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1 Introduction

Climate change is defined as any long-term and significant change in the expected patterns of a specific region's average weather for an appropriately significant period of time. It is the result of several factors, including Earth's dynamic processes, external forces, and more recently, human activity. External factors that shape climate include such processes as variations in solar radiation, deviations in Earth's orbit, and variations in the level of greenhouse gas concentrations. Evidence of climatic change taken from a variety of sources can, in turn, be used to reconstruct past climates. Most climate evidence is inferred from changes in key climate indicators, including vegetation, ice cores, dendrochronology, sea-level change, and glacial geology.

Climate change represents one of the greatest environmental, social, and economic threats facing the planet today. In developing countries, Swaziland included, climate change will likely have a significant impact on the livelihoods and living conditions of the poor. It is a particular threat to the attainment of the Millennium Development Goals (MDGs) and progress in sustainable development in Sub-Saharan Africa. Increasing temperatures and shifting rain patterns across Africa reduce access to food and create effects that impact regions, farming systems, households, and individuals in varying ways. Additional global changes, including changed trade patterns and energy policies, have the potential to exacerbate the negative effects of climate change on some of these systems and groups.

It is now clear that global warming is mostly due to anthropogenic emissions of greenhouse gases (mostly CO2). Over the last century, atmospheric concentrations of carbon dioxide increased from a pre-industrial value of 278 parts per million to 379 parts per million in 2005, and the average global temperature rose by 0.74°C ± 0.18°C. Rising fossil fuel burning and land use changes, amongst other anthropogenic activities, have emitted, and are continuing to emit, increasing quantities of greenhouse gases into the Earth's atmosphere. These greenhouse gases include carbon dioxide (CO2), methane (CH4) and nitrogen dioxide (N2O) and the halocarbons (a group of gases containing fluorine, chlorine and bromine). An increase rise in the atmospheric concentration of these gases, particularly during the period since the industrial era, has caused a rise in the amount of solar radiation withheld in the Earth's atmosphere, radiation that would normally be radiated back into space. This increase in radiated heat has led to the greenhouse effect, resulting in climate change (the change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer). The main characteristics of climate change are increases in average global temperature (global warming); changes in cloud cover and precipitation particularly over land; melting of ice caps and glaciers and reduced snow cover; and increases in ocean temperatures and ocean acidity - due to seawater absorbing heat and carbon dioxide from the atmosphere.

The Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC, 2007) dispelled many uncertainties about climate change. Warming of the climate system is now unequivocal; however at the local level the information required to make conventional planning decisions is lacking at the level of certainty required by those who need it. This demands an approach to adaptation that manages uncertainty and fosters adaptive capacity. Adaptation is therefore not a choice between reducing general vulnerability or preparing for specific hazards, such as floods; adaptation requires both, in an ongoing change process whereby people can make informed decisions about their lives and livelihoods in a changing climate. Learning to adapt is as important as any specific adaptation intervention.

1.1 Purpose of the Study

The main objectives of this study are to describe and assess the current Parliamentary institutions, their roles and relationships within government and their effectiveness in addressing climate change issues.

This is in support of understanding the capacity and awareness of parliamentarians and high level decision makers on critical issues such as climate change, especially on the African continent.

The International Institute for Environment and Development (IIED) in partnership with European Parliamentarians for Africa (AWEPA) study is being conducted in five Southern African countries, namely Botswana, Lesotho, Namibia, South Africa and Swaziland, and collected information will be collated and used to make recommendations on how best to involve parliamentarians to encourage holistic and integrated decision making, understanding that climate change is a cross-cutting issue. This report focuses on Swaziland.

1.2 Research Approach

The research was conducted on a small-scale, primarily qualitative by design (descriptive studies), collected information from various key informant interviewees.

The target group was identified in advance, being parliamentarians and Parliamentary Portfolio Committee members.

A questionnaire was developed asking pertinent questions to record and gauge the knowledge and understanding of the interviewee on climate change, institutional roles in the climate change debate and their capacity building needs to better manage and handle national and international discussions on climate change.

In total, the research collected information from 11 interviewees (see Annex 1 for details).

1.3 Limitations to the Study

This study was hampered by the unavailability of MPs to attend interviews. Great efforts were needed to encourage MPs to attend the interviews despite such interviews being held within their working environment. Although only eleven MPs were interviewed they did provide a cross section of knowledge and illustrated the variety of knowledge and understanding on and about climate change.

Another limitation was the lack of relevant information about climate change and its potential impact on Swazi society and economic sectors and specifically background on how parliamentarians can or should handle debates and discussions. Although this study took place during the development of Swaziland 4th Communication to the UNFCCC, the findings of that communication were not publically available.

1.4 The International Response to Climate Change

The international political response to climate change began with the adoption of the UNFCCC in 1992, which sets out a framework for action aimed at stabilizing atmospheric greenhouse gas (GHG) concentrations at a level that would prevent "dangerous anthropogenic interference" with the climate system. Article 2 states that such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. The UNFCCC entered into force on 21 March 1994 and now has 194 parties.

At the 1997 COP3, the Kyoto Protocol (KP) to the UNFCCC was adopted. The central feature of the KP is its requirement that Annex I countries limit or reduce their greenhouse gas emissions by at least 5% below 1990 levels (and in some cases 1995 levels) in the period 2008-2012. By setting such targets, emission reductions took on economic value. To help countries meet their emission targets, and to encourage the private sector and developing countries to contribute to emission reduction efforts, negotiators of the Protocol included three market-based mechanisms – emissions trading, the clean development mechanism and joint implementation.

The KP identifies policies and measures that can be taken by countries (Art. 2) and quantified commitments for Annex B countries on six GHGs (Art. 3), and reiterates other commitments (Art.10). Countries need to communicate their measures (Art. 7) and these are then reviewed (Art. 8).

Swaziland ratified the UNFCCC on 7 October 1996 and the Kyoto Protocol on13 January 2006.

2 Legal and Policy Framework

The legal and policy framework for Swaziland supportive of climate change is fragmented and falls across several ministries. Swaziland does not currently have any specific climate change legislation or policy. However, the country has numerous obligations agreed to under international conventions and national policies and strategies.

2.1 International Conventions

At the international level, recognition of climate change challenges is contained within several environmental conventions and subsequent COP Decisions.

The increasing recognition of anthropogenic changes in the natural environment as a result of human interference has resulted in the international community agreeing on a number of multi-lateral environmental agreements. These were initially proposed at the United Nations Conference on Environment and Development (UNCED), held in June 1992, in Rio de Janeiro, Brazil. Known as the Earth Summit, these agreements provide a set of principles and obligations related to the protection of Earth and to the improvement of life quality of its inhabitants through sustainable development. They were compiled and recorded into a global action plan, Agenda 21.

Specific government commitments to ensuring sustainable development and translation of the ideals contained within the Rio Principles and Agenda 21 were defined in three international environmental conventions:

- UN Convention on Biological Diversity (UNCBD),
- UN Convention on Combating Desertification (UNCCD), and
- UN Framework Convention on Climate Change (UNFCCC)

Central to the objectives of each of these Conventions is recognition of the potential that such anthropogenic changes have to undermine the sustainability and development of livelihoods and the global diversity upon which all of these system processes rely. The conventions on Biodiversity (UNCBD), Desertification (UNCCD), and Climate Change (UNFCCC) have all come into force with the conventions on Biodiversity and Climate Change having been expanded to include new legal mechanisms - the Biosafety and Kyoto Protocols. The Kyoto Protocol, under the UNFCCC, came into force on February 16, 2005.

The UN Conventions provide a framework for countries to ensure sustainable development with specific commitments to mitigate and manage the effects of human developments and pressures on the natural environment. They call for specific policies, strategies and solutions to mitigate the loss of biodiversity, effects of climate change, and desertification. In particular, each calls on countries to integrate these objectives into national and regional development plans, policies, programmes, and strategies.

2.2 National Policies

The national policy framework includes the 1999 National Development Strategy (NDS) with longterm development Vision 2022 and the 1997 Swaziland Environment Action Plan (SEAP). All other policies and strategies have been formulated to facilitate the vision of the NDS. The NDS identifies environmental protection as a cornerstone in the national development process. Due to the timing of the development of these policies and strategies, climate change was never included as a risk or threat and so remained specifically unaddressed. Rather Swaziland has responded in its national

policy framework to addressing global environmental issues, of which the most relevant in this context is climate change.

At national level, climate change challenges are addressed around the legal and institutional framework established around disaster management. Disaster Risk Management started formally in Swaziland with the National Disaster Task Force (NDTF) which was established in response to the 1991/92 drought. In 1999 Government prepared a National Disaster Management Policy and in 2000 a Swaziland National Disaster Management Plan. In 2006 a National Disaster Management Act came into effect followed in 2008 by the Swaziland Disaster Risk Reduction National Action Plan (NAP) 2008-2015.

The National Disaster Management Policy was written at a time when the negative impacts of global warming were only considered a 'possibility' and the potential effects of the growing HIV/AIDS pandemic were hardly imagined. The policy however did recognise that promotion of disaster management as a sustainable activity must be integrated into development planning and programming with an emphasis on an integrated cost-effective and self-reliant approach to disaster management building on the work and ongoing activities of government institutions, NGOs and International Agencies. The Policy highlighted the coordination and guiding role of the National Disaster Management Agency (NDMA), working on the basis of strategic partnerships and good information. The Policy had a focus on assessment of risk, analyzing and addressing vulnerabilities through the partnership approach. Though local level interventions were light, the Policy Objectives did call on Government "to foster a culture of disaster prevention through sustainable development focusing on the reduction of poverty and vulnerability in communities . . ." and "to promote self-reliance at national and community levels and to facilitate the participation and involvement of local communities in devising and implementing strategies for effective vulnerability reduction."

The Policy states that disaster management should be implemented in Swaziland according to several principles including a focus on promoting self-reliance; community participation and involvement; adapted to local conditions; holistic and comprehensive; responsibility of all levels of Government and integration into development planning.

The National Disaster Management Act of 2006 legislates for an integrated and coordinated disaster management approach and provides for the institutional mechanism, including structures, functions, authorities and responsibilities of major actors.

In 2008 the National Disaster Task Force was integrated within a new institutional structure and was re-named the National Disaster Management Agency. The NDMA has a mandate for, amongst others:

- Establishing a National Disaster Management Plan for the country which the Minister shall submit to the Cabinet for approval;
- Supervising and monitoring disaster response, preparedness, mitigation and prevention programmes for the country;
- Managing the national emergency operations system;
- Coordinating, facilitating and monitoring the implementation of disaster management policies, plans, programmes and procedures;
- Administration the National Disaster Management Fund, as established under section 35 and managing national emergency assistance commodities;
- Promoting and implementing public awareness programmes especially in respect of known hazards;
- Coordinating needs and impact assessments in the event of a disaster occurrence;

According to GFDRR (2010), the NDMA is tasked with enormous responsibilities both administratively and in terms of the security and safety of the nation. It is therefore to be expected that the capacity of the Agency is consistent with its roles and responsibilities. However until 2009, the NDMA functioned with the same capacity as the original NDTF. In mid 2009 the first full time Disaster Manager was

appointed and in January 2010, the Swaziland Vulnerability Assessment Committee (SVAC) was institutionalized into the NDMA with a full time coordinator. In the meantime, the seconded logistics officer, who has been working since for several years with the NTDF and as acting director within the NDMA is anticipated to return to his original ministry. This will result in reduced capacity and loss of institutional memory.

Other supportive policies include the Food Security Policy, the Alien Invasive Strategy and Action Plan, the Forest Policy, the Comprehensive Agricultural Sector Policy, the Energy Policy and the Water Policy. All make specific reference to climate change and suggest various strategies to overcome the challenges.

2.3 National Legislation

Overarching legislation is contained within the provisions of the Environmental Management Act of 2006. The purpose of the Act is to provide for and promote the enhancement, protection and conservation of the environment and where appropriate, the sustainable management of natural resources. The Swaziland Environment Authority, as the administrative custodians of our environment, are involved in waste management, preparation of State of Environment reports, administration of environmental impact assessments for projects and environmental audits for on-going activities, pollution control

Climate Change is largely referred to in the 2010 draft Disaster Management Policy and the Disaster Management Act of 2002.

Other important supportive Acts include:

- The National Trust Commission Act (1972)
- The Game Act (Amended) (1991)
- The Waste Regulations (2000)
- The Flora Protection Act (2001)
- The Water Act (2003)
- Ozone Depleting Substances Regulations (2003)
- The Water Pollution Control Regulations (2010)
- The Air Pollution Control Regulations (2010)

Currently in draft form is a Biodiversity Conservation and Management Act.

2.4 Local Vulnerability to Climate Change

The assessment of impacts and vulnerability is important for determining the levels and rates of climate change which would result in ecosystems, food production or economic development being threatened to a level sufficient to be defined as dangerous.

Vulnerabilities to anthropogenic climate change have been observed by the IPCC to be strongly regionally differentiated, with often those in the weakest economic and political position being the most susceptible to damages. Climate change is occurring and is widely recognised to be a serious risk to development due to the dual relationship between development and climate change. On the one hand, climate change influences key natural and human living conditions and thereby also the basis for social and economic development, while on the other hand, society's development priorities influence both the GHG emissions that are causing climate change and the vulnerability.

The impacts of climate variability, manifested in floods, droughts, unseasoned rains and extreme events, create enormous developmental challenges for developing countries and the poorest communities due to their dependence on climate sensitive economic sectors, such as rain-fed agriculture, and their limited economic, technological and human capacities. There is currently very

little information that is of practical use to decision-makers, on the precise extent and impacts of climate change, especially for any specific location within a country.

The high vulnerability of Africa to various manifestations of climate change has been confirmed in reports of the Intergovernmental Panel on Climate Change (IPCC) and other publications. Some of the severest impacts seem likely to be in the currently food insecure areas of sub-Saharan Africa with the least ability to adapt to climate change or to compensate for it through greater food imports (FAO, 2007). These climate changes will have serious impacts on all four dimensions of food security: food availability, food accessibility, food utilization and food systems stability amongst others.

Swaziland is also highly vulnerable and as identified in Swaziland's First Communication to UNFCCC, the most vulnerable sectors are:

- · Water resources, especially in internationally shared basins;
- Agriculture, in issues of food security at risk from declines in production in an uncertain climate;
- Natural resources and biodiversity, on future types of ecosystems, tree growth, distribution and mortality of species; and
- Health, on vector-borne diseases as they relate to anticipated changes in climate parameters, notably precipitation and temperature.

Swaziland has always been affected by hazards such as climate variability induced droughts, floods, wild fires, windstorm, hailstorm, epidemics etc. These have resulted in destruction of property, economic losses, environmental loses and death. Since the 1980's, levels of disaster risk have been increasing with more frequent occurrence of disaster events.

According to Manyatsi et al (2010) communities in Swaziland have reported that they are experiencing increased frequencies of drought, wind storms, lightening, and hailstorms. National agencies have, in terms of the Disaster Risk Reduction National Action Plan, been identified to assist in disaster preparedness (Table 1). All these accompany physical damage to property and injuries. With the increasing manifestation of global warming, it is expected that such hazards will continue to have adverse effects to developing countries including Swaziland. Climate change experts have predicted that Southern Africa is becoming drier with obvious implications to agricultural production, food security and economic development.

Disaster/Incidents	Lead Ministry
Drought	Ministry of Agriculture
Plant Pest & Animal Diseases	Ministry of Agriculture
Epidemics and other health hazards	Ministry of Health and Social Welfare
Wild fires	Ministry of Agriculture and Dept. of Fire and Emergency Services
Windstorms, Hailstorms	Ministry of Public Works and Transport
Environmental degradation, degradation	Ministry of Tourism and Environment Affairs; Ministry of Agriculture
Chemical and Industrial accidents	Ministry of Tourism and Environment Affairs
Refugees and Internally displaced people	Ministry of Home Affairs and Ministry of Defence
Terrorist Acts	Ministry of Home Affairs and Ministry of Defence
Floods	Ministry of Public Works and Transport and Dept. of Water Affairs

Table 1: Lead agencies on specific disasters

3 National Environmental Context

Swaziland lies between latitudes 25 and 28 degrees south and longitudes 30 and 33 degrees east. To the north, west and south it is bordered by South Africa, to the east by Mozambique. The total area is approximately 17,360 km². Although Swaziland is small in size, it shows a large variety in landscape, geology, climate, habitat and biodiversity, as it lies at the transition from the Transvaal Plateau (with a base level reaching over 1500m) to the Indian Ocean coastal plains of KwaZulu Natal and Mozambique. Western Swaziland is part of an escarpment, Eastern Swaziland part of the coastal plains. A prominent cuesta ridge, the Lubombo Range, separates the Swazi coastal plain from the Mozambican coastal plain.



Figure 1 - Map of Swaziland

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3.1 Physiography

The country can be divided into six physiographic regions which take account of geology, climate, landforms and vegetation. These are: the Highveld; the Upper Middleveld; the Lower Middleveld; the eastern and western Lowveld and the Lubombo Escarpment





The four identified ecosystems are: montane grasslands, savanna-woodland mosaic, forests and aquatic systems. These are further sub-divided into six major habitats, namely montane grassland, sour bushveld, Lowveld bushveld, Lebombo bushveld, forest and aquatic. The major vegetation or habitat types are shown in Figure 3 below. The savanna ecosystem has the greatest area under protection (5%), and supports the highest number of species. Swaziland has very distinct physiographic zones with climatic variation, divergent geology and consequently diverse landforms.



Figure 3: Vegetation Types in Swaziland

3.2 Climate

The overall climatic characterization of Swaziland is subtropical with summer rains (75 percent from October till March) and distinct seasons. The physiographic zones show different climatic conditions, ranging from sub-humid and temperate in the Highveld to semi-arid and warm in the Lowveld. Swaziland lies at the transition of major climates zones, as it is influenced by air masses from different origins: equatorial convergence zone, subtropical eastern continental moist maritime (with occasional cyclones), dry continental tropical and marine west Mediterranean (winter rains, with occasional snow).

Table 2 gives an overview of climatic conditions based on long term averages (1961-1990). The mean annual rainfall ranges from 1450 mm in the Highveld to 550 mm in the Lowveld, however substantial annual variations occur, leading to both drought and floods. Drought has always been an inherent characteristic of the semi-arid climate. Rainfall figures of the zones are overlapping, which is caused by the overall higher rainfall in the northern part of the country.

Physiographic or	Mea	n Temperature	∋ (°C)	Rainfall (mm)
Agro-ecological Zone	Annual	January	July	Mean Annual
Highveld	17	20	12	850-1400
Upper Middleveld	20	24	15	800-1000
Lower Middleveld	21	25	16	650-800
Western Lowveld	22	26	18	625-725
Eastern Lowveld	22	27	17	550-625
Lubombo Ridge	21	26	17	700-825

Table 2: Physiographic zones in Swaziland based on a climatic classification derived fromlong term averages (1961-1990)



Figure 4: Distribution of Mean Annual Rainfall



Figure 5: Distribution of Mean Annual Temperature

3.3 Water Resources

Surface water resources of Swaziland are estimated at 4.5 km³/year, half of which originates from South Africa. The four main river systems in Swaziland include the Komati and the Lomati, the Mbuluzi, the Usuthu and the Ngwavuma. All rivers rise in South Africa and flow eventually to Mozambique (Figure 6).





The water that Swaziland can extract from its main river basins is limited by agreements with South Africa and Mozambique. A Tripartite Permanent Technical Committee (TPTC) addresses international water right issues. As a member state, Swaziland recognises the 1995 and 2004 revised SADC Protocol on Shared Watercourse Systems, which resulted from the Dublin Conference and Agenda 21.

The availability of groundwater is constrained by the physical characteristics of the aquifers, and virtually all irrigation in Swaziland is based on surface water. No quantitative assessment of groundwater resources has yet been made, but the potential groundwater is thought to be limited.

A total of 11 major dams are involved and are used for irrigation, domestic and industrial purposes (Figure 7). They have a combined storage capacity of 743 Mm³.

There are 11 major dams in Swaziland that store water for irrigation, domestic and industrial purposes, with a combined storage capacity of 743.2 Mm³ (Figure 7).

Name Properti es	Lubovan e Dam ¹	Van Eck Dam	Lavumis a Dam	uphohlo Dam	Maguga Dam	Mnjoli Dam	Mkinkom o Weir	Nyetane Dam	Sand River Dam	Sivunga Dam	Hawane Dam
Capacity (Mm ³)	155	10.4	0.345	23.6 (GSC)	332 (GSC)	153 (GSC)	3.2 (original)	6	50	6.9	2.75
				20 (NSC)	302 (NSC)	131 (NSC)	2.0 (present)		44		
Surface area at FSL (ha)	1,390	124.00	27.22	120.00	1,042.00	1,500.00			590.00	110.00	70
Draws water from	Usuthu River	Usuthu River	Pongolap oort Dam	Lusushw ana River	Komati River	Black Mbuluzi River	Lusushw ana River	Nyetane River	Komati River	Nyetane and Usuthu Rivers	Mbuluzi River
Height (m)	50	17.9	16.05	45	115	42	15	20	25	13.25	11.5
DWL (m)		1,200	580	450	870	1500	400	630	1,478	1,200	
FSL (masl)	224.00	135.88	7.52	1015.8	626	294.5			297.5	129.25	1 367
Max drawdow n (m)		120	2	997 (masl)	526	260.5	6 m from spill crest		9.5	119.0	10
Туре	Clay core Rock fill	Rock fill	Earth	Rock fill	Earth Rock fill	Rock fill	Rock fill	Earth	Earth	Earth	Concrete
Date establish ed	2009	1969	1996	1984	2001	1980	1963	Raised 1992	1965	1972	1984
Use	Irrigation	Irrigation	Irrigation	Power	Irrigation Domestic Power	Irrigation	Power	Irrigation	Irrigati on	Irrigation	Water supply
Location	26° 10'S	26° 45'S	27° 17'S	26° 22'S	26°06'S	26° 10'S	26° 30'S	26° 38'S	25° 58'S	26° 40'S	26° 14'S
	31° 40'E	31° 55'E	31° 51'E	31 [°] 05'E	31°14'E	31° 41'E	31° 18'E	31 [°] 57'E	31° 42'E	32° 00'E	31 [°] 05'E
Place	Siphofan eni	Ubombo Sugar (Big Bend)	Lavumisa Border (Golela)	Siphocosin i	Nkomanz i (Pigg's Peak)	Dvokolwa ko (Manzan a)	Matsaph a	Big Bend	IYSIS Schem e	Ubombo Sugar (Big Bend)	Hawane

Figure 7: C	Capacity, use,	types and	characteristics of	of existing la	arge reservoirs	in Swaziland
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* GSC = gross storage capacity; masl = metres above sea level; NSC = net storage capacity; FSL = full supply level; DWL = dam wall length

Source: MNRE, WRB (2006)

¹ Lubovane has three dam walls: (i) Mhlatuzane – roller-compacted concrete, 50m high max; (ii) Golome – clay core rock fill, 50m high max; (iii) South saddle – earth embankment, 8m high max.

The Water Act 2003 calls for improved catchment management by improved stakeholder participation and decentralization of the management of the water resource. The Act also calls for the preparation of a Water Resources Master Plan to better equip stakeholders with sustainable water management requirements and makes mandatory the establishment of River Basin Authorities (RBAs).

In 2006 Swaziland initiated the preparation of its Integrated Water Resources Management Plan (IWRM) in fulfilment of the Johannesburg Joint Implementation Plan with Dutch funding. Though still under preparation, the IWRM Plan will provide crucial guidance to decision-makers and water users on how best to manage the country's water resource.

A Water Policy was drafted in 2009 and will be presented to Cabinet for approval before the end of 2010. The Policy recognises the impact of climate change on water resources and the need to adapt systems and management of basins to match the significance of the predicted effects.

3.4 Population

The 2007 population of Swaziland was 1,018,449, with a corresponding annual growth rate of 0.9% which represents a decline from the previous census of 2.9%. The demographic distribution is such that 22.1% of the population lives in urban areas and 77.9% in rural areas. Life expectancy is 42 for men and 43 years for women.

Administrative Region	Area (km²)	Average Household Size			Populatio	n Count	:		Popul (pe	lation De eople/Kr	ensity n ²)
			1986	5	1997	7	2007		1986	1997	2007
			Total	%	Total	%	Total	%			
Hhohho	3,569.4	4.6	178,936	26.2	255,455	27.5	282,734	27.8	50.1	70.7	78.1
Manzini	4,068.4	4.4	192,596	28.3	280,972	30.2	319,530	31.4	47.3	68.4	77.8
Shiselweni	3,779.4	5.5	155 <i>,</i> 569	22.8	198,978	21.4	208,454	20.5	41.2	52.3	55.1
Lubombo	5,947.1	4.9	153,958	22.6	194,323	20.9	207,731	20.4	25.9	33.3	33.6
Total	17,364.3	4.7	681,059		929,718		1,018,449		39.2	53.6	58.7

Table 3: Population Density by Region, 1986-2007

The population size and structure have been significantly affected by the rapid spread of HIV/AIDS. HIV infection levels among pregnant women attending selected maternal clinics increased rapidly from 3.9% in 1992 to 42.3% in 2004. An estimated 26.1% of Swazis between the ages of 15 to 49 are now living with HIV - the world's highest prevalence.

This AIDS epidemic is characterized by increased morbidity and mortality as well as an increased number of orphans. The demand for health services has increased, surpassing the resource capacity for health care. As a result of the pandemic, the population is projected to further decline over the next decade.

3.5 Land Tenure

The land tenure system in Swaziland is divided into two main categories: communal land held in trust by the King, called Swazi National Land (SNL), which amounts to about 74 percent of the area, and land that is under Title Deed (TDL), accounting for the remaining 26 percent. However, not all land under SNL is communally used: about 25 percent of it is controlled by the Ministry of Agriculture, parastatals, or companies. The TDL area is used for commercial tree plantations and livestock production, as well as for the cultivation of sugarcane, citrus, pineapple, vegetables, and fodder crops.

The SNL area is mainly used for communal extensive grazing and subsistence crop production. Maize is the most important crop, followed by groundnuts, pumpkins, beans, sweet potatoes and vegetables. Sorghum, cowpeas, melons, watermelons, cassava, bananas, peaches and avocados are produced in limited quantities. The share of crop production on SNL of total agricultural output has dropped from 33 percent in 1996 to 14 percent in 2003. Demand for food is larger than production: currently roughly 60 percent of the food consumed in the country is imported (maize, wheat, vegetables, dairy products and other food commodities).

3.6 The Economic and Social Context

Swaziland is highly rural (77%) with a total population of approximately 1 million and is classified as a middle-income country, yet due to its highly skewed income distribution many of the economic and social indicators seem to belie this classification. Despite a relatively high per capita income of \$5,708 (PPP - IMF World Economic Outlook 2010), giving it a ranking of 106 out of 181 countries, 69% of the population live on less than \$1 US per day. Swaziland's UN Human Development Index (HDI) ranking has fallen from 103rd in 1990 to its current position of 142nd, indicative of the major social problems that the country is facing.

Swaziland has the highest rate of HIV/AIDs and tuberculosis in the world, which has lead to a coepidemic and resulted in the halving of life expectancy from 56 years in 1986 to 32 years in 2007. Over half of Swaziland's population is below 20 years old and there are estimated to be 144,000 orphans and vulnerable children (OVCs). There is evidence that fundamental societal changes are taking place with the majority of children (32%) being brought up by their mother or with no parent (28%) at all; nuclear families are the minority (23%). This, coupled with the high unemployment rate (estimated to be 30%) has created grave concern for the future.

Economically Swaziland is highly dependent on South Africa, not only is the Swazi Emalangeni pegged to the South African Rand but South Africa accounts for 90 % of Swaziland's imports, 60% of its exports, and 60% of its electricity. Most importantly the Southern Africa Customs Union (SACU) accounts on average for 60% of total government annual revenue. However, in 2010/11 Swaziland's SACU receipts fell by 62% resulting in a 28% reduction in overall government revenues for the year. This has lead to 14% cuts in line ministries' budgets, with the exception of health and education which continue to increase in both relative and absolute terms. Swaziland is expected to run a budget deficit of 13.3% of GDP in 2010/11.

Sector	2003	2004	2005	2006	2007	2008	2009
Agriculture, hunting, forestry and fishing	11.7	11.0	11.3	10.7	10.5	10.4	10.0
Mining and quarrying	0.3	0.3	0.2	0.2	0.1	0.1	0.1
Manufacturing	38.5	37.8	37.1	36.4	36.1	35.8	34.3
Electricity, gas and water supply	1.2	1.2	1.2	1.2	1.2	1.2	1.3
Construction	3.6	4.1	4.2	4.0	4.0	3.8	3.6
Wholesale, retail, hotel and restaurants	8.9	9.4	10.0	10.8	11.5	11.7	12.2
Transport and communication	8.0	8.3	9.2	9.4	9.4	9.8	10.2
Financial intermediation	3.5	3.5	3.5	3.6	3.6	3.6	3.8
Real estates and renting	6.9	6.8	6.7	6.7	6.7	6.9	7.0
Public administration	17.0	17.1	16.0	16.3	16.5	16.4	17.1
Other community and social activities	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total value added	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sectoral contributions to GDP are presented in Table 4.

Table 4: Percentage sector contribution to GDP at basic prices

Source: Source: CBS 2010

Mainly as a result of the global financial crisis, GDP declined from 3.2% in 2008 to -0.5% in 2009 and is expected to be 1% in 2010 and 1.8% in 2011, far short of the 5% level needed for development.

Swaziland's classification as a middle income country is often misleading, given the high levels of poverty (69%), food insecurity (25-50% of population dependent on food aid) and co-epidemic of tuberculosis and HIV/AIDS (highest HIV and TB rates in the world). In 2009 Swaziland suffered a reduction in the Southern African Custom Union (SACU) receipts, due to the global crisis, which led to a 28% reduction in the 2010/11 government budget.

According to the Central Bank of Swaziland (CBS, 2009) Swaziland's inflation rate surged to doubledigit figures in 2008 and maintained an upward trend at least for the first three quarters of the year. The average rate for 2008 was significantly higher at 12.6 percent compared to the 8.1 percent recorded in 2007. Transport and food prices were the major contributing factors to the deteriorating inflation outlook. These two factors collectively contributed 75% to the overall price increases in 2008 both accounting for over 46% of the basket of commodities in the CPI. Domestic price levels were also affected by the weakening of the lilangeni/rand exchange rate aggravated by rising inflation in South Africa, the country's main trading partner. This is to be expected given that the country imports over 90 percent of its goods and services from South Africa.

The 2008-2009 Annual Report from the Central Bank of Swaziland (CBS, 2009) reported that after recording an impressive growth rate of 3.5% in 2007, official estimates put real GDP growth at 2.6% in 2008, which is a downward revision from an initially projected growth rate of 3.5% for 2008. Dampening growth in 2008 was the negative performance of some export commodities and the persistent slow growth in foreign direct investment. The subdued performance of the export sector is attributed to the decline in the economies of trading partners partly as a result of the second round effects of the global financial crisis on developing countries.

Apart from the SACU, agriculture has traditionally been the cornerstone of country's economy, an attribute that renders the latter particularly vulnerable to impacts of climate change on this sector. The post-independence era has however seen a shift of the economy out of agriculture into industry and services with the associated increases in energy demand and related resource inputs.

Nevertheless, to the extent that a large portion of the manufacturing sector is agro-based (mainly sugar, wood pulp and citrus canning), the base of the economy is therefore still agricultural. A meaningful diversification of economic activity areas is necessarily desirable if the country is to reduce its level of vulnerability due to over reliance on climate-sensitive sectors.

4 Climate Change in Swaziland

Swaziland does not have sufficiently long instrumental climate data to reliably construct past climates. As a result the wider temperature record for Africa south of the equator is used to present the climate of the twentieth century for the sub-region. Such an analysis shows a warming of almost 1°C between 1900 and 1980 and an average warming of 0.05°C per decade over the almost 100 year period.

According to projections by the IPCC, if current trends of GHG emissions remain unchanged, GHG concentrations in the atmosphere will double by the year 2075 with the result of global temperatures increasing by about 2.5°C. The IPCC Third Assessment report and other studies suggest that by 2050 temperatures and rainfall over southern Africa will be 2-4°C higher and 10-20% less than the 1961-90 baseline respectively.

The projections from all the models relevant to Swaziland indicate that there will be temperature increases in future years (Swaziland's First Communication to UNFCCC, 2002). In general, the models project total annual rainfall amounts by 2075 falling below those received under current climate by single digit percentages. The monthly situation projects amounts that are higher than those under current climate in the late spring to midsummer period (October to January). For the rest of the months of the year projections give future rainfall amounts that are lower than under current climate.

As most of the country's annual rainfall is received over the summer period, an increase in precipitation over this period is likely to result in flooding conditions. The projections of winter rainfall reduction also pose the problem of higher possibilities of drought occurrences. Other meteorological conditions that are related to either temperature or rainfall are likely to be equally affected. In addition, the risk of extreme events such as drought and flooding is likely to be greater as a result of climate change (Swaziland's First National Communication to UNFCCC, 2002).

4.1 Vulnerability of Swaziland to climate change

The high vulnerability of Africa to various manifestations of climate change has been confirmed in reports of the Intergovernmental Panel on Climate Change (IPCC) and other publications. Some of the severest impacts seem likely to be in the currently food insecure areas of sub-Saharan Africa with the least ability to adapt to climate change or to compensate for it through greater food imports (FAO, 2003).

In the context of Swaziland, the sectors that are climate sensitive and hence highly at risk are (Swaziland's First Communication to UNFCCC, 2002; and Swaziland Risk Vulnerability Report, 2005):

- Water resources, especially in international shared basins;
- Agriculture, in issues of food security at risk from declines in production in an uncertain climate;
- Natural resources and biodiversity, on future types of ecosystems, tree growth, distribution and mortality of species; and
- Health, on vector-borne diseases as they relate to anticipated changes in climate parameters, notably precipitation and temperature.

4.1.1 Water resources

As climate change will have an effect on water resources, a study was made to evaluate the response of the Usuthu river basin where the majority of the population lives. The model runs gave projections up to the year 2075 and projected stream flows that are higher than those under current climate in the late spring to midsummer period (October to January). For the rest of the year projections gave future flows that are substantially lower than those of corresponding months under the current climate (Swaziland's First Communication to UNFCCC, 2002).

In terms of total annual runoff, the Global Circulation Models (GCMs) gave an overall average reduction in runoff ranging from 2 to 6 percent in a normal year and even higher for dry years (Swaziland's First Communication to UNFCCC, 2002). Such changes will translate to increased possibilities of flooding in the rainy season due to higher flows and drought-related conditions in winter due to low flows. As the projections depict an overall reduction in annual runoff, the drought conditions are expected to be more pronounced but floods will be frequent features of future climate. Effects of this will likely find its way into groundwater recharges and salinity as well as dam capacities.

4.1.2 Agriculture

Agricultural production is very sensitive to weather and climate variations. The performance of a number of important crops has been assessed under the present climate as well as under projected future conditions (2025), employing defined models (Swaziland's First Communication to UNFCCC, 2002; and Swaziland Risk Vulnerability Report, 2009). Some of the main results indicate that for some crops the conditions may improve in the current high rainfall and cool temperature zones (Highveld and Upper Middleveld). However, the change in projected yields for the current low rainfall zones (Lowveld, Lubombo) is very negative, in the order of minus 30 to 60 percent for most crops.

The overall outlook for the agriculture sector is not favourable, but effects of climate change will vary with different crops. The effect will however be negative for maize, which is the staple crop in the country. The yield of maize, the staple crop, is expected to decline by as much as about 60 in some areas, and even the Highveld may not be suitable at all for growing maize in the next 25 years. Also sorghum and beans yields are in general projected to decrease. Temperate crops like potatoes may not do well with increased temperatures. The impact may be positive for some crops such as sugarcane. The climatic change will bring about changes in cropping pattern and planting dates. One of the adaptation measures that may be followed is to adjust the traditional planting season for key food crops.

The forecast reduction in maize yields indicates a likely negative impact on the country's food security and signifies a likely need for increased imports of this staple crop with associated higher prices. The poor will find it increasingly difficult to grow or purchase this staple, leaving them highly vulnerable to food insecurity. The government may not be able to fulfil its development goals of increasing rural incomes and improving the nutritional status of the population, and an increasing percentage of the population could depend increasingly on international food aid.

4.1.3 Land use

The long-term climate changes as indicated in Swaziland's First Communication to UNFCCC may include that current land uses will have to be changed, as they no longer render productive and viable under changed climatic conditions. Biomass production and plant species biodiversity is forecasted to be significantly reduced in certain areas, which will impair on land use such as extensive grazing and community forestry. Changed rainfall patterns and higher temperatures will impact on the cultivation of certain crops. The result of these changes will be that in the future these land uses have to adapted or be substituted by others.

4.1.4 Ecosystems and Biodiversity

The predicted warming and drying of Swaziland's climate will result in detrimental changes to biodiversity and to the delivery of ecosystem services to local communities. Stream flows, soil water content and ecosystem productivity are likely to decrease. This will reduce the supply of ecological goods and services (e.g. drinking water, wild fruits and vegetables, timber, medicinal plants). Enhancing ecosystem resilience to these predicted changes is of critical importance if the provision of ecological goods is to be maintained into the future.

The effect of climate change on ecosystem distribution is predicted to be a westward shift and shrinking in size of the regions presently covered by the subtropical moist (in the western part) and subtropical dry forests (in the eastern part). Furthermore the country is projected to see the introduction of a tropical very dry forest type of ecosystem in the eastern flanks taking as much as up to one fifth of the total land area (Swaziland's First Communication to UNFCCC, 2002). These changes are likely to compromise conservation of biodiversity, with possible extinction of more mesic-adapted species in certain landscapes.



Figure 8: Current vegetation/habitat types (left) and biomes (right) of Swaziland

Effects of climate change are expected to vary substantially between the main physiographic/agroecological zones of Swaziland. These zones form a suitable framework for showing spatial distribution of ecosystem change, soil erosion, and biodiversity loss. Adaptation is the process to improve society's ability to cope with changes in climatic conditions across time- and policy scales. Following a brief review of agricultural policy in the context of climate change adaptive responses for the agricultural sector are structured along technical, policy and institutional topics, and include inter alia diversification options, management practices, improving the exercise of best technical options as well as the improving the characteristics of such available options, and communication and translation of information.

Many of the most important impacts of climate change on biodiversity will be the indirect ones at the community and ecosystem levels, together with the interactive effects with existing stressors. For example, for wetlands, the major threats of climate change are not the direct impacts on vulnerable species but rather an intersection of effects due to changing fire regimes, overgrazing, farming and overutilization, as well as the consequences of climate change for a suite of invasive weed and animal species. Such indirect effects highlight the difficult but important issues that biodiversity managers face in responding to climate change – severe uncertainties, non-linearity's, time lags, thresholds, feedbacks, rapid transformations, synergistic interactions and surprises. The probabilistic trajectories of predicted impacts are non-linear, which indicative of the inherent uncertainties associated with climate change projections and the complex relationships among natural sub-systems.

5 The Swaziland Parliament

The system of governance in Swaziland has evolved from a long history, dating from pre-colonial times. The General Law and Administration Proclamation (No.4 of 1907) established the Roman-Dutch Common Law, while the Constitutional Law Act (No. 50 of 1968) created a Westminster type of administration that provided law courts, a civil service, a bicameral parliament and the cabinet presided over by the Prime Minister. There has thus been an inter-play of the parliamentary system of governance from the British and the traditional system that is underpinned by the monarchy.

These two systems have shaped the present pattern of national political processes, laws and policies. Consequently, the country has a dual system of governance. Swaziland's type of governance is such that the western parliamentary and the traditional system, based on the Tinkhundla, run parallel. An Inkhundla is a traditional meeting place where matters of local concern are discussed. In modern Swaziland, the Tinkhundla, have evolved into economic growth points and local government administration centres. Each Inkhundla is made up of about 10 chiefdoms (Imiphakatsi). Currently, there are 55 Tinkhundla centres, that also double as constituencies for parliamentary elections under the modem system of governance. The Tinkhundla system is a vehicle for the implementation of government activities.

5.1 The Constitution

In 2005 the country adopted its second Constitution after a prolonged and consultative drafting period.

When Swaziland attained independence in 1968 it adopted a constitution based on the Westminster parliamentary model, which clearly spelt out the separation of powers between the three arms of government: judiciary, executive and legislature. However, in 1973 King Sobhuza II repealed the 1968 constitution and all the three arms of government were vested in His Majesty. In 1978 King Sobhuza II decreed the establishment of a new tinkhundla²-based electoral system for the bicameral parliament. The Tinkhundla system is an indirect non-party electoral system whereby legislative and executive powers became vested in the King-in-Council but the judiciary remained independent.

This was revoked and replaced with a system designed to facilitate the practise of both western and traditional styles of government. This structure incorporates the system known as Tinkhundla and provides for the people to elect candidates to be their parliamentary representatives for specific constituencies.

² According to this system, the country is divided into 55 electoral districts, each of which elects two representatives to form an electoral college, which then elects the members of the House of Assembly. The candidates up for election do not represent a particular party, but stand as individuals.

5.2 The Parliamentary System

Swaziland is rich in cultural heritage and maintains community-oriented traditional values and strengths which are underpinned by tribal and lingual homogeneity. The Swazi society is dualistic; traditional and conventional values, practices and institutions coexist. Reporting to the King are two well-established structures: a conventional tripartite system made up of the Executive, Legislature (bicameral) and Judiciary (Roman-Dutch law); and a parallel traditional system of government hinged on Swazi customary practices and law.

At independence, Swaziland inherited the Westminster constitution, which was later repealed in 1973, mainly to suite the particular circumstances of Swazis. In 1978, the tinkhundla system, designed along the lines of local constituencies based on chieftaincies, was established, under which parliament was revived, with an electoral college used to elect members of parliament. The term tinkhundla (singular Inkhundla) derives from the area outside of the cattle kraal where men would customarily gather to talk. Elections under the Electoral College system were held in 1978, 1983 and 1987.

In 1992, largely because of rising demand for fuller participation in the country's socio-political development, His Majesty King Mswati III established a commission to review the political system of the day. Following consultations with the various tinkhundla constituencies and signalling the beginning of national transformation, the Political Review Commission made a number of recommendations, including the dissolution of the Electoral College; the need for a written constitution; and the need to elect members of parliament directly from the tinkhundla. In 1993, elections were held through a three-stage process: preliminary nomination in chiefdoms, followed by primary and secondary elections at the tinkhundla level.

The House of Assembly is constituted by 55 elected members and 10 royal appointees, whilst the Senate consists of 20 appointees and 10 others selected by the House of Assembly. The Head of Government, the Prime Minister, is appointed by the King. In turn, the Prime Minister appoints Cabinet members, subject to approval by the King.

The headman of each Inkhundla is assisted by an inner committee or bucopho. The functions of each Inkhundla were to act as an advisory outfit to the chiefs on one hand and to the Swazi National Council (libandla) on the other. The Swazi National Council (SNC) at first comprised "the King, the Queen Mother and all adult male Swazis", but the King's Proclamation No. 1 of 1981 changed its composition to "the King, the Queen Mother Princes and Princesses, Chiefs and all adult citizens" (Constitutional Review Commission, 1997:33). However, the SNC as currently constituted as the King's advisory body, no longer includes all adult Swazis; Decree No. 1 of 1986 restricts its membership to the names of those specifically identified in the Decree.

At the local government level, chiefdoms grouped into 55 tinkhundla administrative centres and ruled by about 200 chiefs, exercise authority on behalf of the King, largely through the apportionment and control of SNL. For administrative purposes, the tinkhundla are organized into four districts; i.e. Hhohho, Lubombo, Manzini and Shiselweni districts, each governed by a Regional Administrator, a political appointee. Further, there exist town councils and town boards, serving as municipal governments responsible for urban development.

Power is vested in the King who appoints the Prime Minister and consults with the Cabinet which is headed by the Prime Minister and the bicameral parliament. These aspects comprise the western style of government.

The Swazi National Council, known in the vernacular as Libandla, is the traditional side of government. This is headed by the King and Queen Mother in accordance with the dual monarchy approach, with Queen Mother's main role being to uphold the traditional and cultural elements. All Swazi adult males are entitled to offer advice and counsel on matters pertaining to traditional law and custom.

Swaziland has a bicameral Parliament made up of the House of Assembly and Senate. The Upper House (Senate) comprises 30 Senators of whom 20 are appointed by the King and 10 elected from members of the public by the Lower House. The Upper House also includes the President of the senate and his Deputy including the President of the Senate and his Deputy. The Lower House (House of Assembly) is made up of the Speaker, Deputy Speaker and 53 other members: 35 members of this house are elected and 10 appointed by the King.

The Senate has 30 members, 10 of who are elected by the House of Assembly and 20 appointed by the King.

The country maintains formal registration of voters aged 18 years and above, and elections are conducted every five years.

There are local councils administering the affairs of each Inkhundla.

Elected City Councils and Town Boards, on the other hand, govern the cities and towns.

5.2.1 The Traditional System

The traditional system alongside and intertwined with the conventional modern form of government is a similarly well established Tinkhundla structure of governance reporting directly to the Ingwenyama. The Tinkhundla system is a vehicle for the implementation of government activities. It is a democratic dispensation for the Swazis to run their affairs in their own communities.

5.2.2 The Monarchy

Swaziland's monarchy is dual in nature with the King ruling together with Her Majesty - the Queen Mother (Indlovukati). The King, as the head of government and the Ingwenyama, is advised by the Cabinet, the Swazi National Council (SNC) made up of all Swazi male adults and the Swazi National Council Standing Committee (SNCSC) that includes both men and women. The King-in-Council appoints the Prime Minister and the latter in turn proposes a Cabinet to the King, who then appoints them to the various ministerial portfolios.

5.2.3 The Electoral Process

According to the Constitution the qualifications and disqualifications for voting and eligibility for membership are specified in the following sections of the Constitution. Qualification to vote is specified in:

88(1) as follows: "Subject to the provisions of section 89, a person is qualified to be registered as a voter if, and is not otherwise qualified unless, that person has attained the age of eighteen years and is a citizen of or is ordinarily resident in Swaziland". Disqualification is specified in Section 89 where it is stated that "a person is not qualified to be registered as a voter or to vote where that person –

(a) is certified to be insane or otherwise adjudged to be of unsound mind under any law for the time being in force in Swaziland;

(b) is, for an act which is a criminal offence under the law of Swaziland, under sentence of death or life imprisonment imposed on that person by a court in any country; or

(c) is disqualified for registration as a voter under any law for the time being in force in Swaziland relating to offences connected with elections.

Also, the Constitution has qualifications and disqualifications for membership to Parliament. Qualifications are stated in Section 96 where it is stated that, "Subject to the provisions of this Constitution, a person qualifies to be appointed, elected or nominated, as the case may be, as a Senator or a member of the House if that person –

(a) is a citizen of Swaziland;

(b) has attained the age of eighteen years and is a registered voter;

(c) has paid all taxes or made arrangements satisfactory to the Commissioner of Taxes; and

(d) is registered as a voter in the *inkhundla* in which that person is a candidate (in the case of elected members)

Disqualification under this category is specified in Section 97(1) where it is stated that "notwithstanding the provisions of section 96, a person does not qualify to be appointed, elected or nominated as the case may be, a Senator or member of the House if that person

(a) has been adjudged or otherwise declared-

- (i) insolvent under any law and has not been rehabilitated; or
- (ii) to be of unsound mind;

(b) is under sentence of death or of imprisonment for more than six months for an act which is a criminal offence in Swaziland;

(c) is a member of the armed forces of Swaziland or is holding or acting in any public office and has not been granted leave of absence for the duration of Parliament;

(d) is not qualified to be a voter under any provision of this Constitution;

(e) is otherwise disqualified by law in force in Swaziland relating to general elections;

(f) has been found to be incompetent to hold public office under any law relating to tenure of public office whether elected or not;

(g) is a party to, or is a partner in, a firm or a director or manager, of a company which is a party to any subsisting Government contract and has not made the required disclosure of -

- (i) the nature of the contract;
- (ii) the interest of that person in the contract;
- (iii) the interest of that firm or company in the contract;

(h) holds or is acting in any office the functions of which involve any responsibility for or in connection with the conduct of any election or the compilation or a revision of any electoral register.

5.2.3.1 Registration

The electoral law prescribes that in order to be eligible to vote or voted for, one must be registered and have a voters pass.

5.2.3.2 Primary Elections

The law requires that primary elections are held at the chiefdom level.

5.2.3.3 Secondary Elections

The law stipulates that secondary elections are held at the *Inkhundla* level. For electoral purposes Swaziland has a unique system of *Tinkhundla* which identifies 55 constituencies. In the previous election the issue of boundaries had been raised as a concern because of the unequal size of these constituencies. For example, some areas are too large for one constituency meaning that people have to walk long distances to the Inkhundla centre in order to participate in the Elections. The Constitution of the Kingdom of Swaziland (2005) addressed this concern in Section 91. In Sub-section 1 it is stated that,

during the fourth year of Parliament, the Elections and Boundaries Commission shall review the number and boundaries of 21Inkhundla (constituencies) into which Swaziland is divided and submit to the King a report with recommendations to change or retain the existing position. Sub-section 3 stipulates that,

The boundaries of each Inkhundla shall be such that the number of inhabitants of an Inkhundla is as nearly equal to the population quota as is reasonably practicable having regard to the terrain, the means of communication (transport) within that Inkhundla and any other relevant community interest.

Unfortunately the Elections and Boundaries Commission could not carry out this exercise due to certain constraints.

6 Involvement of Parliament in the National Climate Change Debate

In 2010 government made a decision to establish a new climate change office under the Ministry of Tourism and Environmental Affairs. This Ministry is now the lead ministry for co-ordinating climate change activities in Swaziland based on its administrative and technical capabilities.

In June 2010, the Government of Swaziland created a new inter-disciplinary structure, the National Climate Change Committee (NCCC) to provide the overall direction of climate change activities in the country.

Members of the NCCC include Ministry of Tourism and Environmental Affairs (Chair), the Swaziland National Trust Commission, the Swaziland Environment Authority, the Ministry of Public Works and Transport, the Ministry of Commerce, Industry and Trade, the Ministry of Agriculture, the Ministry of Education and Training, the Ministry of Finance, the Ministry of Health, the Ministry of Foreign Affairs, the Ministry of Economic Planning and Development, the Ministry of Natural Resources and Energy and a representative from the local media (The Nation Magazine).

The UNFCCC National Focal Point is housed within the National Meteorological Services and up to now this agency has assumed all responsibility for climate change matters. A gradual change in the administration of climate change will see the Focal Point move to the newly established Climate Change Office.

7 Climate Change Challenges facing Parliamentarians

Interviews with parliamentarians were conducted in October-November 2010. Accessing the Parliamentarians proved to be extremely problematic due in part to their busy schedules but also possibly due to lack of interest in climate change to spend time being interviewed. The response summaries below are to questions set out in Annex 2.

Question	General Response
1	To the question "What do you understand by the term 'climate change'?" for the most part
	all MPs had a broad understanding of what climate change was. They mentioned
	weather changes like drought and emissions from factories as being responsible causes
	for climate change.
2	To the question "What do you understand by the term 'climate change adaptation'?"
	responses acknowledged that adaptation and research were important initiatives
	government should focus on. One MP suggested that the wider introduction of solar
	power would help.
3	To the question "What do you understand by the term 'climate change mitigation'?" they
	tried to define and simplified the term "climate change mitigation". Their response
	included ways to reduce the damage, control measures and ways of trying to limit the
	effects on climate change.
4	To the question "What impacts do you think climate change may have in Swaziland?"
	most MPs implied they were well informed about the impacts of climate change which
	were heavy rains which are destructive and its changed seasonal pattern which then
	affects their planting pattern resulting in crop losses and the heavy rains also destroys
	infrastructure. Because of climate change, they said, we are losing biodiversity.

	General Response
5	To the question "What should be done to reduce the impact of climate change? Who
	should pay for reducing such impacts?" MPs suggested that Government to formulate
	some laws regarding the companies which come to invest in the country because they
	run away from their countries to pollute in Swaziland. They also suggested that
	Government should look for other ways of living like practising conservation agriculture
	and cars must now change from petrol to emanor because the experiment has been done
	reducing such impacts
6	To the question "Has climate change issues ever been discussed or raised within your
Ŭ	constituency? What types of issues or questions were asked? Were you able to
	confidently respond? What knowledge or skills would assist you handle such questions
	better?" Most MPs said they have discussed the effects of climate change in their
	constituency and they are confident that they responded very well when asked about the
	effects which included question about the rainfall patterns, water harvesting and soil
	erosion. They suggested they need to have classroom type training on climate change
_	and definitely not workshops. Training would be periodic modules.
7	To the question "From your knowledge, what Government ministries / departments are
	responsible for handling climate change issues? Have any of these institutions ever
	think the Ministry of Tourism and Environmental Affairs, the Ministry of Agriculture and
	the Department of Meteorology Most MPs were not sure if any of these institutions had
	presented anything to Parliament.
8	To the question "What previous and or current activities have parliamentarians
	undertaken regarding climate change? What are the lessons learnt from those activities
	for future approaches by Parliament?" Some MPs attended a workshop in London
	organised by the Commonwealth Parliament Association while some attended a MP
	awareness workshop on climate change organised by the Ministry of Tourism and
	Environmental Attairs. They suggest they have questions and motions at Parliament
9	To the question "has Parliament ever debated, amended or approved any hills
3	programmes strategies or policies addressing or covering climate change issues" they
	have not discussed climate change as it is but they have discussed effects issues like
	sandanezwe and as far as they know there's no bill for climate change yet.
10	To the question "what can be done to improve the input of Parliamentarians in debates,
	amendments or submissions on climate change issues" some MPs think the Ministry in
	charge should organise the trainings where by MPs can attend maybe once or twice a
	charge should organise the trainings where by MPs can attend maybe once or twice a week or introduce something like a course where there can be different modules and
	charge should organise the trainings where by MPs can attend maybe once or twice a week or introduce something like a course where there can be different modules and MPs be issued certificate which will encourage them to enrol. Some also suggested they have matiened and uppetions.
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Question	General Response
17	To the question "Do you think this process is effective in ensuring climate change issues are addressed" some MPs said it was not that effective and to improve the process they should resource legislators specifically for climate change and attend workshops and later teach the community. There should be laws for control measures to make sure every citizen adheres to the efforts of improving the environment that tend to have effect on the climate change.
18	To the question "describe Parliament's structure, its operation and support structure dealing with climate change issues" MPs said that when the relevant Ministry recognises an issue it then drafts a bill which the Attorney General then approve. Once approved by the AG, it goes to Cabinet where it is modified and checked for errors. If it passes then it becomes an Act then that is open for publication and comment for 30 days. After that it is presented to the Houses of Assembly by the Minister for that ministry. Then the relevant committee checks for errors again. It is then taken to the Cabinet where votes are conducted. If it fails it goes back to the ministry for amendments. If it passes the Senate committee review of the Act the committee sends it back to the Assembly. The Prime Minister then sends to the King/Palace where it either endorsed or returned to the Parliament or cancelled (if there's no response in 90 days then the committee can go ask for response).
19	To the question "how does a strategy or policy on climate change move from formulation to getting endorsed by the Cabinet" MPs failed to provide direction.
20	To the question "explain how legislation relating to the climate change can be / should be formulated and who should be responsible for this" most MPs believed the Ministry of Tourism and Environmental Affairs should be responsible.
21	To the question "Has there or is there any previous or ongoing parliamentary business regarding climate change" most MPs only mentioned the workshops and the effects of climate change which sometimes come up in Parliament. One MP suggested that climate change should be discussed in relation to democracy because at times it takes a long time to make a decisions regarding climate change because parliamentarians assume the head of country should be the one making decisions.

8 Conclusion and Recommendations

Climate change remains, in Swaziland, an unclear issue with only a limited number of MPs really clear about what it is and what may happen to agriculture, the economy or the impact on the poor. With no clear strategy or policy and no formal legislation, climate change falls into a crack in the legislative and policy framework of the country. MPs interviewed acknowledged that more needs to be done to institutionalise climate change adaptation within existing government structures and greater efforts were needed to raise awareness within and amongst Swaziland's population.

Based on the interviews with the MPs it became clear that climate change is an issue of increasing national importance but the MPs themselves remain, for the most part, poorly informed about its impact and the means by which the country should adapt through formulation and approval of legislation that would empower communities and provide stronger mandates for relevant Ministries to engage with the issue.

MPs interviewed strongly supported the suggestion of training to increase their knowledge and understanding of the issue and the various means of adapting to climate change. The MPs suggested that workshops were not the appropriate tool to accomplish this but that formal training in the form of modules was probably the best route.

MPs knowledge and understanding of the required processes to enact legislation or policies was strong but lacked the support or initiative of the ministry they consider to be responsible for it – the Ministry of Environmental Affairs and Tourism.

To strengthen the role of Parliament and its supporting structures (especially Portfolio Committees) in climate change, the following functional and structural recommendations are suggested:

- Implementation of capacity building initiatives for MPs: There is a strong need for building the capacity and understanding throughout Parliament (and the nation as a whole) on climate change related issues. In this regard, the Ministry assumed to be responsible for addressing climate change (the Ministry of Environmental Affairs and Tourism) should secure resources and expertise to develop targeted training to MPs.
- 2. Improvements in Coordination: the MPs suggested that coordination between and across ministries were inadequate when it came to tackling climate change. The establishment of the National Climate Change Committee was a first step in improving coordination as membership of the committee was cross ministerial. With the help of Parliamentarians, the committee should initiate the development of a strategy or policy to institutionalise climate change issues within all ministries.
- 3. Secure and Correct Information: MPs acknowledged that information about climate change and specifically predicted effects in Swaziland was limited. Though correct to some extent, the recent finalisation of the National Communication to the UNFCCC has made available the latest national information on climate change. Though only a desktop study of emissions and adaptation, the Communication provides a starting point for broader debate and development of easy to read and understand information that would help inform national debate. The National Climate Change Committee should be tasked with delivering the information with the assistance of the University of Swaziland and the private sector. Intervention priorities need to be identified and mainstreamed into government projects and activities.
- 4. **Strengthening the Parliamentary Portfolio Committees**: Portfolio Committee members on the Environment and Tourism, Agriculture, Natural Resources and Energy, and Economic Planning and Development committees need to be strengthened with training and awareness of climate change so that when they debate and discuss issues, these can also be viewed from a climate change perspective.
- 5. Learn lessons from HIV AIDS interventions: when HIV and AIDS first began to be noticeable in the late 1980's most MPs and ministries failed to identify its catastrophic effect on the economy and across all sectors of society. Initial interventions were modest and poorly planned due to a failure to recognise its impact. It took over a decade of public debate to finally raise the impact of HIV and AIDS on Swazi society with strong and committed action notably from the Head of State. Climate change, like HIV and AIDS, is slow acting and will affect all members of society - rich and poor, employed and unemployed - threatening the country's sustainable development and economic development. The fight against HIV and AIDS continues but has been strongly supported with resources from international agencies and strategies debated and agreed upon in public discourse and meetings. Although still unacceptably high, HIV and AIDS infections show signs of decreasing due for the most part from well formulated strategies and based on scientific research and studies. The same battle against the disastrous impacts of climate change now needs to be fought through public debate, multi-sectoral interaction and involvement to develop strategies to adapt. Mobilisation of resources from international agencies must be a priority to develop scientifically credible interventions. Research and awareness raising remain critical to overcome the current knowledge deficit on how climate change will negatively impact on Swaziland economic development.

In conclusion, Parliaments role in the fight against climate change needs to be strengthened with credible information and options so that MPs can mobilise ministerial support and action. The MPs need to be appropriately informed about the options available and role of legislative intervention in mainstreaming climate change adaptation across all government sectors. As a country highly dependent upon agriculture for economic development and livelihoods, the threat to this sector is high and tools are required to gradually develop more robust agriculture development that allows for the continuation of valuable economic outputs (notably through sugarcane) whilst at the same time strengthen subsistence agriculture systems to ensure continued food security and livelihoods.

Parliament's role in this transformation is crucial as they are the ones with the instruments and mandates to ensure a supportive legislative and policy environment.

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10 Appendices

Annex 1: List of interviewees

Name	Contact Number	Inkhundla
France Dlamini	76282717	Nhlambeni
Gundwane Gamedze	76088721	Siphofaneni
Mashwama	76036144	
Peter Ngwenya	76048399	
Majahodvwa Khumalo	76041775	Lobamba
Mahlalela	76049977	Lomahasha
Joseph Souza	76080270	Siteki
Qedusizi Ndlovu	76157178	Matsanjeni
Robert Magongo	76157178	Motjane
Sicelo Dlamini	76029090	
Bheki Mkhonta	76028411	

Annex 2: Interview Guide

Parliamentary Program for Climate Change Adaptation and Mitigation

Interview Questions

The International Institute for Environment and Development (IIED) are working in partnership with European Parliamentarians for Africa (AWEPA) to deliver a project *Parliamentary Program for Climate Change Adaptation and Mitigation* funded by the Foreign and Commonwealth Office (FCO) of the UK Government. This project is working with Parliaments and Parliamentarians in Botswana, Lesotho, Namibia, South Africa and Swaziland.

The main objectives of the study are to describe and assess Parliamentary institutions, their roles and relationships within government and their effectiveness in addressing climate change issues. This is in support of understanding the capacity and awareness of parliamentarians and high level decision makers the critical issue of climate change, especially on the African continent. The information derived from the interviews will be used to make recommendations on how best to involve parliamentarians to encourage holistic and integrated decision making, understanding that climate change is a cross-cutting issue.

- 1. What do you understand by the term 'climate change'?
- 2. What do you understand by the term 'climate change adaptation'?
- 3. What do you understand by the term 'climate change mitigation'?
- 4. What impacts do you think climate change may have in Swaziland?
- 5. What should be done to reduce the impact of climate change? Who should pay for reducing such impacts?
- 6. If you are an MP, has climate change issues ever been discussed or raised within your constituency? What types of issues or questions were asked? Were you able to confidently respond? What knowledge or skills would assist you handle such questions better?
- 7. From your knowledge, what Government ministries / departments are responsible for handling climate change issues? Have any of these institutions ever presented to Parliament what they are doing to handle climate change issues?
- 8. What previous and or current activities have parliamentarians undertaken regarding climate change? What are the lessons learnt from those activities for future approaches by Parliament?
- 9. From your knowledge, has Parliament ever debated, amended or approved any bills, programmes, strategies or policies addressing or covering climate change issues? Please explain what these may have been?
- 10. In your opinion what can be done to improve the input of Parliamentarians in debates, amendments or submissions on climate change issues?
- 11. What are the key issues hampering Parliament in addressing climate change issues effectively?
- 12. Have you heard of the United Nations Framework Convention on Climate Change Nations? Has this Convention been discussed or debated in parliament, if so when?
- 13. Periodically, Parties to the Convention meet to discuss progress in implementing the Conventions. Has Parliament ever debated or discussed Swaziland's participation at these meetings? If yes, describe the range of issues that were discussed.
- 14. Describe the interaction between the parliament and other state organs on climate change? Is it effective, yes / no and why?
- 15. From your understanding, is there any policy/legal framework for climate change and is it easily understandable and implementable and if not why?
- 16. From your understanding, what other policies and or laws do you consider to be applicable or are followed with regard to climate change?
- 17. Do you think this process is effective in ensuring climate change issues are addressed? Yes / No and why and what can be done to improve it?
- 18. From your understanding, please describe Parliament's structure, its operation and support structure dealing with climate change issues?

- 19. From your understanding, how does a strategy or policy on climate change move from formulation to getting endorsed by the Cabinet?
- 20. Can you please explain how legislation relating to the climate change can be / should be formulated and who should be responsible for this?
- 21. Has there or is there any previous or ongoing parliamentary business regarding climate change? In what form did this take? This could include presentations or submissions to parliament or its committees, questions asked, debates held, amendment of existing legislation to address climate change issues and/or debating or amending new climate change legislation. Any other parliamentary business related to climate change but not covered by the above list should also be included.

Annex 3: Interview Results

Parliamentary program for Climate Change Adaptation and Mitigation

Interview Results

Name: Mfanawemakhosi Jomo Dlamini

Role or Position with parliament: Chairperson for Economic Planning and Development Portfolio

Date: 02/11/10

Location: Lobamba

Contact: 76051349

Question	Response
1	The change of weather patterns resulting in low levels of water in rivers, change of rainfall which are sometimes more and destructive and now people cannot plough like before
2	Studying the pattern and adapt to the change and plant during the rainy seasons
3	Ways of reducing the damage
4	There's a little impact as it is less industrialised but we can't plough like we used to and the rainfall pattern has changed, we having storms which destroys infrastructure and human beings are killed.
5	Toxic waste in Matsapha - should encourage companies to be sensitive to climate change and educate them on the impact cars - there are many cars which also contribute to climate change we have to buy new technologies companies that come to invest run away to Africa to pollute because the standards are low so Government must come up with new laws of operating in the country for example the old tyres which are imported to the country, the country is taken as a dumping site.
	Government and companies should pay for climate change.
6	Kings Appointee
7	Ministry of Environment, Meteorology Department. They have a fair visibility as they try to run programs on radio and television .They have never discussed the issue of climate change in parliament.
8	Together with other 4 MPs they attended a workshop in England organised by CPA at which they wrote a summary of the workshop and submitted to the parliament on which issues like the new mall which will be build next to Mbabane central high school were discussed because it will be build on the wetlands and them as MPs think wetlands should be protected in the country.
9	Not sure of climate change bill but maybe the effects of climate change like sandanezwe (invaders)
10	The ministry responsible should be the driver and put more effort to teach about climate change, conduct training not workshops because workshops are just summaries and people are always rushing to finish so they end up having no meanings. Training must be conducted at least for two months or have programs /modules on climate change maybe an hour per day where people can be issued certificate because people like certificates
11	
12	No

13	Not sure
14	As I mentioned before the ministry is trying but it's not that effective
15	Not sure
16	
17	Yes, MPs need to attend trainings on climate change once again not workshops
18	
19	
20	The ministry of tourism and environmental affairs with the Meteorology department
21	Not sure, maybe. I can only remember about the workshop I attended in London. On debated its usually the effects but not climate change as a topic.



Parliamentary program for Climate Change Adaptation and Mitigation

Interview Results

Name: Mkhululi Dlamini

Role or Position with parliament: Chairperson for Tinkhundla Admin and Development Portfolio

Date: 02/11/10

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Location: Lobamba

Question	Response
1	Industrialization – the carbon from motor cars that damages the ozone layer Political- development economics, irresponsible developments Both of this result in climate change causing droughts and change in rainfall patterns
2	With this scenario what do we do now
3	How do we try and limit the effects on climate change
4	The prolonged droughts and change in rainfall patterns which affects our planting patterns
5	Look for industries with no impact on climate change and try to refocus. developed countries should pay
6	Not really question about climate change but the effects on climate change which I have been able to answer. MPs need to be taught on what should be done in that situation
7	Depends, maybe the ministry of tourism and environmental affairs
8	
9	Not sure
10	Workshops on climate change and discussion. Provide information in whatever form. show the MPs the link that climate change has and culture
11	Not sure
12	May be, It's not the first time I hear about it but can't remember much
13	Not sure
14	
15	
16	
17	
18	
19	

20	The ministry of tourism and environmental affairs
21	

Parliamentary program for Climate Change Adaptation and Mitigation

Interview Results

Name: Sivumelwane Nxumalo

Role or Position with parliament: Chairperson for Agriculture Portfolio

Date: 05/11/10

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Location: Lobamba

Question	Response
1	Change of climate-change of creation because of certain things which are manmade like influents of air from industries.
2	It's hard to change it but we can try to reduce, the poor countries should establish things like solar energy. we are the people who are affected but not the ones causing climate change
3	Things we can do so that we can be able to leave, use other source of energy like the sun as electricity is getting less and less and use other sources of cooking like bio-fuels
4	Food is few and a lot of people are hungry because they cannot plant like they used to in the past. There are floods and storms which also destroys infrastructure and human beings. We are losing biodiversity and the economy is down cause we are trying to save the situation.
5	We should focus on other source of living and change to conservation agriculture as way of farming
6	Only the effects on climate change, they ask about climate and the rainfall and I have been able to answer .I advice them to do water harvesting and on livestock they must keep the livestock which is resistant drought. They should be trainings which should be taken step by step and then a follow up monthly, definitely not a workshop
7	The Ministry of Agriculture and the Ministry of Tourism and Environmental Affairs, I can't remember if they have presented.
8	Can't remember
9	Not sure
10	Trainings
11	
12	No
13	
14	No interaction
15	No
16	
17	

18	
19	
20	The ministry of agriculture and the ministry of tourism and environmental affairs
21	
22	Government should do projects to demonstrate that we can mitigate like solar energy in clinics or hospitals and drought resistant projects

Parliamentary program for Climate Change Adaptation and Mitigation

Interview Results

Name: Veli Shongwe

Role or Position with parliament: Chairperson for Tourism and Environmental Affairs Portfolio

Date: 08/11/10

Location: Lobamba

Question	Response
1	The change of rain pattern, sometimes it's too cold and too hot
2	Engage everyone in climate change. Teach people/community on climate change with the Ministry of Tourism and Environment taking a lead and people must plant early
3	Things have changed they are not normal, we can't plan things now, the time for summer has changed.
4	Droughts and change in rainfall pattern
5	The western countries are exposed to volcano, they should be visited so to be able to encourage the nation. We must grow crops that are drought tolerant and have strategies that can work against this pandemic and consult with all ministries that are involved in this. The government should consider in the budget to subsidise farmers. Government, UN and SADC should commit. Consider the change from petrol to ethanol because the experiment has been done now it needs to be implemented. The firms industries should try to reduce their gases.
6	Yes, The ministry of Tourism and environmental Affairs did an awareness to the community and clean up campaign and planted trees. Need workshops and trainings
7	Ministry of Tourism and Environmental Affairs
8	Workshop- MPs awareness workshop conducted by the Ministry of tourism and environmental affairs
9	Only the effects on climate change
10	Have a motion from the house against the Minister of Tourism and organise trainings
11	Don't know, may be the ministry should do something
12	Yes, I'm the co-ordinator of UNCCD(United Nations Conventions to Combats desertification)
13	Yes, Mp Magongo attended a workshop in London
14	It is getting better, the ministry is trying by conducting the workshops
15	Not sure but I think they are formulating a policy
16	Yes
17	

18	
19	
20	Ministry of Tourism and environmental affairs
21	The workshop conducted by the ministry and I suggest the issue must be debated in parliament and formulate a policy to address this issue because it is already affecting the nation.

Parliamentary program for Climate Change Adaptation and Mitigation

Interview Results

Name: MP Madonsela

Role or Position with parliament: Mafutseni Inkhundla MP

Date: 09/11/10

Location: Lobamba

Question	Response
1	Change in climate, change in weather in relation to the yester years. What is happening today never happened.
	Effects of ozone layer, Carbon dioxide being the key effect of scenario. The causes of concern is caused by industries and human nature on which industries emit gases and compounds of chemicals and human nature use weapons which have been banned globally which also emit gases.
2	Putting ideas together
3	Control measure
4	Drought and excessive storms
5	People should be knowledgeable about climate change and its effects. The importance of planting trees should be emphasised –fell one tree you plant another one campaigns. Minimize the second hands cars which cause more emissions and introduce electric driven cars. Each country has to take the initiative and the Ministry of tourism and Environmental Affairs must take a lead.
	Corrective measures-within the industrial sector, introduction of electronic mobility equipment and minimizing if the use of unleaded fuel and use green gas in houses instead of the heaters that produce smoke
	Corrective measures –with human, plant trees and control of burning of vegetation
6	No, advocacy has to be exercised. engage the Ministry of Tourism and the members of the portfolio committee of Tourism should be engaged. Campaigns on planting of trees should be done and the community should be involved, put in mind the target groups. The ministry should have a road map on strategising. There should be a strategy plan for climate change. Plant trees which will be beneficial like fruit trees. Look at the effects of gum trees which suck more water and other plants around them can't survive
7	Ministry of Tourism and environmental Affairs
8	Not really activities but questions regarding the effects on climate change do come up
9	Not sure
10	There should be questions and motions on climate change
11	The ministry should train MPs and then they can discuss the matter further because maybe some of the MPs are not taking it serious
12	No
13	

14	Not up to the level - a board on climate should be formulated for the improvement in the advocacy regarding climate change and we need commitment, consistency and co-operation from the board
15	Not sure
16	The law to fell one tree you plant another .The issue of alien plants need to be considered as it is also destroying the vegetation so something serious need to be done
17	Not that effective, they should resource legislators specifically for climate change and attend workshops and later teach the community. There should be laws for control measures to make sure every citizen adhere to the efforts of improving the environment that tend to have effect on the climate change
18	
19	
20	The Ministry of Environmental affairs should be responsible together with the portfolio committee for Tourism and environment
21	Only the workshop in London ,I also think you should consider climate change I relation to democracy, at times it takes a long time to make a decision because you assume the head of country should be the one making decisions