collaboration with other members in their attempt to reduce GHG emissions. This mechanism follows from that article in that it allows Annex I countries to acquire emission reduction units (ERU's) from other Annex I countries through the implementation of investment projects. A pilot phase began in 1995 and allowed countries to gain experience in cooperating and in sharing technology. Most of the numerous pilot projects carried out were not translated into credits under the Protocol, but schemes that began after 1 January 2002 which meet all requirements may be registered under the joint implementation programme.[57] The country wishing to acquire ERU's is required to implement a project in the country it wishes to get the ERU's from. These projects must be in line with reducing emissions of GHG gases, or rather enhancing removal of such gases through sinks. The removal can be either by projects aimed at land use, land-use change or forestry[58] (LULUCF). The only drawback with this is that it is often difficult to estimate GHG emissions resulting from these LULUCF activities. And further, these GHG gases may be released into the atmosphere unintentional in the case of destruction of the sinks.[59]

Clean Development Mechanism

Because the atmosphere is equally damaged by greenhouse-gas emissions wherever they occur and equally helped by emissions cuts wherever they are made, the Protocol includes an arrangement for reductions to be sponsored in countries not bound by emissions targets. This is done through the CDM, which is covered under Article 12 of the Kyoto Protocol. It is largely similar to JI in that it provides for the setting up of projects by Annex I countries in other countries. The only difference between the two is that CDM makes provision for Parties which have not made any reduction commitments, and these are developing and least developed

[57] http://unfccc.int/kyoto_protocol/background/items/2882.php Accessed on 20 May 2012

[58] This entails using already existing resources for GHG removal and simply enhancing how these resources work. This can be done by way of planting trees which remove carbon dioxide (CO_2) from the atmosphere, or curbing deforestation.

[59] For instance, in case of a fire in the forest.

countries. The best aspect of this mechanism is that it helps both parties involved in it, in that it helps the Annex I party to comply with its reduction commitments, while on the other hand helping the developing country party in sustainable development and overall achievement of the objectives of the UNFCCC.[60] This mechanism provides for the setting of projects which will introduce clean technology in the host country. An Annex I country finances the establishment of a clean technology project in a non-Annex I country. In return, the Annex I country may acquire Certified Emission Reduction units (CERs) from the host country. These, as with ERUs may be used by the Annex I country to offset its emission reductions. In order to enter into such a relationship, both countries have to consent to the setting up of the projects. This mechanism is also open to public and private entities in the host country, but this has to have the authorization of the host country. Private entities are interested in this mechanism because they may earn profits from proposing and carrying out these projects and because they may develop good reputations for their technology which will lead to further sales.[61]

The mechanism drew a lot of attention from both rich and poor countries, so much that it came into operation even before the protocol took effect. The industrialized countries especially found it very flexible and cost-effective.

Emissions Trading

This mechanism is provided for under article 17 of the Protocol. "Emissions trading is based on the creation of tradable entitlements to emit a certain quantity of a pollutant."[62] This involves the trading of emission rights in units such as the ERUs and CERs acquired from the above two mechanisms. The Protocol allows countries that have emissions units which are unused to sell this excess capacity to countries that are over their targets. The prices for these emission rights are very high, and an argument in support of the mechanism is that these high prices will force

[60] D Freestone The UN Framework Convention on Climate Change, the Kyoto Protocol, and the Kyoto Mechanisms in D Freestone & C Streck (eds), Legal Aspects of Implementing the Kyoto Protocol Mechanisms, 2005,

[61] http://unfccc.int/kyoto_protocol/background/items/2881.php Accessed on 20 May 2012

[62] M Wemare & C Streck, Legal Ownership and Natue of Kyoto Units & EU Allowances in D Freestone & C Streck (eds) n 60 above 37

countries to use energy more efficiently and to research and promote the development of alternative sources of energy that have low or no emissions. This mechanism also came under a lot of fire especially from environmentalists who saw this as an attempt at the privatization of the atmosphere. They argued that they were insulted by the concept of countries acquiring rights to pollute, which practice inevitably leads to a profitable market at the expense of the environment. The other problem was that setting up this carbon market as the protocol had not clearly set out rules for this purpose.

2.4 Conclusion

There are mixed feelings about the Kyoto protocol and its contribution to the fight against climate change. The Kyoto Protocol is a complicated agreement that has been slow in coming--there are reasons for this. The Protocol not only has to be an effective against a complicated worldwide problem -- it also has to be politically acceptable**.** As a result, panels and committees have multiplied to monitor and referee its various programmes, and even after the agreement was approved in 1997, further negotiations were deemed necessary to hammer out instructions on how to render it operational. There is a delicate balance to international treaties such as this one. Those appealing enough to gain widespread support often aren't strong enough to solve the problems they focus on. In this case, the Framework Convention was judged to have this weakness, despite its many valuable provisions, the Protocol was created to supplement it. Yet treaties with real success potential may have difficulty attracting enough widespread support to be effective.

There are some noted weaknesses with the protocol, the most glaring being that some countries which are industrialized and are among the biggest emitters are not within the ambit of the protocol. The fact that such international agreements only apply to parties that have signed and ratified them poses a problem. This means that highly industrialized countries like the United States which have not signed the protocol can continue polluting without any consequences.

There are however some positivity to the protocol. Some scholars believe that among the Kyoto Protocol’s strengths is its inclusion of the abovementioned provisions for market-based

approaches intended to improve the cost-effectiveness of the global climate regime.[63] Environmentalists however do not share the same sentiments. The protocol gives the parties flexibility by granting them powers to implement national policies which will help combat climate change. It further offers a sense of fairness in that it makes the larger and richer economies bear most of the burden in this fight, by giving those countries binding reduction commitments. The number of countries that have signed the protocol and ratified it, shows just how committed the international community is towards combating climate change.

[63] SM Olmstead & RN Stavins An Expanded Three-Part Architecture for Post-2012 International Climate Policy, 2009 at http://web.hks.harvard.edu/publications/citation.aspx?PubId=6911 Accessed on 15 May 2012

3. Climate Change Intervention on a Regional Level

3.1 Introduction

The global climate is changing and the global community is concerned. Africa as a continent is one of the most vulnerable regions in the world to climate change. This is mainly due to its low adaptive capacity, which makes the impacts of climate variability and change immense. This vulnerability and the limitations of poor countries to adapt to climate change challenges were highlighted in reports by the Intergovernmental Panel on Climate Change.[64] It is therefore a priority for Africa to improve climate resilience to achieve sustainable and equitable development that will ensure poverty alleviation and enhance the standard and quality of life of its people. This Chapter centers on the measures taken by Southern African countries on a regional level to address the issues of climate change, bearing in mind the provisions of the present international agreements on climate change which were discussed in the previous chapter. The southern Africa region, for purposes of this paper, is defined as the total geographical area occupied by member States of the Southern Africa Development Community (SADC). It will be argued that the provisions under the SADC protocols are ineffective and not likely to be very beneficial in tackling the problem of climate change.

3.1.1 Challenges facing the Southern African Region

"The Southern African Region is one of the most affected regions by Climate Change and Climate Variability in the world. Water resources have been the epicenter of the Climate Change impact which has been characterized by extremely devastating events in the form of floods and droughts leading to food insecurity, poor health conditions (e.g. malaria outbreaks), loss of dependable shelter and even loss of life. The 2000 and 2001 floods are testimony to this calamity"[65] Southern Africa is a predominantly semi-arid region with high rainfall variability, characterized by frequent droughts and floods. It is also expected that these impacts will slow down the rate of economic development in the region considerably, with potentially severe

[64] http://www.ipcc.ch/ Accessed on 19th March 2012

[65] Eng. Joao Samuel Caholo, Deputy Executive Secretary-Regional Integration SADC, SADC Booklet

consequences for all the sectors critical to economic development. The interest in Southern Africa stems from the opinion of many scholars that there are interesting parallels among the countries of the region; and looking at the distribution of natural resources and the region's socioeconomic activity suggests that international cooperation could serve both to mitigate climate change and to advance a broad range of development goals.[66]

Also of great interest is the climate of southern Africa, which is strongly determined by the position of the subcontinent in relation to the major circulation patterns of the southern hemisphere, the complex regional topography and the surrounding ocean currents.[67] The southern African region is located between the equator and the mid-latitudes and is bounded by the warm Indian Ocean on the east coast and the cold Atlantic Ocean on the west coast. The relief ranges from sea-level to a plateau at about 1250 m and extends to mountains exceeding 3000 m in height. The combination of these factors leads to different climate types and regimes across the region — coastal desert from about 32 degrees south to the border of Namibia with Angola, a temperate climate over the interior central plateau, a subtropical climate over the low-lying coastal regions of the southeast, and a Mediterranean climate in the southern part of South Africa.

3.1.2 Observed climate changes in Southern Africa

Trend analysis of temperatures across Southern Africa reveals that annual minimum and maximum temperatures have increased at an average rate of 0.057°C per decade and 0.046°C per decade, respectively between 1901 and 2009.[68] Further analysis reveals that the periods of most rapid warming occur post 1970, a period for which the rate of increase in both average annual minimum and maximum temperatures is statistically significant at the 95% confidence level. Changes in rainfall however are typically harder to detect due to the fact that rainfall varies so

[66] IH Rowlands 'Climate change cooperation in the global greenhouse' in IH Rowlands (ed), Climate Change Cooperation in Southern Africa

[67] C Davis and A Joubert, Southern Africa's climate: Current state and recent historical changes, in Claire Davis (ed), Climate Risk and Vulnerability: A Handbook for Southern Africa, Council for Scientific and Industrial Research, Pretoria, South Africa, 2011 pg 8

[68] Davis n 67 above 17

much from place to place and from year to year across southern Africa. There is a pattern of anomalies which demonstrates that year-to-year rainfall variability is high across the region, and has been a persistent feature of the region's climate for many years. For instance, there is existing evidence for rainfall trends that suggests moderate decreases in annual rainfall over parts of southern Africa, while further evidence from other studies shows that inter-annual rainfall variability over southern Africa has increased since the late 1960s and that droughts have become more intense and widespread in the region.[69] These alternating patterns of above-normal/below-normal rainfall periods clearly illustrate the rainfall cycles prevalent in southern Africa where extreme wet and dry years have been recorded, which resulted in floods and droughts.

The best way to achieve international cooperation in dealing with these severe impacts of climate change is to first start close to home by regional cooperation. This is why focus in this chapter will be based on a regional body.

3.2 Southern African Development Community

The Southern African Development Community (SADC) was preceded by the Southern African Development Coordination Conference (SADCC), which was formed in Lusaka, Zambia on April 01, 1980 with the adoption of the Lusaka Declaration (Southern Africa: Towards Economic Liberation). The SADCC's first meeting was held in Arusha, Tanzania in July 1979, at the instance of the then President of Botswana, Sir Seretse Khama. This was attended by members of the so-called Frontline States whose objective was political liberation of Southern Africa. Among the goals of the SADCC was the mobilization of resources to promote the implementation of national, interstate and regional policies. A resolution was then taken at a meeting of the Council of Ministers held in January 1992, to transform the organization from a Development Coordination Conference to a Development Community. That gave birth to the Southern African Development Community in August of the same year in Windhoek Namibia, and it entered into force on 5th October 1993. It currently has 15 members.

[69] Davis n 67 above 18

SADC structures and the political leadership of countries in the region are increasingly paying attention to issues of climate change and environmental issues. In April 2008, SADC political leadership held an international conference on poverty and development in Mauritius which among other things addressed issues relating to poverty, increasing prices of food and energy, the environment, and climate change. These have impacted negatively on the progress of the UN Millennium Development Goals (MDGs). For many countries in the region, dealing with the effects of climate change and environmental degradation is often seen as a trade-off with other critical challenges such as poverty and development. The irony of this situation however, is that some of the effects of climate change have a severe impact on patterns of poverty and, in turn, are reinforced by poverty.

As indicated in the previous chapter, the UNFCCC and its related Kyoto Protocol have provided a framework within which governments, including SADC countries, have to tackle climate change and related environmental policy problems. In response to this SADC has implemented many of its objectives via a series of protocols, treaties, agreements and memoranda of understanding. There are about 20 or so protocols under SADC but only a few can be said to deal directly with climate change. This is because they deal with sectors facing enormous impacts and associated environmental risks arising out of climate change.

The main agreement governing SADC is its founding treaty.[70] Under this treaty, some of the objectives of the Community are to achieve development and economic growth, alleviate poverty, enhance the quality of life of the people of Southern Africa and support the socially disadvantaged; promote self-sustaining development on the basis of collective self-reliance and the interdependence of Member States; and, to achieve sustainable utilization of natural resources and effective protection of the environment.[71] This Treaty, although it mentions issues of environmental protection[72], does not explicitly provide for climate change. As shown earlier, there are a number of protocols under SADC which deal with climate change issues. However,

[70] Southern African Development Community Treaty of 1992

[71] Article 5 of SADC treaty

[72] Article 5(1)(g) of SADC treaty

the voluntary nature of protocols as instruments of policy implementation presents a potential constraint in terms of effective enforcement. These protocols will be discussed below.

3.2.1 SADC Protocols

As stated earlier, SADC has a number of protocols, even though these are only binding on the parties who sign them. Below we look at some of these protocols which have a bearing on the environment and therefore on climate change.

Forests cover 357 million hectares or about 33 percent of the SADC region[73] or 55% of Africa's forest cover[74], but very unfortunately one of the main emitters of CO2 in Southern Africa is deforestation. These provide a wide range of products and services that are important to the socio-economic well-being of the region's communities. SADC has one of the fastest growing populations in the world. The challenge of increasing food requirements has inevitably presented the region with additional challenges of uncontrolled deforestation and cultivation of fragile ecosystems, resulting in soil erosion, desertification, biodiversity loss, decline in agricultural productivity and ensuing socio-economic upheavals.[75] Considering the high dependence of the poor on forests, it is imperative for forestry to focus on poverty reduction and environmental protection.

The SADC Protocol on Forestry is a regional policy framework to foster cooperation in forestry and provide a common vision and approach to the management of the region's forest resources. The Protocol was signed by four of the SADC members in October 2002, but only came into force on 17th July 2009. The objectives of SADC in relation to forestry are the promotion of public awareness of forestry; harmonization of approaches for Member States to sustainably manage and safeguard their forest resources; promotion of increased efficiency in forest resources utilization; facilitation of the development of trade in forest products; and enhancement

[73] Food, Agriculture and Natural Resources Directorate, 2006 at http://www.sadc.int/fanr/docs/FANR%20Directorate%20Booklet.pdf Accessed on 20 May 2012

[74] http://www.fao.org/docrep/007/y5841e/y5841e07.htm Accessed on 22 May 2012

[75] n. 44 above

of forest research, extension, education and training. In order to ensure the implementation of the above objectives, the protocol has its own objectives, which are the promotion of the development, conservation, sustainable management and utilization of all types of forests and trees; promotion of trade in forest products throughout the region in order to alleviate poverty and generate economic opportunities for the peoples of the region; and achieving effective protection of the environment, and safeguarding the interests of both the present and future generations.[76] For easy alignment with national policies and legislation, the protocol was designed to be compatible with international initiatives such as the United Nations Convention to Combat Desertification, the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change, to which all SADC member countries are signatories.

The protocol goes further to provide that State parties to the protocol shall co-operate in assisting and supporting each other in addressing issues of common concern. One of the issues mentioned is climate change.[77] However, it important to note that although the protocol uses the word "shall", which makes it mandatory, it only provides for "co-operation, assistance and support". Use of these words does not necessarily force compliance from the State parties. Having said that though, it is important to emphasise that the protocol is legally binding in that a signatory State could be taken to a court of law and compensation could be sought for failure to comply. However, respect for political sovereignty seems to predominate and cooperation in good faith generally prevails. Even though the SADC Secretariat will play a role of facilitating, coordinating and harmonising the policies and programmes, implementation will take place on national levels.

Mining is an integral part of the economy of Southern Africa. This is reflected in its contribution to Gross Domestic Product (GDP), foreign exchange earnings, and employment. Mining in the SADC region contributes about 60 percent of total foreign exchange earnings, 10 percent of total

[76] Article 3 (1) SADC Protocol on Forestry

[77] Article 3(2) SADC Protocol on Forestry

GDP, and about five percent of direct formal employment.[78] It also plays an important role on the international mineral market with between 11 percent and 45 percent of the world supply of eight major commodities, namely, gold, platinum, diamonds, copper, uranium, cobalt, manganese, and chromite.

In appreciation of and in an attempt to preserve these minerals, the region launched the Protocol on Mining, which was first signed in 1997, but only came into force in the year 2000. This protocol is centered on the region's minerals, and implementing policies in order to secure them. It advocates that the private sector should be the driving force for the generation of wealth from the sector, and that local and foreign investor participation in the sector should be the driving force of the industry. The protocol emphasises that the role of government should be to facilitate private sector participation. That role includes information exchange, enhancement of technological capacity, establishment of common standards, promotion of private sector participation, promotion of small scale mining, environmental protection and occupational health and safety.[79] Even though there is nothing specific about climate change, the protocol has dedicated a full article to environmental protection.[80]

In the last few years the concept of Corporate Social Responsibility (CSR) has emerged as an alternative model whereby mining companies, as with other companies have to plough profits back into the communities in which they operate. From an environmental point of view, this is done so that companies protect the environment from the negative or adverse consequences of their mining activities. Though the protocol does not specifically provide for climate change, protecting the environment, though not so direct, has been found to be a very efficient tool in addressing this issue.

[78] T Moyo, Exractive Industries and Women in Southern Africa, at http://www.osisa.org/sites/default/files/sup_files/Women%20and%20extractive%20industries%20%20Theresa%20Moyo.pdf Accessed on 30 April 2012

[79] Article 2(10) SADC Protocol on mining 1997

[80] Article 8 SADC Protocol on mining

3.2.2 Other SADC Programmes and Policies

As shown, the above protocols do not directly deal with climate change, but only refer to environmental protection. This led SADC to come up with regional programmes which could focus directly on climate change.

The fact that a large part of Africa's emissions result from high levels of biomass, and are related to land-use, means that mitigation options especially in the area of sustainable forest management, agriculture, energy and infrastructure, are plenty in the SADC region. To make sure this potential is used and beneficial for regional development, in May 2009, the SADC Member States decided to develop a regional REDD[81] Programme that addresses the common problems of deforestation and degradation in the region and formulates joint climate change mitigation measures in the forest sector. This owed its birth to the UN REDD programme which was launched in September 2008 to assist developing countries prepare and implement national REDD+ strategies, and the content of this programme was developed in participation with all SADC Member States emphasizing topics that promote regional integration and create synergies through the co-operation among Member States.[82] The goal of the regional programme is to contribute to the sustainable management of the forests of SADC and also to poverty reduction and sustainable development. In order to formalise the programme, during the SADC Ministerial Meeting that took place Namibia on 26th May 2011, the programme document was approved by the Ministers responsible for Environment and Natural Resources Management. This landmark event marked SADC as the first regional organization in Africa to agree on a comprehensive programme to support Member States in their efforts to combat climate change and achieve their development goals through reduced emissions in the forestry sector.[83]

The EAC-COMESA-SADC tripartite launched a joint five-year Programme on Climate Change Adaptation and Mitigation on 5 December 2011, while COP17 was taking place in Durban, South Africa. The focus of the programme is increasing investments in climate resilient and carbon efficient agriculture otherwise known as climate-smart agriculture, and its linkages to

[81] Programme aimed at Reducing Emissions from Deforestation and Forest Degradation

[82] http://www.sadc.int/REDD/ accessed on 25 May 2012

[83] n. 47 above

forestry, land use and energy practices by 2016. The tripartite wishes to add Africa's participation to the post-2012 era of the UNFCCC and Kyoto protocol. The programme has received $20 million funding from the Royal Government of Norway, the European Union Commission and United Kingdom's Department of International Development (DfID), signifying an exemplary partnership between Africa and Europe on climate change, and helping to make the initiative a success so far.[84] These three regional bodies are among the eight building blocks recognized by the AU and constitute a joint membership of half the African countries, and have 51 percent of the total African population. Therefore, their decision to work together in the fight against climate change just goes to show how far Africa has come in realising its significance.

3.4 Conclusion

The SADC region has woken up and taken notice of the dangers posed by the effects of climate change. This is visible in their efforts to launch and implement policies, programmes and legislation focused on this issue. However, it has been shown that there are a range of socio-economic constraints standing in the way of success. The region still ahs a long way to go in order to effectively contribute significantly in the fight against the effects of climate change.

There still has to be an overall piece of legislation which exclusively deals with climate change as it is evident that the sectoral ones leave gaps which result in inefficiency.

[84] http://www.eac.int/news/index.php?option=com_content&view=article&id=583:tripartite-climate-change-initiative&catid=48:eac-latest&Itemid=69 accessed on 25 May 2012

4. Case Study: Lesotho

4.1 Introduction

Lesotho is a least developed country comprising 30,588 km2[85] of land landlocked by the Republic of South Africa. Lesotho is the only country in the world with all its land surface situated more than 1,000 meters above sea level. The lowest point in the country, where the Senqu River flows across the border, is 1,388m above sea level, while the highest part, Thabana Ntlenyana, is 3, 482 meters above sea level.[86] Lesotho has a continental temperate climate that is marked by four seasons, and normally receives 85% of its average annual rainfall of 700mm between October and April, with higher averages of 1200mm recorded in the mountain region, and low averages of 500mm recorded in the Senqu River Valley which forms a rain shadow area.[87] The country has a very harsh climate, with very cold and dry winters and hot wet summers. These conditions have left Lesotho facing very dangerous levels of environmental degradation, severe soil erosion, and progressive desertification, and have made it one of the most vulnerable regions to climate change. "Under climate change conditions these afore-mentioned stresses get more pronounced and hence undermine sustainable development efforts. With soaring unemployment rate estimated at over 60% and scarcity in natural resources, the effects of climate change are due to become more unbearable. The livelihood of the population is dramatically curtailed as destituteness increases unabated."[88]

Lesotho is a signatory to both the UNFCCC and the Kyoto Protocol. This means that it has obligations to mitigate the effects of and adapt to climate change. However, Lesotho is a least developed country and therefore does not fall in either of the categories of countries which have binding reduction commitments under the Kyoto Protocol. However, this does not mean that the

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[85] "First National Communication to the Conference of the Parties to the United Nations Framework Convention on Climate Change" Ministry of Natural Resources, April 2000

[86] n 85 above

[87] n 85 above

[88] Lesotho's National Adaptation Programme of Action on Climate Change Under the United Nations Framework Convention on Climate Change, Lesotho Meteorological Services at http://www.lesmet.org.ls/pubs/napa.pdf Accessed on 2 May 2012

country does not have any obligations to fight climate change. The Protocol clearly stipulates that "All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances…shall formulate, where relevant and to the extent possible, cost-effective national and, where appropriate, regional programmes to improve the quality of local emission factors, activity data and/or models which reflect the socio-economic conditions of each Party for the preparation and periodic updating of national inventories of anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol…"[89] This chapter will therefore look at what Lesotho as a country has done to contribute to the fight against climate change and its effects, also taking into consideration the efforts of SADC as a region, of which Lesotho is a member.

4.2 Policy framework

Article 4 of the UNFCCC identifies conditions that make countries especially vulnerable to the adverse effects of climate change. Lesotho manifests several of these conditions since it is a country prone to natural disasters, liable to drought and desertification, has areas with fragile ecosystems, including mountainous ecosystems, and is also landlocked. As far back as the late 1970's, Lesotho began to implement policy reforms which, although not directly related to climate change, have been found to be having a bearing on both mitigation and adaptation strategies. This is one of the reasons the country was one of the first to sign the UNFCCC and the Kyoto Protocol. However, dealing with climate change has not been an easy task especially bearing in mind the small economy of the country and its 'poverty' with regard to resources.

Although Lesotho joined the international community in expressing concerns about the negative impacts of climate change by signing and ratifying UNFCCC and the Kyoto Protocol, there is yet no coordinated national policy to deal with the problem. However, there are a number of policies and measures in various sectors which are closely aligned with the objectives of the UNFCCC, and the country has become increasingly aware of its obligations under the Convention. These

[89] Article 10(a) of Kyoto Protocol

initiatives have been introduced with massive injections of donor assistance, as per the provisions of the Kyoto Protocol.

4.2.1 Mitigation measures

Countries have been encouraged to find ways of mitigating climate change. Mitigation is defined as implementing policies to reduce greenhouse gas emissions and enhance sinks.[90] Lesotho is one of the countries considered as underdeveloped and a marginal contributor to global GHG emissions. Mitigation has therefore been very minimal as compared to adaptation. This is also due to the lack of adequate financial and technological resources. Whatever measures have been a secondary product of other policies, mainly implemented for adaptation or other purposes. For instance, communities in the rural areas of the country, which experience the harshest weather conditions, have the highest need for energy in the entire country. In an effort to address this need, the country implemented projects to promote renewable sources of energy, which resulted in the encouragement to switch to cleaner sources of energy. Currently, 75% of Lesotho's electricity is derived from renewable energy sources. Most significant are arrangements to develop wind energy power plants that will produce 6000 megawatts of electricity and a total of 4000 megawatts from hydro.[91]

Another example is embarking on projects for afforestation and reforestation by the country in order to contain soil erosion.[92] In effect, these projects help with the removal of carbon dioxide in the atmosphere by expanding sinks, in this instance forests. Even though the measures were intended for different purposes, they ended up addressing issues of climate change by way of mitigation.

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[90] http://www.unep.org/climatechange/mitigation/Introduction/tabid/29397/Default.aspx accessed on 20 May 2012

[91] Statement delivered by Honourable Mr. Monyane Moleleki, Minister of Natural Resources of the Kingdom of Lesotho at the Seventeenth session of the Conference of the Parties (COP17) and the Seventh session of the Conference of the Parties serving at the Meeting of the Parties to the Kyoto Protocol (CMP7), 8th December 2011, Durban, South Africa

[92] MM Machepha Parliamentary Role and its relationship with relevant institutions in effectively addressing climate change issues-Lesotho 2010, http://pubs.iied.org/pdfs/G03024.pdf Accessed on 21 May 2012

4.2.2 Adaptation measures

Climate change adaptation has been defined differently by different organizations and scholars. The IPCC defines it as an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.[93] On the other hand, the UNFCCC defines it as practical steps to protect countries and communities from the likely disruption and damage that will result from effects of climate change.[94] Both definitions, although phrased differently, refer to the damage that may arise from the effects of climate, and making changes which will make it easier to deal with such damage.

"Adaptation to the adverse effects of climate change is vital in order to reduce the impacts of climate change that are happening now and increase resilience to future impacts."[95] Lesotho is a very poverty-stricken country, with very limited resources. A number of projects and programmes undertaken to fight this scourge have indirectly been very appropriate as measures to assist the country to adapt to the impacts of climate change. Even though most of these have not been implemented yet due to lack of financial and technological resources, and institutional frameworks, donor funding has helped in bringing some of them to life. The country has focused on a number of sectors in its efforts to adapt to climate change, including agriculture, land use and forestry, and water and sanitation.

Agriculture in Lesotho is a major source of economic growth of the country, so naturally that sector was one of the main focuses of the Lesotho government in adapting to climate change. Wheat, corn, sorghum, pulses, livestock and barley are the major agricultural products, with livestock as another prime agricultural source of revenue. Most of these agricultural products are used by local people with the excess being sold overseas. However, this sector has suffered considerably in the recent years due to droughts which have plagued the country. To deal with this problem a number of projects are being implemented including, developing drought resistant

[93] Third Assessement Report of the Inter-Governmental Panel on Climate Change, 2001

[94] http://unfccc.int/essential_background/glossary/items/3666.php Accessed on 21st May 2012

[95] http://unfccc.int/adaptation/items/4159.php Accesseed on 21st May 2012

crops and cultivars, promoting crop diversification, irrigation, soil liming, crop intensification, including mixed and double cropping, and intensive livestock rearing.[96]

National Adaptation Progammes of Action

The UNFCCC has recognized the specific needs and special situations of the Least Developed Countries.[97] With this in mind, it was then that during the 7th meeting of the Conference of the Parties (COP7) decisions were taken to implement National Adaptation Programmes of Action (NAPAs) to assist these countries.[98] NAPAs "…provide a process for Least Developed Countries (LDCs) to identify priority activities that respond to their **urgent** and **immediate** needs to adapt to climate change – those for which further delay would increase vulnerability and/or costs at a later stage."[99] The main content of NAPAs is a list of ranked priority adaptation activities and projects, as well as short profiles of each activity or project, designed to facilitate the development of proposals for implementation of the NAPA. The development of NAPAs represents a multi-sectoral approach to a common problem, which is climate change, and this approach will ensure that solutions in one sector do not pose headaches on other sectors. Lesotho, as an LDC also had to develop a NAPA.

The Lesotho NAPA process was undertaken under conditions of extreme challenge when the nation is facing exponentially rising levels of poverty that have maintained livelihoods at their survivalist point. Its main objectives are to identify communities and livelihoods most vulnerable to climate change, generate a list of activities that would form a core of the national adaptation programme of action, and to communicate the country's immediate and urgent needs and priorities for building capacity for adaptation to climate change. The process has identified

[96] Machepha n 92 above

[97] Article 4 (9) of the UNFCCC

[98] Decisions 5/CP.7, 25/CP.7 and 29/CP.7 acknowledged the specific situations of LDCs, in that they do not have the means to deal with problems associated with adaptation to climate change, and established an LDC work programme including NAPAs as well as other supporting activities; set the guidelines for NAPAs; and set up an LDC Expert Group (LEG) to provide guidance and advice on the preparation and implementation strategy for NAPAs, respectively

[99] www.unfccc.int Accessed on 19th November 2011

eleven key adaptation needs that communities need to be supported with to sustain livelihoods in view of climate change risks. One of the most vulnerable sectors is the water sector. This is a major cause for concern as the implementation of the Lesotho Highlands Water Project (LHWP) has become a major development in the country's economy. Through this project, the country transfers water to the Republic of South Africa, which pays royalties to Lesotho. This arrangement has helped Lesotho in being self-sufficient and thus producing its own electricity. However, the long-term performance sustainability of the benefits of the LHWP to the communities in the mountains and the country at large will be affected by climate change.

The NAPA process has been designed to work within the framework of the main national development programmes such as national vision 2020, millennium development goal, to name a few.

4.2.3 Environmental Act 2008

In addition to the above efforts by the Lesotho government, there have also been efforts to come up with a legally binding agreement to address these issues. Even though the country has no legislation which directly deals with climate change, it has the Environment Act.[100]

In 1989 Lesotho showed its commitment to the process of sound environmental planning by formulating the National Environmental Action Plan (NEAP), which among other things increased awareness of environmental concerns in sectoral planning and programming and recommended the establishment of an institutional framework for the management of environmental issues. Subsequently, the National Action Plan (NAP) was launched in May 1994 as a way of implementing Agenda 21.[101] This built on the foundation of the NEAP and sought to incorporate sectoral priorities and national plans for implementing international conventions, including those dealing with climate change. As a response to NEAP, in 1994, the National

[100] Environment Act of 2008

[101] A comprehensive plan of action adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janerio, Brazil, 3 to 14 June 1992.

Environment Secretariat (NES) was created. That is currently referred to as the Department of Environment under the Environment Act.

The aim of this Act is to provide a framework environmental law for the implementation of the National Environment Policy (NEP), whose goal is to ensure protection and conservation of the environment and sustainable development. The Act defines the broad activities and general principles of environmental management in Lesotho and invests each individual with a right to a clean and healthy environment. Furthermore it imposes a corrective duty to protect, maintain and enhance the environment and defines a citizen-right to take legal action against acts or omissions that damage the environment. In an effort to strike a balance between environmental protection and development, the Act introduced Environmental Impact Assessements. These assessements work in minimising the degradation caused by development in finding out what damage a certain activity will cause, before such activity is implemented.

4.3 Conclusion

Although Lesotho has signed and ratified the relevant conventions and protocols dealing with climate change, such as the UNFCCC, Kyoto Protocol, Vienna Convention and Montreal Protocol, there is not yet a meaningful coordinated national policy to deal with the problem. The country has, however, adopted a number of measures and policies in various sectors with objectives similar to those of the UNFCCC. These policies focus, inter alia, on the environment, waste management, energy, land use, health and sanitation, water development, and agricultural reform. However, the country faces challenges in the implementation of these policies because of several economic and political factors. The most serious include budgetary limitations, institutional and cultural rigidities, and technological limitations. There is also a lack of political will on the part of the political elite to effect administrative reforms aimed at enhancing the state's capacity to implement these policies.[102] Furthermore, the country has yet to politicize environmental issues in order for them to rank high on the political agenda.

[102] OG Mwangi Climate change, hydropolitics and security in Lesotho, in DA Mwiturubani & J van Wyk (eds) Climate Change and Natural Resources Conflicts in Africa 2010 at http://www.issafrica.org/uploads/Mono170.pdf Accessed on 20 May 2012

One other setback for Lesotho in the adaptation and mitigation of the effects of climate change is that dealing with the effects of climate change and environmental degradation is often seen as a trade-off with other critical challenges such as poverty and development. The country, in trying to meet most of its MDGs, has to consider whether to prioritise those goals or issues of climate change, and more often than not, it is the former. More barriers to the implementation of these policies and programmes are insufficient financial resources to implement environmental activities, inadequate institutional and systemic capacity for climate change initiatives, shortage of human resources with requisite environmental expertise and skills at both community and institutional levels, and lack of awareness on the impact of climate change in people's livelihoods.

5. Conclusions and Recommendations

5.1 Summary of findings

A growing scientific and economic consensus points to the need for a credible approach to address the threat of global climate change.[103] This has been the concern of the international community since the beginning of the climate change negotiations. It has been shown in the previous chapters how this issue of climate change and its effects has been dealt with globally, regionally and nationally. What countries do regionally and nationally, naturally follows from what has been agreed upon internationally. In this case, countries will implement measures which have been agreed upon in international climate change agreements in order to deal with climate change within their own territories.

It is however, clear from the preceding chapter that the lack of legally binding commitments for least developed countries like Lesotho, makes it very difficult for those countries to significantly contribute towards the combating of the effects of climate change. It is the aim of this chapter therefore to look at what went wrong with the Kyoto Protocol and how those anomalies may be addressed in order to reach a point where countries, though differentiated in their responsibilities by the international community, can all find a common ground in the fight against climate change and its effects.

5.2 Conclusions

5.2.1 International level

When the Kyoto Protocol came into being, its key objective was to reduce the emission of GHG into the atmosphere. This was done in a number of ways, which include the three mechanism discussed in chapter 2. However, it has become evident that the protocol, although its intentions are noble, has some flaws which have rendered it an ineffective tool in the fight against climate

[103] S Barret & R Stavins, Increasing Participation in International Climate Change Agreements, 2002, http://www.feem.it/web/activ/_wp.html Accessed on 19 March 2012

change. There are four elements which make up the protocol, but which also contribute largely to its ineffectiveness. These are the ambitious but short-term reduction targets set by the protocol, full responsibility only with regard to industrialized countries, the flexibility provided by the market based mechanisms, and the absence of instruments for promoting compliance and participation. "The protocol is unlikely to make any difference. It gives the false impression that a breakthrough has been achieved but there are too many loopholes."[104]

Short-term reduction targets

Environmentalists are the most "unhappy" with the outcome of the negotiations of the protocol. Their argument is that the set targets for emission reductions are not nearly enough. Greenpeace International[105] feels that with the set targets, only a 1% or 2% reduction will be achieved overall in the period 2008-2012, whereas there is a need for at least a 60% reduction to make even a small dent on the gaseous dome enveloping the earth.[106] These very modest targets make it difficult, if not impossible to meet the objective of the protocol. To make matters worse, the targets can only be changed with the consent of the concerned party, which gives the party immense power, which power can be easily abused and thus frustrate the process of emission reductions.

Flexibility mechanisms

Further loopholes in the protocol can be found in the so-called Kyoto mechanisms. It is a known fact that in international negotiations there always has to be a compromise and it is clear that this is what was being done by the introduction of the mechanisms. However, the compromise has brought with it a number of problems. The biggest problem is brought about by emissions trading. This mechanism allows countries to purchase the right to emit from other countries. The problem with this is that the big emitters will not feel the need to encourage or promote cleaner

[104] Statement made by Gurmit Singh, regional co-ordinator of Climate Action Network South-East Asia, an organisation of public interest groups working on the climate issue

[105]

[106] The figure of 60% comes from the report of the IPCC.

technology when they can easily buy the right to emit from another country if the latter has any unused quota. The idea is actually to reduce emissions but the protocol is giving countries leeway to make profit while not making the atmosphere any cleaner, and this contradicts its objective.

The above argument is also relevant when considering the joint implementation mechanism. It also allows the 'richer' countries to continue destroying the atmosphere, as long as they can invest in clean technology projects in the 'poorer' countries and claim credits for that. It is a cycle. Instead of actually making any meaningful reductions, the protocol allows the investing country to pollute to the extent to which the host country would have polluted had it not had the clean technology bought by the former. This does not, in effect reduce any emissions, but simply transfers them from one country to the other. Although the above is in relation to richer or developed countries, the same also applies to the developing countries through the clean development mechanism. It works exactly the same way as the joint implementation, the only difference being that developing countries can now be the beneficiaries of these carbon credits. The developing country engaged in this mechanism, can then sell these credits to developed countries. This brings us right back to the issue of transferring emissions, not reducing them.
Furthermore, the protocol allows countries to include carbon sinks in their calculation of emission reductions. Carbon sinks are natural and have always been there to remove carbon dioxide from the atmosphere even before the advent of the protocol, but the protocol gives countries the opportunity to offset this removal by sinks from their actual reductions. The problem with this, as shown earlier, is that the removal of carbon dioxide by sinks cannot easily be quantified and thus makes the exercise futile. These flaws can also been seen to manifest in the attempts made by members to fight climate change either individually or regionally.

Differentiated responsibilities

As was shown in the previous chapters, the issue of differentiation when it comes to duties and responsibilities in international law is a long-standing tradition. The difference between the protocol and other international agreements is that, unlike industrialized nations, developing countries have no specific obligations to abate greenhouse gas emissions under the Protocol, and

the Protocol provides no mechanism for theses developing countries to adopt emissions commitments voluntarily.

Compliance and participation instrument

The protocol, unlike the UNFCCC, stipulates in no uncertain terms that the emission reduction commitments made by the industrialized countries are legally binding. But then in the same vein, it turns around and prohibits the adoption of a compliance mechanism entailing binding consequences unless adopted by means of an amendment.[107] The protocol in this way contradicts itself by having commitments which it deems legally binding but then denying parties a means of enforcing such obligations. A compliance mechanism was agreed on in Bonn in July 2001, and it provided that any industrialized country that fails to comply within the first commitment period must make up for this shortfall in the second commitment period with a 30 percent penalty. This brings about two problems: the first being that this is not yet binding and that the parties have not even agreed on a second commitment period. It is therefore an empty "threat" to force compliance. This is even worse for developing countries which have no binding obligations whatsoever under the protocol.

5.2.2 Regional and National Level

For many countries in the SADC region, dealing with the effects of climate change and environmental degradation is often seen as a trade-off with other critical challenges such as poverty and development. This has been seen in the previous chapter in the case of Lesotho. Even though the country has ratified both international climate change agreements, and as much as like other members the country has a strong will to fight climate change, that issue is not top of its priority list, as compared to issues of poverty and development.

[107] Article 18 of the Kyoto Protocol.

5.3 Recommendations

5.3.1 International

First and foremost, in order to achieve the best results in emission reductions, it is important for all countries, developing as well as industrialized, to take on emission targets for a number of reasons. Firstly, developing countries will account for more than half of global emissions by 2020, if not before. Secondly, developing countries provide the greatest opportunities now for relatively low-cost emissions reductions. This is due to the fact that they are not the biggest emitters and therefore reductions, whether by way of projects or otherwise, will be more cost effective than when undertaken in industrialized countries. Thirdly, if developing countries are not included, this might lead to a phenomenon characterized as emissions leakage. In an attempt to reach emission targets, there will be a significant shift of comparative advantage in the production of carbon-intensive goods and services outside of that coalition of countries (industrialised), which will render developing economies more carbon-intensive than they otherwise would be. Instead of dealing with the problem, emissions have not really been reduced but leaked to other countries.

The currently set emissions targets are not nearly enough to put a dent in the pollution being caused globally. In order for the international community to effectively deal with climate change, parties have to start making significant reduction commitments, which will a have a longer life span.

5.3.2 Regional and National

On these two levels, programmes on climate change should place adaptation as a priority area for implementation. "Emphasis should be placed on increasing the number and geographical coverage of sectoral planning and implementation activities, as this area is heavily under-represented in some socio-economic important sectors such as health, infrastructure and tourism, biodiversity and ecosystems, energy and coastal zones."[108] There is also a strong need to

[108] E Nyasha & Chishakwe 1st Draft (Working Document) Southern Africa Sub- Regional Framework on Climate Change Programmes Report 2010

expand the scope of programmes such as REDD to include the development of market based mechanisms to reward or provide incentives for forest conservation or the avoidance of deforestation and sustainable forest management practices. These programmes should also strive to contribute towards mitigating GHG emissions through the use of best practices to enhance carbon sequestration and reduced emissions.

As previously shown, these developing countries have other considerations when prioritizing issues. It is therefore important for programmes on these levels strategically embrace mitigation activities that do not only contribute towards reducing global GHG emissions, but more importantly contribute towards poverty alleviation and rural development as well. This will act to ease the burden on these countries in making climate change issues top of their priority list.
Countries should pay attention to the socio-economic opportunities that come with adopting appropriate mitigation programmes in the energy sector, such as availing affordable energy for rural communities, or using the precautionary approach to bio fuels. Most of these countries have a very low capability to implement some of their policies and programmes. It is therefore imperative that financial, institutional and technological assistance is granted to these countries and regions, to help in implementation of the programmes.

Unsustainable utilization of natural resources often results from poor understanding of their role and long-term impacts. It is all too easy to dismiss some of these resources as adding little value to regional integration. Since natural resources have ecological functions that go beyond national borders, the challenge is to encourage the regional (SADC in this case) leadership to see the bigger picture and to recognize these resources as the priority intervention areas.

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