



SADC Multi-stakeholder Water Dialogue Report

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 Global Water
Partnership
Southern Africa



TABLE OF CONTENTS

1. INTRODUCTION AND OPENING SESSION	1
1.1. Welcome by Lesotho Country Water Partnership.....	1
1.2. Remarks by Denmark Government Representative	1
1.3. Remarks by SADC.....	2
1.4. Opening address and official opening.....	2
1.5. Key note address on theme.....	3
1.6. Overview of the SADC Multi-Stakeholder Dialogue	5
2. WATER AND CLIMATE CHANGE	6
2.1. Impacts of hydrological changes on hydropower.....	6
2.2. Impacts of hydrological changes on agriculture and food security	7
2.3. Water Supply and Water Demands in four South African Shared River Basins: Implications for Water Resources Management	8
3. RESPONDING TO CLIMATE CHANGE	9
3.1. Lessons learned from Malozi.....	9
3.2. Panel Discussion Overview	10
4. IMPLICATIONS OF WATER RESOURCES DEVELOPMENT	14
4.1. Status of water infrastructure development in the SADC region	14
4.2. Financing Water Infrastructure Development	16
5. CLOSING SESSION	22
5.1. Summary of Proceedings and Way Forward	22
5.2. Vote of thanks.....	22
5.3. Closing speech	23
A1. APPENDICES	24
A1.1 Remarks by Denmark Government Representation	24
A1.2 Remarks by SADC.....	25
A1.3 Opening Address and Official Opening.....	27
A1.4 Overview of the SADC Multi-stakeholder Water Dialogue-Rising above the climate change threat	29
A1.5 Closing Remarks.....	30
A1.6 Final Programme	33
A.1.7 Participants List Dialogue 2008	35

Background and Context

The SADC Multi-stakeholder Water Dialogue is an activity under the IWRM Awareness Creation Component of the SADC–DANIDA Regional Water Sector Programme. Under the theme **Watering Development in the SADC Region**, the SADC Water Dialogue mobilises different stakeholders to share experiences in Integrated Water Resources Management (IWRM). The Dialogue highlights IWRM activities by different organisations demonstrating how IWRM approaches can address key aspects of socioeconomic development and poverty eradication in Southern Africa.

The SADC-DANIDA Awareness Creation Component has as its development objective to improve awareness and participation by policy and decision makers and the media of Integrated Water Resources Management (IWRM) and related resources that contribute to poverty alleviation through equitable and sustainable utilisation of water in the SADC region, thus advancing SADC treaty objectives.

To achieve the development objective, the Awareness Component has two immediate objectives as follows:

- Demonstrated awareness among targeted decision makers and policy makers regarding key aspects of the IWRM concept and its relevance to social and economic development in the SADC region;
- Demonstrated awareness of key aspects of IWRM issues among the media in the SADC region.

The 2008 dialogue is the second to be held under the SADC-DANIDA Regional Water Sector Programme. The 2007 dialogue was held in Maputo, Mozambique under the theme “Watering Development in SADC: Beyond IWRM Concepts and the Converted”.

EXECUTIVE SUMMARY

Southern Africa is widely acknowledged as being acutely vulnerable to the impacts of climate change and therefore needs to ensure that adaptation measures are put in place. The Water sector is the key sector for adaptation and an integrated approach (IWRM) that promotes cross-sectoral efficiency and cooperation at all levels is critical. The industrialized world is responding to climate change through attempts to reduce greenhouse gas emissions and through significant investments in adaptation funds intended to benefit the most vulnerable regions. The SADC region should have a strong and informed voice in the global Climate Change adaptation processes and developments, particularly in how funding mechanisms develop. Scale is achieved at a regional rather than national negotiating level: it will be much harder for the international community to ignore a voice representing the needs of 240million of the world's most vulnerable people, as opposed to say 20 million from one country. SADC therefore needs to become the voice of the region thus enabling access to an equitable and significant portion of these funds. Improved water infrastructure is an example of a bankable climate change adaptation measure that is central to strengthening the region's resilience to climate change and to ensuring the economic empowerment it requires to cope with the additional challenges presented by climate change. The region must make decisions based on accurate information and protect future generations. Funding obtained on the basis of useful information should be used to develop an adaptive system that strengthens resilience and creates a buffer to climate change.

The **water sector** is the key sector for **adaptation** and the energy sector for mitigation, although adaptation and mitigation cannot be separated. In this regard, it was therefore important that all sectors using and influencing water resources (especially energy, agriculture and health) in the SADC region gathered at the 2008 Dialogue, started understanding what adaptation entails, and how stakeholders can collectively respond to the climate change threats. At the same time, resource users are recognising cross sectoral impacts and linkages in both climate change and the region's response.

As a technical introduction to inform discussions at the SADC Dialogue on potential climate change impacts in southern Africa, research findings of the Regional Climate Change Programme (funded by DFID and developed by OneWorld Sustainable Investments), were presented.

SADC Stakeholders acknowledged the following climate change impacts, issues, challenges and opportunities

- Climate change has now become an additional threat (population and economic growth are also some of the drivers) putting pressure on already stressed hydrological systems and water resources, including water quantity and quality. Climate change is anticipated to have far reaching effects on the sustainable development of developing countries including their ability to attain the United Nations Millennium Development Goals, since water is central to achieving many of the MDGs, including food security, health and energy as some examples. Africa and southern Africa in particular, is being significantly affected by climate change given the extent of the change and the vulnerability of the region.
- The economies of southern Africa are largely dependent on climate-sensitive sectors such as agriculture, hydro-power dependent industry, fisheries, forestry, wildlife and tourism all of which heavily depend on water resources. The poor in the region depend extensively on natural resource utilization and dry-land agriculture as key livelihood strategies, making them particularly vulnerable to climate change.
- The region has relatively poor disaster management apparatus and strategies, increasing the risk exposure of the region's already vulnerable economies, resources and sectors to climate change.
- The climate change threat has huge impacts on water and this in turn has an adverse effect in terms of food security, energy security, water security and health. Key impacts are drying

– both across and within seasons - flooding and rising sea levels. These impacts manifest in different ways in water quality and quantity deterioration in the region.

- In terms of energy security - Change in quantities in water flows due to low rainfall and high rainfall have an impact on hydropower generation. Investment decisions to improve existing and/or develop new hydropower systems will need to be 'climate proofed' if energy security is to be a continuing strategic imperative for the region. Water availability affects the energy sector in other ways too, such as water required for cooling in generation of energy and to grow stockfeed for biofuels. The emerging focus on biofuels as alternatives to conventional hydro-carbon energy sources is driving expansion of irrigated agriculture in southern Africa introducing new challenges in terms of water availability (quality and quantity), food security and biodiversity.
- In terms of food security - Variations in water availability in terms of quality and quantity have a significant impact on the farming methods used at different scales. For example, climate change impacts could be in the form of prolonged droughts, which leads to a reduction in yields on rain-fed lands. In Southern Africa about 70% of the region's economies and/or livelihoods are dependent on agriculture and only 2% of this production is irrigated, meaning that most of the region's agricultural production is rain fed. This dependency on dry-land agriculture undermines long-term food security. Significant potential exists in developing irrigation in the region to mitigate this risk.
- The health sector is also climate sensitive, considering the prevalence of water-borne diseases and malaria in the region. Climate events such as droughts have serious health impacts. When fresh water runs out, people use contaminated sources resulting in diarrhoeal diseases. Many people suffer from malnutrition during droughts, and this often results in disease and lowered immune responses increasing infection rates. During the 2000 floods in Mozambique and Zimbabwe cases of cholera were recorded showing a clear impact of high waters on health security.
- SADC region should not focus only on the challenges of the effects of climate change, but should view the opportunities that are available due to climate change and its effects. For example, securing funding for development of water resources remains a challenge today. However, if improvements to water development infrastructure in the region and water storage facilities are demonstrable climate adaptation responses, then the increasing availability of international adaptation funds become an obvious financing mechanism for the region's water infrastructure development.
- To support climate change adaptation in the SADC region, the real challenge lies in the quality of the institutions, sound governance and excellent leadership, backed up with management and technical capability.

SADC Stakeholders recommended the following urgent responses

- ***Climate change adaptation is a multi dimensional challenge.*** Awareness and conviction that climate change is a reality is vital and needed at all levels. In relation to scale and actors – regarding actors - climate change adaptation is a multi stakeholder challenge that needs to incorporate efforts from public, private and civil society – across sectors and boundaries. With scale, there is need to involve all stakeholders from community, national, regional and global levels.
- Bearing in mind that the impacts of hydrologic changes due to the climate change threat are felt in other sectors, it is important to ***mainstream water into the political economy***, dealing with cross-sectional management issues and focusing on demand management.
- Integrated Water Resources Management promotes cross-sectoral efficiency and cooperation at all levels on sustainable water resources development and management, including specific sector interventions. In relation to ***Climate Change Adaptation, an IWRM approach***

should be followed. The SADC region should position itself and map out linkages of climate change with water resources and the impact on key sectors such as energy, agriculture and health.

- At national level, countries need to acknowledge the existence of climate change and **review their legislation and policies** and find ways to incorporate climate change and variability issues. Countries should engage in advanced and cross-sectoral planning instead of reacting to effects brought about by climate change. The planning processes should inform financial policies as well as all tiers of government. In this regard, current and future national IWRM planning processes and plans potential vehicles to address this.
- The region needs to **develop its capacities to effectively participate in global climate negotiations** (through for example the Kyoto Protocol and related COP processes) by strengthening its regional voice. It is essential that the southern African region, through structures such as SADC, develops and promotes a common vision, position and a clear voice regarding climate adaptation. This would also enable better access to available funding for adaptation measures.
- The first step towards this would be to facilitate a dialogue preparing for the COP meeting in Copenhagen as well as the post - Kyoto talks as a **region** and to engage in global discussions not as individual states but as a region. This would present opportunity for the **region to negotiate as a collective**, in particular with respect to **'adaptation strategies' and how funding is disseminated**. The region also needs to be better positioned to take advantage of funding and technology transfer opportunities through the CDM so that the region may enjoy improved development through diversification of energy, technology and related economies.
- The region noted that Africa has inadequate water infrastructure to cope with the temporal variation in rainfall and in particular for extreme water related events like droughts and floods. It is important therefore to consider **hard and soft solutions** in order to improve resilience and adapt to climate change.
- In developing infrastructure to improve resilience (an example of a hard solution), it is also important to ensure that a **balanced approach** is used in the development of water resources. The approach should balance social, environmental and economic issues. It is also necessary to recognize that water resource infrastructure extends beyond large dams to include smaller systems. The concept of appropriate infrastructure is critical.
- On the other hand **soft solutions** are equally important and these include measures such as water demand management, pricing and reuse, efficiency and watershed management.
- Understanding better the **water-energy nexus**: To ensure resource security, it is important to ensure water security **and** energy security and these should therefore be tackled in an integrated manner. Energy sector developments must consider water security issues as well as water impacts on other sectors such as agriculture and health.
- To ensure food security: technologies and interventions for water management (including a reassessment of water infrastructure and irrigation) to ensure food security, needs to be developed and information on these widely disseminated. At national level there is a need to enhance collaboration efforts between climate scientists, water managers and agriculture sector when formulating policies.
- For better health and equity in the region – appropriate infrastructure for drought management and flood mitigation should be in place to minimise adverse health impacts caused by extreme weather events. An integrated approach is needed to ensure that infrastructure is developed in a balanced manner. Differential adaptation is critical and issues of gender should be taken into consideration when targeting adaptive measures to the most vulnerable groups. These measures should include information dissemination, awareness creation and capacity building.

- Gender mainstreaming and recognizing the particular vulnerabilities of women (for example, drought often result in women having to go much further afield in search of firewood and water) should be part and parcel of any climate change policy formulation.
- Understanding climate change impacts relies heavily on ***climate science, accurate and reliable data and information***. Regarding data and scale, to deal with uncertainty aspects, the value of historical records in hydrological data must be considered and assessments and atmospheric models downscaled from global to local circumstances. The SADC region needs reliable, localized data, information and models to determine how best to deal with the impacts of climate change.
- Responding to climate change is however about economic empowerment, strengthened institutional arrangements and strengthening resilience. Sub regions with weaker institutions are more vulnerable to shocks, including climate change and variability.
- ***Capacity development*** should go beyond the people in the institution to strengthening the institutional capacity and building up systems for planning and management in the context of adaptation to climate change. Additional capacity on accessing and deploying development finance for IWRM should be developed - there is a need for water management institutions to talk the language of financiers. Economic and pricing instruments are important elements of IWRM and further development in this regard is required in the region (recognizing that much work is currently underway across much of the region in incorporating these instruments into policies and strategies).
- Communities in the SADC region need to understand the importance that water has on the economic development of their individual countries and of the region as a whole. There is a need to strengthen communication channels between end-users and all tiers of governance; improved science-government dialogue is a critical success factor.
- In addition the region should invest in developing water resources accounts and valuation accounts in order to guide mitigation and adaptation decisions.
- There is need for the water sector and its influencing sectors to contribute significantly to the ongoing development of National Adaptation Programmes of Action in applicable countries and 2nd National Communications to the UNFCCC in others.

Immediate way forward

The SADC region has been identified as a region that will be hugely impacted by climate change in the IPCC report. It is therefore important for the region to ensure that it plans long term for adaptation and influences global processes. As a matter of urgency, the SADC region needs to actively engage in the Climate Change international processes (like the COP meetings in Poland 2008 and Copenhagen 2009) in order to ensure adaptation issues are brought to the forefront. The region should also play a critical role in determining how the adaptation funds should be used by ensuring that the region has identified and prioritized strategies to curb the climate change threat.

The Southern Africa region should also participate in global water meetings to raise issues of adaptation to climate change starting off with the World Water Week (in Stockholm) 2008 and carrying forward the dialogue to the 5th World Water Forum in Istanbul in 2009.

The SADC region is a potential example for other regions, not least in Africa, on how to be ***pro-active and address the adaptation challenge***. Hence the region has the potential to act as a “champion” for other vulnerable regions in the developing world.

When considering climate impacts in the region to determine the most vulnerable (‘hot spot’) areas, it can be useful to consider the SADC region on a sub regional basis.

LIST OF ABBREVIATIONS AND ACRONYMS

ACWR	African Centre for Water Research
AFTWR	Africa Water Resources Unit (World Bank)
AMCOW	African Ministerial Council on Water
CDM	Cleaner Development Mechanisms
CSIR	Council for Scientific and Industrial Research
DANIDA	Danish International Development Agency
EU	European Union
GWP-SA	Global Water Partnership – Southern Africa
IPCC	Intergovernmental Panel on Climate Change
MDGs	Millennium Development Goals
NAPA	National Adaptation Programmes of Action
RISDP	Regional Indicative Strategic Development Plan
RSAP	Regional Strategic Action Plan
RSWIDP	Regional Strategic Water Infrastructure Development Programme
RPRF	Regional Poverty Reduction Framework
SADC	Southern African Development Community
SADC DIS	SADC Directorate Infrastructure and Services
SAPP	Southern African Power Pool
WMAs	Water Management Areas
WRTC	Water Resources Technical Committee (SADC)

1. INTRODUCTION AND OPENING SESSION

Chair: Mr. Mokake Mojakisane-Director, Department of Water Affairs Lesotho

1.1. Welcome by Lesotho Country Water Partnership

Dr. Mampiti Matete (Chair of Lesotho Water Partnership)

This SADC Multi-stakeholder dialogue is the second to be held under the SADC-DANIDA Regional Sector Programme. The previous SADC water dialogue was held in Maputo in May 2007, with the theme Watering Development in SADC: Beyond IWRM concepts and the converted." The theme for this year is "Rising above the Climate Change Threat towards Security". A smooth transition exists between the previous dialogue and the present one in that there is clear understanding of the concept of IWRM, as a result the concept can now be used to fight against the environmental, social and economic challenges related to water-Climate change being one of such challenges.

Climate change is a reality and it is a challenge that weakens the capacity of SADC states to address the MDGs (of access to food, secure and clean water and energy). As a point of departure there is need to identify the effects of climate change, the affected sectors, and vulnerable groups as well as to measure its impacts. SADC with its organs such as the Drought Monitoring Centre has done a lot in bringing the understanding of such issues to the fore however; there is still limited knowledge on the impacts of climate change in different areas within the region.

The SADC region needs to develop the capacity to adapt to climate change in order to understand the mitigation and adaptation measures involved. This may require ensuring availability of the up-to-date hydro meteorological data. The adequate infrastructure as well as to development of clear coordination and communication channels between climate scientists and other sectors are other adaptation measures for climate change. There is a need to down scale the global climatic data to the regional and local level.

The dialogue will help delegates to increase the understanding of development aspects of IWRM and of IWRM strategies, experiences and best practices in mitigating and adapting to climate change effects. Great consideration needs to be taken on how IWRM can contribute in the attainment of food security, hydropower production and water supply and sanitation in the face of climate change. As for the Country Water Partnerships, it is a good opportunity to position themselves and to device ways and strategies in assisting countries in the fight against the climate change effects.

1.2. Remarks by Denmark Government Representative

Mr. Ole Houmoller- Regional Advisor, SADC/Danida Regional Water Support Programme

The Danish Government is interested in contributing to the ongoing debate on energy efficiency and climate change. As a result to its commitment towards climate change, Denmark will host the United Nations Climate Change Conference in November 2009, in preparation of a new international Climate Change agreement. This is one of the reasons for supporting the SADC Water Division in convening this gathering and hoping that the collective minds will not just re-emphasize the existence of the problem but share solutions to overcome it.

One of the outcomes of this dialogue is around the *developmental role of IWRM*. Much as Climate Change is an extremely important issue that must be tackled now, there is a dire need to develop communities in the SADC region and elsewhere particularly the poor communities, in applying IWRM principles as this can contribute tremendously to the development of communities across the SADC region. SADC Member States are party to a number of international and regional instruments related to climate change. However, the international treaties and political agreements alone are nothing without activities on the ground, which are implemented with the active support of the beneficiary communities. There is need therefore to ensure participation and action on all levels of society, from the national parliaments and local governments to households and individuals. This dialogue should not

end up at policy and strategy level only, but should come up with practical solutions that can be implemented at all levels.

1.3. Remarks by SADC

Mr Remigious Makumbe- Director, SADC DIS

The SADC Treaty and the SADC RISDP are the regional blueprints for regional integration, poverty reduction and sustainable development. The treaty is clear on the fight against poverty which is one of the key challenges confronting the SADC region. SADC recognizes water as the engine for economic growth and poverty eradication. The SADC Heads of State underscored this issue during the recent SADC International Conference on Poverty and Sustainable Development held in Mauritius in May, 2008, where measures to upscale access to water, as an integral part of the proposed Regional Poverty Reduction Framework (RPRF) were re-affirmed. The SADC Member States adopted IWRM as the fundamental approach to water resources management to ensure that water is adequately contributing to poverty eradication, regional integration and socio-economic development in an equitable and sustainable manner.

As one of its policy commitments, and in line with the principles of IWRM, SADC is ensuring that the activities of the water sector should maximize the resultant economic and social welfare in an equitable manner without compromising the vital ecosystems. However, this task is getting complex given the reality that global climatic change is significantly altering the hydrological cycle. This is the reason why climate change has assumed a place high on the agenda of SADC - necessitating structured and targeted Dialogue.

The Third Assessment Report of the IPCC puts the SADC region amongst the most vulnerable to climate change, pointing to the fact that climate change and variability will scale up water-related disasters such as droughts, floods and cyclones and these will in turn have adverse impact on water-dependant sectors, our own competitiveness and economic survival.

The economies of southern Africa thrive on the activities of climate-sensitive sectors such as agriculture, hydro-power dependent industry, fisheries, tourism and even health – considering the prevalence of water-borne diseases in the region. This is against a backdrop of relatively poor disaster management apparatus and strategies. It is increasingly becoming evident that climate change is no longer the story about the future but it is the story of today. Climate change is already showing its ugly face - slowly shrinking livelihood opportunities, threatening biodiversity and food security, and up-scaling water-related disasters.

This year alone, Mozambique, Zambia, Malawi, Namibia, Madagascar and Zimbabwe have experienced severe floods and most of these occurred earlier than normal in the rainy season. The SADC Region also experienced incidences of drought. While the region has made advances in formulating, reviewing and developing policies and legislative instruments, there is need to reflect on how climate change has been mainstreamed into these policies. There is also need to strengthen baseline information and data at SADC Secretariat and Member States as is called for under the Kyoto Protocol. There is also need to consider seriously some best practice options in managing the challenge of climate change.

SADC Member States have and continue to take steady steps in relation to the climate change threat. Almost all SADC Member States have acceded to the Kyoto Protocol and are focussing on the development of the National Adaptation Programmes of Action (NAPA) even though there are anticipated implementation challenges that this Dialogue should examine.

1.4. Opening address and official opening

Mr. Maieane Khaketla – Acting Principal Secretary, Ministry of Natural Resources, Lesotho

Water has been placed high on the agenda of the development and management objectives of SADC since 1996 when the SADC Heads of State and government decided to elevate water and have it as dedicated sector which deserved regional cooperation and management. This was further emphasised at the World Summit on Sustainable Development in 2002, when the water sector had a dedicated

session and display at the Water Dome. Since that time a number of developments have come to existence, such as the establishment of the African Ministers Council on Water (AMCOW), African Water Facility, and the Africa/EU partnership on water.

This dialogue is an awareness creation activity focusing on the Integrated Water Resources Management. Particularly, the dialogue is targeting those who are in policy and decision making levels, specifically sectors that are affected by or impact on water. The dialogue mobilises different stakeholders to share experiences in IWRM highlighting related activities by different organizations demonstrating how this approach can address keys aspects of socio-economic development and poverty reduction in southern Africa particularly in the face of climate change. Awareness creation is critical if we are all to make informed decisions relating to the management and development of our finite and scarce water resources.

The realities of climate change have been recognized globally and at regional level its effects have affected water resources availability in both space and time. In Lesotho there have been erratic rainfalls in recent years. The country has been experiencing incidence of rains coming later than expected leading to crop failures with resultant food shortages. This has led to undermining the efforts in making a significant progress in achieving food security and poverty reduction, which are central to the national and regional development objectives. Now that climate is evidently changing it is time to assess its effects and to make informed decisions based on accurate research information so as to secure meaningful future for the coming generations.

1.5. Key note address on theme

Prof Torkil Jønych-Clausen – Senior Adviser GWP

Addressing Water, energy and climate change in the context of IWRM

a) Climate Change and effects

The main challenge that the world faces today is to achieve the MDGs in which water is a critical factor. Climate change is one of a number of factors putting pressure on the hydrological systems and water resources and acts as an added challenge towards achieving the MDGs.

The IPCC WG 2 Fourth Assessment Report gives an overall picture for climate change impacts, adaptation and vulnerability. Firstly the report acknowledges the major role that water has to all the five key impacts of global warming namely: water, ecosystems, food, coasts and health. Global warming is expected to hit hard on the water resources through:

- Climate change and effects
- Increased climate variability

Some general trends highlighted by the IPCC, 2007 report indicate that the wet areas will get wetter, while dry areas will get drier. Africa South of Sahara is indicated as one of the geographical hotspots hurting the poor in the poorer regions.

The hydrological projections for Africa show changes in surface water supply by 2100 due to changes in temperature and rain resulting in yields from rain-fed agriculture reduced up to 50 %. Specific projections to South Africa indicate that temperatures will rise from 1 to 3 degree Celsius by 2050 with the North and Eastern parts of the country get wetter and the west and south getting drier. The projections further indicate longer droughts and severe storms and floods.

Even though these projections exist, a high degree of uncertainty remains a challenge. In this regard the main issue relates to reducing the uncertainties associated with climate change and to downscale the models to regional and local levels. However, the lesson that can be learned from the IPCC report at the present moment is that:

- Energy is the focus for mitigation and
- Water a focus for adaptation.

b) Climate Change Adaptation

On the issue of climate change adaptation, two different approaches are distinguished as autonomous and planned adaptation. The autonomous adaptation is focused to lessen the impacts and build resilience. Examples of such adaptation measures are water demand management, reuse and rainwater harvesting. Planned adaptation is more into designing of standards for sewers and dikes.

Two types of solutions exist for adaptation to climate change; hard and soft solutions. Examples of hard solution include; dams, dykes, eco-sanitation and desalination. On the other hand soft solutions also important include measures such as demand management, pricing, reuse, efficiency and watershed management.

Another dimension that needs to be looked at in the discourse for climate change adaptation is related to scale and actors. On the issue of actors, climate change adaptation is a multi stakeholder challenge that needs to incorporate efforts from public, private and civil society. With scale, there is need to involve all stakeholders from community level, national, regional and global levels. In short, climate change adaptation is a multi dimensional challenge.

Nonetheless, great care needs to be taken on the uncertainty aspects of climate change adaptation. These uncertainty aspects are related to data and scale. There is need to take into consideration the value historical records in hydrological data and to downscale the assessments and atmospheric models from global to local circumstances. In dealing with these uncertainties, first there is need to use scenario-based approaches towards adaptation frameworks also looking into the issue of how to judge the big differences. Secondly, there is need to employ adaptive management approaches of building resilience and robustness to uncertainty. Good water governance is another adaptive management approach that also contributes to the achievement of the MDGs. This includes mainstreaming water in the political economy, dealing with cross-sectional management issues and focusing on demand management. Integrated Water Resources Management improves cross-sectoral efficiency and cooperation at all levels on sustainable water resources development and management, including specific sector interventions.

c) Roadmaps for IWRM

The Copenhagen Conference held in April 2007 was adopted by UN-Water and the Global Water Partnership. The outcome of the conference leads to the development of roadmaps for IWRM to achieve the MDGs and adapt to climate change. These roadmaps would serve as the monitoring instruments, inspiration and guidance for countries and development partners striving to improve water resources management for development. The review of progress has been rested against set indicators, and suggested themes are:

2009: Focus on reviewing the extent to which enabling conditions for the implementation of national IWRM priorities have been addressed.

2012: Focus on reviewing whether the reforms are taking place and whether behaviours are changing.

2015: Focus on assessing whether or not the key water related constraints in achieving the MDGs have been mitigated.

d) Water and Energy

Energy and water development are inter-related. Energy and power production requires water, on the other hand water production, processing, distribution and end-use requires energy. This leads to “**water footprints**” for energy development and “**energy footprints**” for water development.

■ Water “footprint” for Energy

A water foot print for energy is defined as the amount of water consumed to provide a good or a service. For energy, water consumption is related to production/ extraction for raw materials, refining raw materials and generation of energy at the power plant.

Findings from a number of case studies conclude that traditional forms of energy production are heavily reliant on water availability. With this state of affairs climate change introduces complications for water and energy management. Wind energy is found to save a large sum of water resources for other uses.

- Energy “footprint” for Water

For water, energy consumption is required for processes such as desalination of seawater for water supply, large scale pumping for irrigation as well as large scale pumping for inter-basin transfers.

In conclusion, the close relationship between water and energy clearly is an indication that there is an increasingly important integration to be considered in IWRM. The water footprints for energy and energy footprints are helpful concepts to address the issue. A clear link also exists between the two concepts and climate change forming an inter-related system between water, energy and climate.

1.6. Overview of the SADC Multi-Stakeholder Dialogue

Mr. Hastings Chikoko – Component Manager, SADC/Danida Regional Water Sector Programme

The theme of the 2008 SADC Multi-stakeholder Water Dialogue is “*Watering development in SADC: Rising above the climate change threat towards security*”. The SADC Dialogue examines and discusses how Integrated Water Resources Management (IWRM) could help different sectors respond and adapt to climate change impacts on water quantity and quality. The SADC Dialogue is premised on IWRM’s contribution to ‘socio-economic development and poverty eradication’ by ensuring a water secure region. In keeping with the pillars of the SADC Infrastructure Development Programme, the SADC Dialogue will specifically focus on the water-related impacts of climate change on food security (agriculture sector), hydropower generation (energy sector) and sanitation and hygiene (health sector).

The objectives of the SADC Dialogue are:

- To expose and raise the understanding of the development aspects of IWRM among senior policy makers of water using and water influencing sectors and the media
- To promote sharing of IWRM strategies, experiences and best practices in climate change mitigation and adaptation that address local, national and regional socio-economic development and poverty reduction (and attainment of the MDGs)
- To improve awareness of IWRM initiatives and promote collaboration between partners in the region

The dialogue is the activity under the SADC Awareness Creation initiative funded by DANIDA with implementation support from GWPSA. This is aimed at improving the awareness of IWRM and its link to poverty eradication through equitable and sustainable utilization of water in the SADC region. The dialogue further aims to engage all stakeholders in a manner that will help to move beyond the water sector – an information bridge connecting water-using and water influencing sectors with the water sector and beyond the IWRM concepts to application of IWRM principles.

See full presentation in Appendix at: *Overview of the SADC Multi-stakeholder Water Dialogue*

2. WATER AND CLIMATE CHANGE

Session 2: Impacts of Climate Change on water using and water influencing sectors

Chair: Mr. Reginald Tekateka – AMCOW TAC/GWPSA Chair

2.1. Impacts of hydrological changes on hydropower

Ms. Belynda Petrie- Team Leader DFID Regional Climate Change Programme - One World Sustainable Investments on behalf of Dr. Boaventura Cuamba

The review of energy production and consumption in SADC indicates that:

- Sub-Saharan African countries range lowest in access of electricity for both urban and rural dwellers (urban approx. 50%, and rural approx. 8%)
- Sub-Saharan African countries per capita energy use for both commercial and non-commercial range lowest compared to the world
- The energy demand points out that, generally the region uses 80% biomass and about 5 % electricity consumption.

Generally, Sub-Saharan African countries have the lowest average electricity consumption in the world (515 kWh/year compared to a world average of 2,326 kWh/year).

The Southern African Power Pool (SAPP) was created in 1995. The aim of SAPP is to link SADC member states into a single electricity grid. This in essence means that in future hydropower energy will dominate investments in SAPP countries. Great consideration needs to be taken on the effects of climate change on the hydro energy production.

On the global scale, warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising of global average sea level. This is evident looking at the fact that eleven of the last twelve years (1995-2006) rank among the twelve warmest years in the instrumental record of global surface temperature (since 1850). Water resources are a key area of vulnerability in Africa. This is due to the fact that Africa has lowest conversion of precipitation to runoff. The current trends show decreasing runoff in the major river basins over the past decades.

Recommendations in terms of water resources management

- Strategic interventions towards adaptation in the energy sector as it relates to water: National water policies
- Adopt national water policies that take into consideration more efficient use of water, including construction of suitable reservoirs;
- Adopt the use of small scale hydro plants for local needs;
- Consider more investments in water infrastructure for energy purposes.
- **Integrated Water Resources Management** – Reinforce mechanisms of integrated water resources management among the countries

In terms of energy supply - reduce dependence on single sources of energy

- Important to promote other renewable energy resources other than water, like wind, solar, geothermal, ocean, among others as the Region has great potential;
- Geothermal reserves exist along the Rift Valley in Eastern and Southern Africa, reaching Tanzania and Mozambique in the SADC Region

- The Region has substantial wind energy resources along the coast line of the two major oceans, around major lakes and in high lands of the interior.
- The Region has substantial ocean energies along its coast line, namely tidal, waves and thermal oceanic, which in the future can be used.
- The Region has substantial solar resources; solar radiation is almost everywhere in the Region. In arid, semi arid and desert areas the direct solar radiation is huge.

Economic development and sustainable energy consumption

Economic development demands high level of energy consumption. This in essence means that, firstly the current energy consumption has to increase in order to promote development in the region. Secondly, the different development scenarios have to be considered and their implications on energy consumption. The following are some of the measures that need to be taken in order to ensure sustainable energy consumption in SADC:

- Promote the establishment of local power grids with the view of future integration into national or regional power grid(s);
- Promote energy efficient building designs both passive and active;
- Promote stand alone systems.
- Use existing and future climate change mechanisms for promotion of renewable energies (e.g. CDM), including hydro energy;
- Use renewable energies as a way to reduce poverty and achieve MDGs ;
- Use renewable energies to enhance adaptation capacity to climate change.

Appropriate energy strategies require that the studies on Renewable Energy Sources and Technologies must provide appropriate tools to the decision makers for the designing of appropriate Energy Strategies. First, activities referred should be associated with capacity building initiatives, as the Region lacks skilled manpower in many areas. Secondly, the integrated initiatives involving the region or groups of countries, where applicable, should be encouraged as they have more chances to contribute to long lasting and sustainable solutions.

2.2. Impacts of hydrological changes on agriculture and food security

Dr Stephanie Midgley- Agricultural Science expert: Team member, DFID Regional Climate Change Programme

In SADC like many African regions, agriculture plays a key role in the economy and livelihoods of people. The significant potential for growth and poverty reduction is based on agricultural development, especially in higher rainfall countries. Agricultural production is growing in some parts of SADC and declining in others. The decline in production is associated with biophysical and socio-economic constraints. There is a growing concern that climate change will exacerbate the current stress. It cannot be overemphasised that agricultural growth is required in order to meet the rising demand for food. This is highly dependent on natural resources (incl. water) and in turn will affect the availability and quality of these resources.

Irrigation is often regarded as a way of increasing agricultural productivity without increasing the amount of land under production. In SADC, irrigated agriculture constitutes only 5 % of the total agricultural area. This is almost all commercial, high inputs and high yielding crops. Among the major crops that commercial farmers grow and export to outside markets, thereby contributing to foreign exchange earnings are sugar cane, coffee, tobacco, tea, cotton, bananas, citrus, table grapes and vegetables.

Increasing temperature increases crop water use via transpiration and increasing evapo-transpiration leads to more rapid soil drying. It then translates that irrigated crops will demand 5 – 20% more water for the same yield.

There are two methods of adaptation that can be employed for climate change impacts for agriculture, namely; autonomous and planned adaptation. Agricultural adaptation impacts on the water sector. The higher the demand for water for irrigation, the more the water sector will be impacted upon (see figure 1).

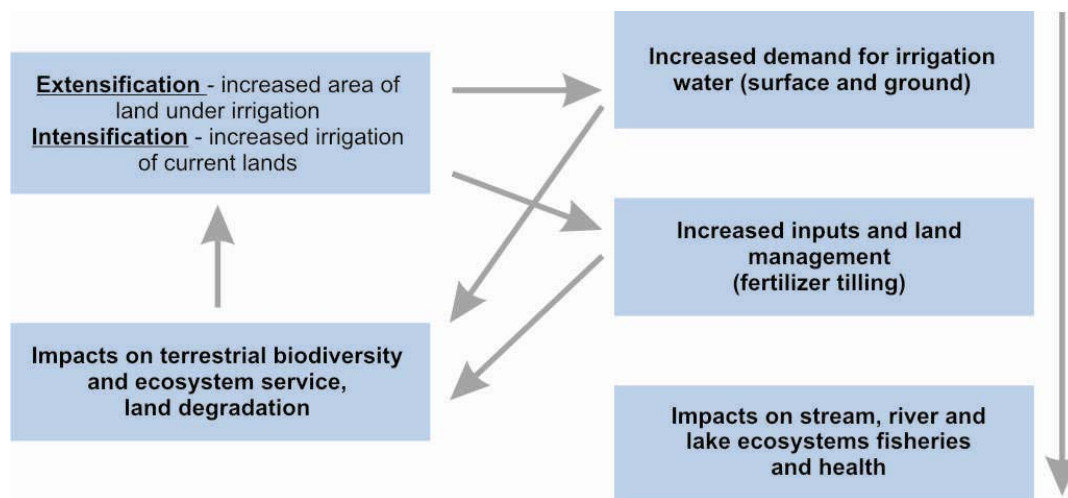


Figure 1: Impacts of agriculture use on the water resources

With the hydrological changes and agriculture impacting on each other in the face of climate change, there is need to enhance and improve the network of meteorological stations. We also need to understand the continental, sub-continental and regional drivers of current and future rainfall. It is important to determine the soil water balance (rainfall: evaporation ratio).

2.3. Water Supply and Water Demands in four South African Shared River Basins: Implications for Water Resources Management

Dr Peter Ashton- Water Expert: Team member, DFID Regional Climate Change Programme

South Africa shares four major rivers with its neighbouring countries, namely; Botswana, Lesotho, Mozambique, Namibia, Swaziland and Zimbabwe (see Table 1). Eleven of the South African water management areas (WMAs) are part of the shared river basins. The rainfall is highly variable between the four basins and runoff is unequally distributed. There is exceptionally low conversion of rainfall to runoff. There exist four development imperatives for management of these water resources: urban and industrial growth, rural development, assured water supplies and ecosystem services.

Table 1: Shared River basins

Country	Basin Area (km ²)			
	Orange-Senqu	Limpopo	Incomati	Maputo
Botswana	121 400	81 500	0	0
Lesotho	30 320	0	0	0
Mozambique	0	87 200	14 600	1 500
Namibia	240 200	0	0	0
South Africa	601 056	183 225	28 679	17 335
Swaziland	0	0	3 000	10 600
Zimbabwe	0	62 600	0	0

Country	Basin Area (km ²)			
	Orange-Senqu	Limpopo	Incomati	Maputo
Basin Totals:	992 976	414 525	46 279	29 435
RSA % :	61	44	62	59

The following are the demands and needs for available water resources:

- Water is needed for growing populations and expanding economies, contributing to improving the quality of lives.
- To eliminate the disparities in service delivery between the rich and the poor
- For food security at regional and national levels
- For energy supplies and industrial growth
- Pollution prevention and control
- Ecosystem delivery of goods and services
- Equitable sharing of water amongst the basin states

The Water Crowding Index (WCI) for the four shared basins shows as of the year 2000 there were frequent water stresses which were seasonally severe for Orange-Senqu, Maputo and Incomati basins. There is currently chronic water stress “beyond the water barrier” in the Limpopo basin. Future projections for 2025 show that the WCI in all river basins will be chronic except for Orange-Senqu that will be having frequent/ seasonal water stresses.

The situation facing Southern Africa in relation in shared water courses is such that, some shared water resources (Orange-Senqu, Limpopo, Inkomati) are approaching “closure”, meaning there is very little left to allocate for off-channel uses in the four shared basins. While in the other Southern African basins (Okavango, Cuvelei, Cunene, Zambezi, Buzi, Save-Runde, Maputo, Umbeluzi), water resources are under increased pressure, meaning there is need to ensure closer co-operation between users and neighbours.

According to the projections for 2025, the percentage increase in water needed by sector showsthat, there is a dramatic increase in urban sector demand for water in all the four basins. Additionally, there is a large increase in power sector demand for water in the Orange- Senqu and Limpopo basins.

In order to deal with climate change effects that may result in some areas experiencing prolonged and frequent “shortfalls” in water supply, there is need to put up new infrastructure to capture and store water for drier periods and to do away with dealing with floods as emergency response issues instead of dealing with them as “surplus” water.

Many countries have adopted internal approaches to resolve water problems with little or no agreement on equitable shares of water. There have been difficulties in managing water cooperatively across boundaries and existence of concerns about sovereignty issues. This has resulted in national water security taking precedence over regional water security.

3. RESPONDING TO CLIMATE CHANGE

3.1. Lessons learned from Malozi

A senior citizen from the Lozi Community of the Barotse flood plains in Zambia, Mr Clement Akatama made a presentation on how the Lozi have adapted to seasonal changes – a traditional practise that has been occurring over hundreds of years.

The Malozi Tribe resides in the Barotse Flood Plain that covers a geographic region of Zambia running from the confluence of the Zambezi and Kabombo Rivers to as far as where Lui and Zambezi Rivers

join. The whole plain is 900 metres above sea level and approximately 200km length and 60 km wide. December and January are months of much rains and during this period the Zambezi River and its tributaries begin to fill and overflow. As the floods begin, the plain receives not only large amounts of water but also the annual loads of fertile alluvium brought about by the flood waters are deposited along the river Banks.

The Malozi people have lived in this plain since the 16th century and have adapted to the climate conditions over years. Due to the discomfort encountered when the plain is flooded the Malozi people introduced the idea of “*Kuomboka*” (meaning: Move across the flood plain to the forest margin) where they move out of the flooded areas. The magnitude of floods determines the time of moving out of the plain. As a result of moving out of the flood plain at appropriate times, Malozi people have never regarded floods as a disaster, instead they have utilised the opportunity of fertile alluvium soils to grow their food.

The Kuomboka case highlights how local people have been adapting to climate variability. Such practices of how local people have managed to institutionalise coping mechanisms within traditional structures are good lessons which need to be captured to increase understanding in terms of local community adaptation.

Session 3: Open Dialogue with panellists on implications of water related climate change impacts

3.2. Panel Discussion Overview

Ms. Belynda Petrie (One World Sustainable Investments – Team Leader DFID Regional Climate Change Program)

- Understanding climate change impacts relies heavily on climate science - but responding to climate change is about institutional issues, economic empowerment and strengthening resilience.
- There is need to ensure environmental stability and that water eradicates extreme poverty and hunger - food security critical in combating combat HIV, malaria and other diseases – bringing in the issue of health.
- The principle outcomes of climate stress in SADC are famine, malnutrition and disease - and water is at the heart of these.
- Deep droughts result in malnutrition and that is a precursor to diseases. As water resources diminish, there is increased dependence on contaminated water resources; malnutrition lowers immune systems rendering people more vulnerable; in addition, there is often an upsurge in malaria when rainfall normalises.
- Key proximal driver of vulnerability to Climate Change is over dependence on agriculture and subsistence based livelihoods.
- **For the SADC region to rise above the climate change threat – towards security, a paradigm shift is needed. The region** needs to engage in long term planning; wealth transfer and economic diversity and this includes reaching rural populations dependent on agriculture for livelihoods.

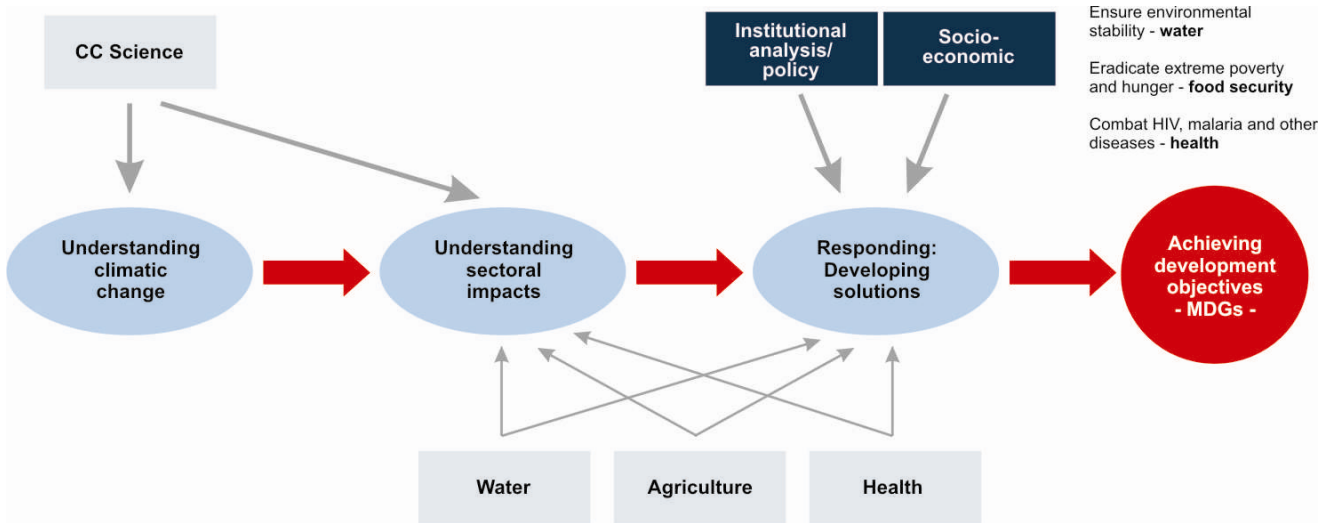


Figure 2: Responding to climate change

DIALOGUE: “IMPLICATIONS OF THE WATER RELATED CLIMATE CHANGE IMPACTS”

Panel Moderator – Mr. Hastings Chikoko (Component Manager, Regional Water Sector Programme)

Moderator’s question 1: What paradigm shift should the SADC region take in relation to climate change to ensure food security, energy security and better health in the SADC region?

Panel and Stakeholders’ discussion outcomes for Question 1:

With relation to the energy sector - A decline in water flows negatively affects the capacity to produce hydropower. In this regard, a paradigm shift is needed to treat climate change as a key factor in the energy sector and to mainstream climate change and variability in all energy programmes. This calls for a regional policy based on collective broad-based consultations among stakeholders and budget for diversities in climate change. Since the energy sector depends mostly on supply side than on demand side management, there is need to embark on energy efficiency strategies and to take great consideration of issues from other water using sectors.

The Inga dam on Congo River was cited as a potential site for hydropower generation. The argument in favour of this idea is that a lot of water is released from the dam unutilised and runs into the sea. There are therefore prospects of energy production for the whole region being dependent on Inga dam in future.

Alternatively, hydropower can be generated from a number of sites on the Zambezi River where gravitational force of water could be used instead of investing in expensive infrastructure. Even though these sites may have a promising future for the regional energy needs, there are a number of technicalities that need to be considered, like the financial viability of the projects, the need for political will and clear regional programs.

With relation to the agriculture sector – Variations in the water available in terms of the quality and quantity has a huge impact on the farming methods to be used for the different scales of farming. The main challenge however in the face of the climate change threat is related to information dissemination. Though the right information may exist, it does not reach the right people (farmers) at the right time in order for them to make informed decisions. At national level there is a need to enhance collaboration efforts between climate scientists, water managers and the agriculture sector when formulating policies.

Moderator’s question 2: Is it possible for SADC to win the fight against climate change? And what are the opportunities that SADC can tap into in the fight against climate change?

Panel and Stakeholders’ discussion outcomes for Question 2:

There is compelling evidence that climate change is a reality in the region and there is need for robust policies and strategies aimed at fighting against its effects. The global trends indicate that the Southern African region is one of the hotspots for climate

change; as a result, SADC cannot afford to lose the fight against climate change. Even though climate change and variability may impact on the SADC countries in different ways, there is a need for strong collaboration in analysing the available resources and to create strategies to win the battle in the region?

At the moment the SADC region is not working cohesively with regard to climate change issues. However, it is clear that many opportunities exist even though the region has not yet accessed them due to the uncoordinated manner of doing things. The SADC region has resources and institutions in place and is in the position to fight. Presently the SADC secretariat is working towards providing a desk for climate change to spearhead this collaboration. Climate change is the Cinderella on the world scene and the region should be prepared to articulate its position.

At national level, countries need to acknowledge the existence of climate change and review their legislation and policies and find ways to incorporate the climate change and variability issues. Countries should engage in advanced planning instead of reacting to effects brought about by climate change. The planning processes should inform financial policies as well as all relevant tiers and sectors of government.

In addition, countries in the SADC region need to change the manner in which they view climate change as a threat, but instead also see it as an opportunity to bridge the gap of serious water shortages through infrastructure for water development and eventually solving the energy crisis.

The region needs to develop its capacities to effectively participate in global climate negotiations (through for example the Kyoto Protocol and related COP processes) by strengthening its regional voice. It is essential that the southern African region, through structures such as SADC, develops and promotes a common vision, position and a clear voice regarding climate adaptation. This would also enable better access to available funding for adaptation measures.

The first step towards this would be to facilitate a dialogue preparing for the COP meeting in Copenhagen as well as the post - Kyoto talks as a region and to engage in global discussions not as individual states but as a region. This would present opportunity for the region to negotiate as a collective, in particular with respect to 'adaptation strategies' and how funding is disseminated. The region also needs to be better positioned to take advantage of funding and technology transfer opportunities through the CDM so that the region may enjoy improved development through diversification of energy, technology and related economies.

The SADC region should position itself and map out linkages of climate change with water resources and the impact on energy, agriculture and health sectors. In addition the region should invest in developing water resources accounts and valuation accounts in order to guide mitigation and adaptation decisions. Institutional strengthening of River Basin Organizations is also key to ensuring the region can adapt as these are the institutions that will manage the water resources. Sovereignty issues in managing transboundary waters need to be dissolved and countries need to work closely together. There is also need to see water as a flux and not as a stock and start considering reuse of water. Soft solutions and hard solutions should be adapted and it is important to note that there are different solutions for different scenarios.

Moderator's question 3: With the current climate change threat, what form of strategy should communities in SADC take?

Panel and Stakeholders' discussion outcomes for Question 3:

The communities in the SADC region need to understand the importance that water has on the economic development of their individual countries and of the region as a whole. There is a need to strengthen communication channels between end-users and all tiers of governance.

Policies for efficient use of resources should be seen as a norm in the region, "use less water for more and use less energy for more". For instance, power is the cheapest commodity in the region and is not used efficiently by many. Strategies need to be employed for demand side management and to ensure energy efficiency in the region. In Zambia, replacement of normal electricity bulbs with energy saving bulbs resulted in significant energy savings in the country.

Awareness and conviction that climate change is a reality is vital. Much as the technocrats are aware of the existence of climate change in the region, there is need to find ways of raising awareness and convincing communities of climate change and its effects at the grassroots level. Use of biomass amongst the rural poor in the region is prevalent, causing deforestation and eventually contributing to climate change, outreach programs are needed to respond to these issues.

Moderator's question 4: How can Indigenous Knowledge Systems inform policy making in the SADC Region?

Panel and Stakeholders' discussion outcomes for Question 5:

Institutions of higher learning with their departments dealing with cultures, customs and indigenous knowledge are better placed to conduct research and document essential information that can be communicated to policy makers and incorporated into policy making. This can be complemented with exchange visits between researchers in different countries in order to understand the dynamics involved in indigenous knowledge systems.

Moderator’s question 5: What is the role of women in climate change?

Panel and Stakeholders’ discussion outcomes for Question 4:

A correlation exists between climate change, poverty and gender. Specific impacts for climate change will affect both men and women in different ways depending on their roles, with the poorest people being the most vulnerable. In such instances, women, the sick and elderly people are always hit the hardest. There is need to engage in vulnerability assessments in order to understand the issues around climate change and gender.

Adaptive measures should therefore cater for the most vulnerable groups. These measures should include information dissemination, awareness creation and capacity building. In addition, gender mainstreaming should be part and parcel of any climate change policy formulation.

4. IMPLICATIONS OF WATER RESOURCES DEVELOPMENT

Session 4 (a): Walking the talk- Developing and financing water infrastructure that deals with the climate change threats

Chair: Mr. Obed Ngwenya – Director, Department of Water Resources, Swaziland

4.1. Status of water infrastructure development in the SADC region

SADC position on the WCD report and Regional Strategic Water Infrastructure Development Programme.

Mr Phera Ramoeli – Senior Programme Manager, SADC Water Division

The presenter gave the general background of the SADC region-covering the member states, the overall objective of SADC and issues around the status of water resources.

The SADC region is characterised by varying climatic conditions and as a result water is unevenly distributed in time and space in the region. In general, the region has a low water runoff despite having access to major river systems. The water availability challenge is also aggravated by the fact that the region has fewer numbers of large dams built, in comparison with other regions of the world. In order to meet the water needs in the Southern African region, there is need to harness the available water resources for its economic development.

SADC Position on the WCD report

In recognition of the importance of water infrastructure development, including construction of dams in the region, a process of formulating the SADC position on the World Commission of Dams (WCD) Report was commissioned. In support of the WCD report SADC acknowledges the five core values as well as the seven strategic priorities presented in the report. In addition, SADC recognises and agrees to focus on protection of ecosystems as well as the rights of the affected people. Special attention is given to optimal use of existing dams.

Nevertheless, SADC has some reservations on the report. The following issues are of concern to SADC region with regard to the WCD report:

- The report lacks sufficient attention to the essential need for, and benefits of dams and their inevitable role to the world's future development;
- The policy principles and 26 guidelines for good practice are well-intended but rather too general;
- The guidelines are broadly acceptable. Specific circumstances of every region or country will be different, and therefore not all of the precise guidelines in the WCD Report can be applied to the SADC Region;
- A balanced view of the potential role of dams to future developmental needs is not clearly recognized in the WCD report;
- There is a perceived danger that if dams are not accepted where appropriately needed, the regional peoples could be confined to under-development, resulting in perpetual poverty;
- the report places emphasis on the negative issues related to dams; and
- The intentions of the WCD recommendations and the SADC policies are closely linked; however, the WCD is more focused on water and energy development, whilst the SADC focuses at a broader developmental model.

The SADC Regional Strategic Water Infrastructure Development Programme

The comprehensive regional framework is defined in the Regional Strategic Water Infrastructure Development Programme (RSWIDP) as a phased 10 year programme. The programme has four inter-linkages; capacity building, resource, infrastructure and water governance. Within this programme, water infrastructure is clustered into two, namely: Regional Strategic Water Infrastructure Programme (RSWIP) and Implementation of the Water Supply and Sanitation Programme. The RSWIDP has embraced the paradigm shift that development of physical infrastructure should be planned in such a way that it improves the lives of people. The programme is based on food security, water supply and sanitation and energy security as pillars. In order to attain this, the MDGs and adoption of IWRM principles are considered to be the principal drivers. The RSWIDP is intended to build on the Regional Strategic Action Plan (RSAP) on IWRM.

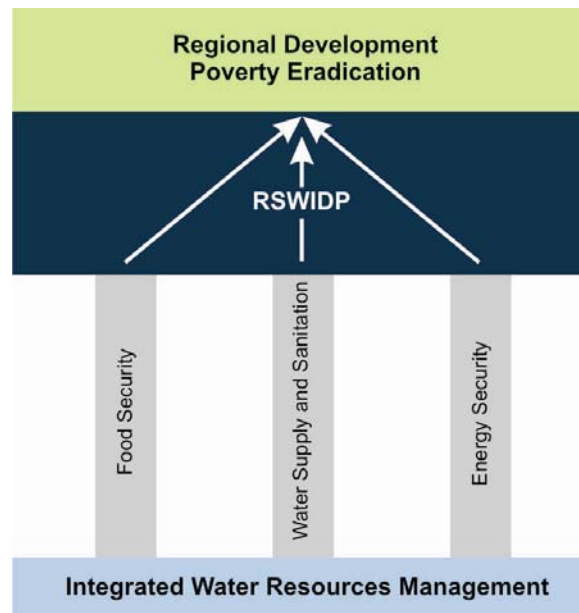


Figure 3: RSWIDP schematic

The following are the mission, goal and objectives of the RSWIDP:

Goal: to contribute in a meaningful and material manner to the reduction and eventual eradication of poverty throughout the SADC region by the integrated management and equitable development and utilisation of the water resources of the SADC region across all sectors of society'

Mission: to define and implement a strategic programme for regional water infrastructure development within the framework objectives of the RSAP2 that will include the overall SADC goals of poverty reduction and economic and social development as well as the specific water-related objectives and targets of the Regional Indicative Strategic Development Plan (RISDP).

The main **objectives** of the programme are to:

- To embrace the crucial aspect of water as a cross-cutting issue in all aspects of economic and social development.
- To embody the very significant strategic role that water plays in regional integration, conservation of resources, economic growth and poverty alleviation.
- To articulate how the development of water infrastructure contributes to the mutually dependent issues of national and regional economic growth and poverty reduction.
- To emphasise both to decision/policy makers in Member States and to development partners/donors that the development of a stock of national or regional water infrastructure

projects is not just a ‘water’ issue but a fundamental requirement to reduce constraints on growth and vulnerability to climate variability.

- To be designed to ensure that water can be made available where and when it is needed to support other sectors.

In phase 1 of the RSWIDP, 134 projects have been identified in all fourteen member states. The project types range from:

- institutional capacity building
- integrated water resources management
- strategies/feasibility studies
- rehabilitation and new works- WSAs
- rehabilitation and new works-irrigated agriculture
- Bulk water supply-dams, transfers etc.Hydropower
- Catchment and lake development

4.2. Financing Water Infrastructure Development

4.2.1. Financing Water Infrastructure

Mr. Rolfe Ebehard –Director, Palmer Development Group

The main source of investment finance for achieving the MDGs in many countries is national public funding. In this regard, national governments should raise the priority of the water sector in their national investment strategies and improve the predictability of their funding for it. This should be completed with national water plans that are tied to the programme to meet the MDGs. Conversely donor governments and external agencies should aim to make “substantial increases” in the share of water in their total commitments, improve the coordination of their activities in the water sector and use their funds as catalysts to mobilise other flows.

The entities such as water boards or utilities, water resource agencies and municipalities are crucial and better placed to raise more finance. However, it requires reforms, to make these bodies more creditworthy. This would involve facilitating technical assistance of all kinds, promoting appropriate types of private involvement, making central fiscal support more predictable and transparent as well as helping such bodies to tap capital markets directly etc.

Local capital markets should be encouraged as a source of local currency funds, by use of credit rating agencies for local borrowers, issue of local currency bonds by micro finance institutions (MFIs), use of guarantees and other forms of risk mitigation by MFIs, strengthening of development banks and other local financial intermediaries. There is also a need to improve efforts to raise revenues from users, with residual subsidies applied in a predictable, transparent and targeted manner.

In many cases the water sector lacks credible and effective institutions. Many proposals are addressed to governments, donors, agencies and others involved in a position to affect capacity-building in water institutions. Options include the direct funding of relevant forms of partnerships (both public-private and public-public), creating trust funds for financing expertise, support for training, professional exchanges, peer-group scrutiny. It is important to be realistic with respect to best organisation models because every project has its own issues to be addressed specifically and its own merits.

Private sector is another financing option that can be used where there is willingness. The various parties should work within a clearly defined and transparent policy framework, including regulation of both private and public operators. Integrity standards should be developed amongst the interested parties and the bidding, awarding and implementation of contracts should be fully transparent. Donors, agencies and governments should be open to financing water projects by combining public funds with

private financing in transparent and acceptable ways. A special effort should be made to involve local private companies, including small-scale operators.

The good quality of the institutions remains the underlying factor. The good quality institution comprises:

- Sound and stable policy and legislative environment,
- Sound governance, and
- Sound management.

Good quality institutions take time to build. The quality of people; skills and competencies involved plays a major role in determining the quality of the institution.

For irrigation projects, the re-engagement of MFIs and donors into dam development and other major hydraulic works would improve water and food security for many farmers, especially in Africa. Public irrigation agencies are one type of sub-sovereign entity that could benefit from more financial autonomy, though major reforms are going to be needed to improve their creditworthiness. In selected schemes where conditions are favourable, private concessions are feasible (and are being invited). These would benefit from the extended use of insurance and guarantee instruments, and from the proposed liquidity facility. Small-scale farmer-financed schemes would benefit from the proposals to develop local capital markets, micro-credit and development finance institutions.

It is important to note that climate change does not only present challenges but it can also bring along the opportunities.

While the challenges that are associated with climate change are:

- Increased costs (flood control, drought mitigation)
- Reduced affordability (users, governments)
- Competing priorities (mitigation is an easier political sell than adaptation; emergencies override systematic response)

The opportunities are:

- Water resource development can be considered for adaptation to climate change – there is potential to access new/additional sources of finance.
- Hydropower (which has a low carbon footprint) - bearing in mind that only 5% of Africa's hydropower potential has been developed.
- Crises raise the profile of water challenges and increase attention and allocation of resources.

A diagnostic framework on how the region is doing involves the following questions:

- Is the enabling framework in place? Policy, legislation, institutional mandates
- How good is the quality of our institutions?
 - Governance
 - Leadership
 - Management and technical capability
- Is the financial mix right?
- Has the appropriate financial mechanism been chosen?
- Where are the binding constraints?

Looking at these diagnostic questions, the policy and legislative environments are by and large benign, and the technical questions can be answered easily enough. **The real challenge lies in the quality of the institutions** (sound governance and excellent leadership, backed up with management and technical capability).

Session 4 (b): Walking the talk- Developing and financing water infrastructure that deals with the climate change threats

Chair: Mr. Julius Mihayo – Director, Department of Water Affairs, Tanzania

4.2.2. Investments in Water Resources Development – some experiences from African countries

Mr. Barry Jackson – Policy Advisor, Development Bank of South Africa

In water sector investments - grants are limited. In such cases, loans are necessary to see the projects through. However, loans come with a price. Government officials in most cases are optimistic that they have good project proposals, while on the other side bankers are pessimistic that the project proposals are not sound, quality of institutions is low and there is therefore, associated risk.

In addressing the risk associated with water sector projects, bankers need to know if the plans are achievable in terms of reliable technology, reliability of paying customers and if the stated assumptions are robust. The bankers also want to know if the costs are tested with vigorous reliable financial models and whether or not sensitivities have been tested.

Typical sources of finance include:

- Government and bi-lateral grants
- Development finance institutions (DFI) loans via government
- DFI loans direct to utility
- Private sector: local or foreign capital-loans and bonds

A number of constraints exist in raising finance for water development. First of all the finance institutions look for strong, competent, and reliable borrowers in a stable environment. There is also an issue of the foreign exchange risk involved and ability to repatriate funds as well as profits. The finance institutions require knowing the issues around income in local currency and its stability. The borrowers need to find options for Credit Enhancement.

In conclusion, securing funding for development of water resources remains a challenge today. However, climate change adaptation and water for food security are opportunities to raise the profile for raising finance for water development infrastructure. This should go along the notion that local capital markets are getting bigger and better. The quality of institutional management with the right degree of autonomy remains vital.

4.2.3. Financing Water Resources Development: The World Bank Perspective

Mr. Len Abrams – Regional Water Programme Manager Southern Africa, World Bank

An overview of the Bank's presentation was as follows:

The World Bank Africa Regional Strategy promotes Growth and Poverty Reduction. In the water sector the bank has established the Africa Water Resources Unit (AFTWR). The bank is moving on from "IWRM" which the Bank considers to be a great vehicle, polished by many studies and meetings, but questions where it is going. 'IWRM is parked in the basement and the Ministry of Finance does not know it is there'. The World Bank is now focusing on infrastructure and establishing a new approach that shows the contribution of water development to the economy and thus growth. Amongst other issues, infrastructure in terms of transport, energy, communications, waste disposal and water are vital to economic growth. The World Bank is now talking about IWRD - Integrated Water Resources Development, Integrated into the economy, targeted at productive use of water and translating water language into economics to get traction.

The World Bank approach in countries is as follows in order to ensure water development is mainstreamed into economic growth:

Identify the minimum water infrastructure platform requirement for growth

This is done by understanding the investment needs, the national growth and poverty reduction strategy and within that determine the role of water in the economy – as a whole, not only in isolated sectors. The 2 key factors are to reduce vulnerability to climatic variability and remove constraints to growth. It is important that water resource development is seen as a ‘means to an end’.

Mr Abrams then explained how the Bank identifies needs, highlighting the following:

- The main instrument being the Country Water Resources Assistance Strategy
- Undertaking a combined Economic and Hydrological analysis
- Understanding the Water Resources and the Economics
- Determining the real economics through an economic analysis
- Considering the impact of shocks – both direct & economic costs
- Modeling – through the development of scenarios
- Prioritizing – to determine where the next best \$ is spent
- Identifying possible investments – looking at a range of interventions
- Packaging finance – beyond the World Bank Group
- Considering climate change and variability
- Paying attention to range and scale
- Considering the urban requirements for commercial, industrial and the urban/peri-urban population
- Examining enterprise requirements – in particular financial viability
- Considering also the small scale / subsistence needs, which aims to enable the poor to meet their own needs.

In water development there is need for a multi-sectoral approach. Mr Abrams emphasized **that** the previous era of large single purpose investments is over. The Bank follows the recommendations by World Commission on Dams and undertakes an options analysis, optimizing benefits and balancing demands. Planning requirements, considering both the medium and long term, as well as preparation requirements (of costs and time) are worked out. He added that there was also a need to apply certain safeguards such as the environment –considering in-stream flow requirements and of course, social impact – towards improving the lives and futures of all. International waters (notification requirements) and dam safety – especially new and aging infrastructure are also key considerations in the Bank’s approach.

The AFTWR unit (Southern Africa) is carrying out the work on the project cycle involving analysis, prioritization, identification, preparation, implementation and evaluation. The countries are Mozambique, Zambia, Malawi, and Angola and may also involve Tanzania. For river basins, the *Zambezi Basin Multi-Sector Investment Opportunity Analysis* is underway and at the regional SADC level, for regional integration is the GEF Groundwater Project.

4.2.4. Panel Discussion Overview

Dr. Kenneth Msibi- Water Policy and Strategy Expert, SADC Secretariat- Water Division

In the overview, Dr Msibi focused on key issues relevant to financing water infrastructure development. He noted that adaptation strategies for Climate Change are inevitably socio-economic development interventions and that there was a need to integrate/mainstream Climate Change in all programmes. Whilst many funding opportunities exist, it seemed that SADC Member States were not taking

advantage of these opportunities and he questioned why that may be and listed the following possibilities:

- Inadequate levels of awareness?
- Unclear or cumbersome procedures?
- Capacity to develop good proposals?
- Lack of seed financial resources to leverage resources?
- Fear to increase financial debts?

Dr Msibi added that water infrastructure development would largely be undertaken through loan funding rather than grant funding and that loan funding was not a constraint for bankable, low risk infrastructure projects for Quality institutions. He spoke further on risk and institutions indicating that risk is influenced by climatic variability and that infrastructure that improves the impact of climate variability could also reduce the funding risk. He ended on two key challenges for the region:

- How do we improve the financing risk/credit worthiness; and
- How do we improve the quality of our institutions and what indicators do we use to monitor progress?

Dialogue: “Financing Water Infrastructure Development”

Facilitated by Ms. Alice Chavhunduka

Moderator’s question 1: How can the SADC Region reposition its strategies for water development and financing?

Panel and Stakeholders’ discussion outcomes for Question 1:

The perspective of SADC is that, water development infrastructure is not only the solution to climate change adaptation but also a development issue. Presently the region is lagging behind in terms of water infrastructure development when compared with other parts of the world. In 1998 a decision was made that infrastructure development at regional level should be collective especially in the shared watercourses which are predominant in the region as the region is characterised by fifteen (15) rivers shared among many countries. Shared groundwater resources can also support the development agenda in the region. From 1999 to 2005 the region has embarked RSAP which is meant to take into consideration the 2015 MDGs as well as development aspirations of member states.

Sourcing of finance is critical for developing water infrastructure, SADC countries need to realise that water is finite, vulnerable, and is a shared resource, hence collaboration is important in development and management as well as getting the right balance between:

- Infrastructure, governance and institutions.
- Scale: large and small, local, national or basin level
- Are the grants and loan financing available in the region? Are they used in the right way?
- Private and public finance.
- Infrastructure developments implemented with consideration environmental, social and economic issues.

Mobilising stakeholders towards infrastructure development

Africa has multiplicity of shared rivers by two or more countries. Every river has multiple stakeholders that need to come together and discuss how their water resources can be developed for benefit of all. In 2002, there was the formation of the African Ministerial Council on Water (AMCOW) in realisation that water is key to all developmental issues as well as in achieving the MDGs.

Last year the SADC Water Division and its regional counterparts from the East African Community (EAC) organised a workshop in Swaziland that was a follow-up to the decisions made at the Energy Ministers meeting on Hydropower held in South Africa in 2006.

The outcomes of the Swaziland workshop were:

- (a) Ensure an approach that takes into account the environmental integrity, social issues, economic efficiency and sharing of water benefits.

- (b) Realisation for broad intensive capacity development for civil society in planning, development and management of infrastructure.

Moderator's question 2: Africa has not been viewed as having a conducive environment for investments in water infrastructure how far true is this?

Panel and Stakeholders' discussion outcomes for Question 2:

A lot of efforts have been done to establish an enabling environment in the form of legislation, policies as well as creation of River Basin Organisations. However, the challenge is around the capacity of institutions to access funding. The region is not short of funds for investments. Most institutions do not have the ability to prepare bankable projects. However this is being solved by a number of Project Preparation Funds which are being setup by organisations like NEPAD, DBSA and the African Development Bank.

The SADC region has always emphasised the development and management of water resources and during the IWRM planning process efforts have been made to integrate IWRM into development strategies. Thus IWRM in the case of Zambia for example has been integrated into the Fifth National Development Plan. However the water sector should endeavour to engage more with the Ministries of Finance and Economic Planning to ensure that water projects are prioritised.

There is a need to get institutions to work by ensuring systems are in place and that institutions are stronger than the people in it. Institutional systems including planning and management are important in order to attract investments. Investors look at the credit rating of an institution or project in order to be attracted to invest. It is critical therefore for institutions to improve their governance and management to obtain higher credit ratings

Moderator question 3: Is private sector financing an option for water infrastructure in the SADC region?

Panel and Stakeholders' discussion outcomes for Question 3:

The region has not been proactive to inform and engage private sector in water management issues. There is need to create a regulatory framework within which private sector can be engaged. Policies and legislation should be put in place that ensures that private investors can participate in clear and transparent environments. Private participation brings in the issues of cost recovery and tariff setting open and clear dialogue to achieve equity and economic efficiency should be discussed.

In addition, there is need to create a forum where there can be information sharing and discussion of opportunities so that private sector can buy into some of the ideas. Communication channels need to be opened between the water sector and private sector and to create partnerships so that private sector can be able to see the value of participation in water management and development. However in bringing in private participation on board the key should remain knowing clearly how people will benefit from the projects.

Remarks on Financing Water Infrastructure

- There is need to take advantage of opportunities presented by the climate change threat in order to develop water infrastructure
- The region needs to come up with a collective voice in determining how the adaptation fund should be used for Africa
- There is need to improve how projects are prepared in Africa – the region will need to take advantage of the Project Preparation Funds available to improve project preparation
- It was also noted that SADC – has always viewed IWRM as promoting integrated management and development.
- There is a need to ensure that water programmes are incorporated in regional and national development plans.

5. CLOSING SESSION

5.1. Summary of Proceedings and Way Forward

Mr. Phera Ramoeli- Senior Programme Manager, SADC Water Division

The SADC countries acknowledge the reality of climate change and are aware of its effects on the livelihoods of people of the region. The dialogue has been fruitful and informative and there is hope that it will not turn into one of the “talk shows”, but instead will come up with robust policies followed by action on the ground. First, the SADC countries need to prioritise water and realise that drivers for water resources development are outside the water sector while water is a major catalyst for economic development.

- Information Dissemination
 - Spread the message individually and collectively
 - Establishment of a webpage
 - Need for a framework for professionals who will speak on behalf of water management and development in various programmes for development.
- Financing for water development infrastructure is still a challenge in the region
 - Quality of institutions-credit worthiness
 - Capacity building
 - Private sector as an option for financing
- Methodologies for climate change adaptation need to be explored further.
 - Innovation-small infrastructure projects at local level
 - Exploring more than one sources of water
- SADC region should not focus only on the challenges of the effects of climate change, but should view the opportunities that are available due to climate change and its effects.
- Capacity building is an issue that has been addressed seriously in the dialogue. This include capacity:
 - To adapt to climate change effects
 - Institutional capacity to function and to access financing

5.2. Vote of thanks

Mr Adam Hussein – Chairman of the SADC WRTC

The WRTC chair noted that the dialogue had been a success as a lot has been learned from water using and water influencing sectors as well as cooperating partners. This indicates that all relevant sectors are aware of the reality of climate change and its effects. He sincerely thanked:

- Sponsors and cooperating partners for making the event possible
- Lesotho Water Partnership
- GWP-SA for working
- Government of Lesotho through Ministry of Natural Resources for accepting to host the event
- SADC Water Division
- Participants of the dialogue

The WRTC emphasised the importance of keeping the dialogue going on beyond the meeting and wished all journey mercies back to their respective countries and offices.

5.3. Closing speech

Mr. T'seliso Sekoli – Director, Lesotho Meteorological Services

It was noted that climate change is a present challenge and as many speakers have indicated throughout the dialogue, it is clear that business should not be business as usual in addressing the issues that are both incremental and detrimental to both our planet and future generations. It was also noted that there is an inevitable requirement to look back and ponder over the triggers of the climate change. There is need to realize the rate at which the climate is changing because as long as there is increase in the causes of climate change we are faced with an invincible situation.

The SADC region is therefore faced with a challenge of reorganizing itself in setting up standards for measuring the causes of climate change and its impacts on our region. Information has always been the tool for assisting the decisions making. The need to monitor, collect and disseminate data in relation to climate is paramount for mitigation measures including adaptation methodologies. Data analyses including the caption of the indigenous knowledge as some of the strategies towards that need to be included in the ultimate programmes of action for all member states.

It is also imminent that involvement of all stakeholders that include the poor, women and children and those affected by different illness including HIV and AIDS, is key to success in implementation of the programmes. The need for global, regional and local fora is surely mandatory in order to provide environment for negotiations with those that are involved in activities that contribute to the deterioration and degradation of both celestial and terrestrial ecosystems and environment at large.

A1. APPENDICES

A1.1 Remarks by Denmark Government Representation

Mr. Ole Houmoller

Honourable Minister of Natural Resources

Representatives of SADC Member States

Ladies and Gentlemen

All protocol observed:

I am pleased to participate in and to deliver the few remarks at this Dialogue, which is focusing on a priority issue for both the Government of Denmark and of the SADC.

The Danish Government is interested in contributing to the ongoing debate on energy efficiency and climate change, and wishes to encourage a continued dialogue with a broad spectrum of the SADC society and all interested parties globally. As part of this commitment, you may be aware that Denmark will host the United Nations Climate Change Conference in November 2009, in preparation of a new international Climate Change agreement.

This is one of the reasons for supporting the SADC Water Divisions in convening this gathering and hoping that the collective minds here will not just re-emphasize the existence of the problem but share solutions to overcome it.

I am very happy to see that one of the outcomes listed in the invitation to this Dialog is around the Developmental role of IWRM. As much as I feel Climate Change is an extremely important issue that must be tackled now, we must also not forget the problems of today and the need to develop communities in the SADC region and elsewhere particular the poor communities.

I know that applying IWRM principles can contribute tremendously to the development of communities across the SADC region. In doing so it is important that we look beyond the traditional water sector, and I am very pleased to see that this Dialog has managed to attract participation from outside the water sector.

We are all aware that SADC Member States are party to a number of international and regional instruments related to climate change. However, it is our belief that international treaties and political agreements alone are nothing without activities on the ground that is implemented with the active support of the beneficiary communities. We therefore need to ensure participation and action on all levels of society, from the national parliaments and local governments to households and individuals.

I would like to encourage you to ensure that this Dialogue does not just get stuck in strategies, research and studies but use the good work that has been done to determine practical activities that we need to implement at all levels.

After all it is about PEOPLE not PAPER

I wish to take this opportunity to express my sincere thanks to you for responding positively to the call to meet here and exchange views on how best the SADC region can develop and implement climate change mitigation and adaptation measures.

I also want thank SADC Water Division, Global Water Partnership and all people that have contributed their time and effort to make this Dialogue a reality. I wish you all fruitful deliberations in the coming two days.

Thank you very much for your attention.

A1.2 Remarks by SADC

Mr Remigious Makumbe

Master of Ceremonies,

Honourable Minister of Natural Resources Honourable Monyane Moleleki,

Principal Secretary, Ministry of Natural Resources,

Commissioner of Water Mr. Manong Lesoma,

Representatives of SADC Member States from both the Water Sector and other sectors,

Representatives of the ICPS,

Our implementing partners – the Global Water Partnership (GWP),

Distinguished Guests,

Ladies and Gentlemen,

All protocols observed:

It is a great honour and privilege for me to be associated with the forum relating to Dialogue on Climate Change and Integrated Water Resources Management. On behalf of the Executive Secretary, Dr Tomaz Agosto Salomao, who is away on urgent Summit business, I would like to take this opportunity to welcome you all to this very important event on an issue on which there is intense discourse on a global scale. I would specifically like to recognise and appreciate the presence here today of the Honourable Minister, Hon Moleleki, which to me clearly demonstrates the importance the Kingdom of Lesotho and his Ministry attach to issues of water resources management in our region. I will hasten to say that this does not come as a surprise to me as Lesotho, under the able leadership of the Hon Minister, was responsible for coordinating regional water from 1997 to 2003 until the Water Sector Coordinating Unit was phased out and its activities transferred to the SADC Secretariat in Gaborone, Botswana, as part of the SADC restructuring.

Honourable Minister

Distinguished Guests

Ladies and Gentlemen:

We all recall that we had our first Dialogue last year in May 2007 and expect that the dialogue this year shall add value to our achievements last year. I shall attempt to put into context, this Dialogue from a SADC perspective, with the hope that such a context will guide your deliberations in these two days.

The SADC Treaty and the SADC RISDP, our regional blueprint for regional integration and poverty reduction, is very clear on the fight against poverty which is one of the key challenges confronting the SADC region. SADC recognizes water as the engine for economic growth and poverty eradication. Our Heads of State underscored this issue during the recent SADC International Conference on Poverty and Sustainable Development held in Mauritius in May, 2008, whereat measures to upscale access to water, as an integral part of the proposed Regional Poverty Reduction Framework (RPRF) were re-affirmed. You may all be aware that SADC Member States adopted IWRM as the fundamental approach to water resources management to ensure that water is adequately contributing to poverty eradication, regional integration and socio-economic development in an equitable and sustainable manner.

As one of its policy commitments, and in line with the principles of IWRM, SADC is ensuring that the activities of the water sector should maximize the resultant economic and social welfare in an equitable manner without compromising the vital ecosystems. However, this task is getting complex given the reality that global climatic change is significantly altering the hydrological cycle. This is the reason why

climate change has assumed a place high on the agenda of SADC - necessitating structured and targeted Dialogue.

Honourable Minister

Distinguished Guests

Ladies and Gentlemen:

The Third Assessment Report of the IPCC puts the SADC region amongst the most vulnerable to climate change, pointing to the fact that climate change and variability will scale up water-related disasters such as droughts, floods and cyclones and these will in turn have adverse impact on water-dependant sectors, our own competitiveness and economic survival.

The economies of southern Africa thrive on the activities of climate-sensitive sectors such as agriculture, hydro-power dependent industry, fisheries, tourism and even health – considering the prevalence of water-borne diseases in the region. This is against a backdrop of relatively poor disaster management apparatus and strategies. It is increasingly becoming evident that climate change is no longer the story about the future but it is the story of today. Climate change is already showing its ugly face - slowly shrinking livelihood opportunities, threatening biodiversity and food security, and up-scaling water-related disasters.

This year alone, Mozambique, Zambia, Malawi, Namibia, Madagascar and Zimbabwe have experienced severe floods and most of these occurred earlier than normal in the rainy season. The SADC Region also experienced incidences of drought.

Honourable Minister

Distinguished Guests

Ladies and Gentlemen:

During this Dialogue, the region's capacity to address climate change and related challenges should be given special attention. SADC and its Member States subscribe to a number of international instruments and programmes relevant to climate change but specific country-level initiatives are yet to be effectively implemented.

While the region has made advances in formulating, reviewing and developing policies and legislative instruments, there is need to reflect on how climate change has been mainstreamed into these policies. There is also need to strengthen baseline information and data at SADC Secretariat and Member States as is called for under the Kyoto Protocol. We also need to consider seriously some best practice options in managing the challenge of climate change.

SADC Member States have and continue to take steady steps in relation to the climate change threat. Almost all SADC Member States have acceded to the Kyoto Protocol and are focussing on the development of the National Adaptation Programmes of Action (NAPA) even though there are anticipated implementation challenges that this Dialogue should examine.

Honourable Minister,

Distinguished Guests,

Ladies and Gentlemen,

It is against this background that SADC sees it most fitting to take this dialogue to key stakeholders on a "no hold barred basis" in order to examine the issue of climate change seriously and contextualise the impacts of climate change to the realities of this region.

SADC is currently developing an Environmental Protocol which will address climate change and provides a guiding framework on the issue.

SADC spearheaded the Regional Strategic Water Infrastructure Development Programme upon realizing that water resources development and its requisite infrastructure is demand driven by other non-water sectors whose priorities could be vulnerable to water shocks. In implementing this Programme, SADC hopes to ensure that water is available where and when it is needed to support different social and economic needs. We expect that the infrastructure programme will be positioned to enable the region cope with the climate change challenge.

After next week SADC is also convening the 3rd SADC-EU Scientific International Symposium in Lusaka, Zambia. The theme for the Symposium is “Towards Meeting the Challenges of Climate Change – Institutional Structures and Best Practices in Land and Water Management in Southern Africa.”

Honourable Minister

Distinguished Guests

Ladies and Gentlemen:

This Dialogue comes as a result of an Awareness Creation initiative of the SADC Water Division which is ensuring that decision-makers in all sectors and the media are aware of key aspects of water management and its relevance to social and economic development in the SADC region. This Awareness Creation initiative is moving IWRM awareness beyond the converted by acting as an information bridge connecting water-using and water-influencing sectors. What we will be embarking upon in the next two days will be trying to put into practice what IWRM is all about and this explains why the audience today is so diverse.

I therefore can not overemphasise the importance of this Dialogue.

I have been informed that we have local communities amongst us and I encourage them to share with us their local knowledge and practices in adapting to the impacts of water-related disasters.

Honourable Minister

Distinguished Guests

Ladies and Gentlemen:

Let me conclude by emphasizing that SADC is highly awaiting the outcomes of this Dialogue to guide us on how to consolidate further the link between climate change, water and poverty alleviation as well as regional integration. Our password should be “implementation”. I wish to once again thank the Global Water Partnership and all our cooperating partners for the support they have given to us in the water sector. Specifically, I would like to thank DANIDA who are a main sponsor of this event through the SADC/DANIDA Regional Water Sector Programme.

Thank you very much for your attention. Muito obrigado, Merci beaucoup

A1.3 Opening Address and Official Opening

Mr. Maieane Khaketla

Master Of Ceremonies

Principal Secretary, Ministry Of Natural Resources Mr. Bataung Leleka

Acting Chief Director and Director of Infrastrucutre and Services,

SADC Secretariat; Mr. Remigious Makumbe

Commissioner of Water Mr. Manong Lesoma

Representative from Danida, Mr Ole Houmoler

Chairperson of the SADC Water Resources Technical

Executive Secretary GWP-SA, Ms Ruth Beukman

Chairman of Lesotho Water Partnership,

Representatives of SADC Member States from both the Water Sector and Other Sectors,

Distinguished Delegates from SADC Countries,

Ladies and Gentlemen:

It gives me great pleasure and it is my singular honour to have this opportunity to give these opening remarks on this occasion of the opening of the second SADC Multi-stakeholders dialogue on water and climate change. Let me take this opportunity on behalf of the government of the kingdom of Lesotho and on my own behalf to welcome you all to the kingdom of Lesotho, sometimes referred to as the mountain kingdom in the sky. I am sure you may by now have had a chance to experience some of the unique characteristics of our country particularly its cool and fresh breeze which akin to Lesotho particularly this time of the year as we are just starting our winter season. If you are lucky you may even have a chance to experience a bit of snow if it happens to fall while you are here.

Having been duly informed about this important occasion “the SADC Multi-stakeholder water dialogue with a very important theme of water and climate change” I dare say this could not have come at more opportune time particularly when the world is faced with very serious challenges such as water scarcity and flooding at times. This is particularly true for our own region SADC, which has recently had its share of water related adversities, floods and droughts.

Master of Ceremonies

Distinguished Delegates

Ladies and Gentlemen:

Water has been placed high on the agenda of the development and management objectives of SADC when in 1996 the SADC heads of state and government decided to elevate water and have it as dedicated sector which deserved regional cooperation and management. This was further emphasised at the world summit on sustainable development in 2002, when the water sector had a dedicated session and display at the water dome. a number of development has since developed since that time such as the establishment in our continent of a the African Ministers Council on Water (AMCOW), African water facility, and the Africa/EU partnership on water to name but a few.

I have been informed that this dialogue is an awareness creation activity focusing on the integrated water resources management and development (IWRMD) particularly targeting those who are in policy, decision making levels especially those outside the mainstream water sector but are affected by or impact on water. This I am told is a component of the SADC-DANIDA regional water sector programme for which we are very grateful. The dialogue, I m told, mobilises different stakeholders to share experiences in highlighting related activities by different organizations demonstrating how this approach can address keys aspects of socio-economic development and poverty reduction in Southern Africa particularly in the light of global climate change, which studies have shown will affect Africa the most and the water sector particularly. Awareness creation is critical if we are all to make informed decisions relating to the management and development of our finite and scarce water resources. As you may well know water is not an end in itself but in-fact a means to an end therefore affects and impact various aspect of our lives and livelihoods.

Master of Ceremonies**Distinguished Delegates****Ladies and Gentlemen:**

I wish to inform you that the dialogue theme that is “*Watering development in SADC*”: Rising above the Climate Change Threat towards Water Security, I feel obliged therefore to stress on apparent maladies brought about by the climate change phenomena. The realities of climate change have been recognized globally by formation of various fora. Climate change effects have in our cause affected water resources availability in both space and time. In Lesotho also the disastrous extreme weather events like droughts are lately taking precedence on the headlines. These events culminate to property damage, disruption of livelihood and loss of lives.

In Lesotho we have been experiencing erratic rainfalls in recent years. Rains came late than expected leading to crop failures with resultant food shortages. Thus undermining our efforts in making a significant dent into the poverty dilemma which is central to our and SADC development objectives.

Water scarcity has far reaching effects in Lesotho and should say all our SADC countries, as most of the economic sectors are dependent on this resource. First and foremost is access to water for basic needs. This still remains the daunting challenge for Lesotho to meet millennium development goals.

Master of Ceremonies**Distinguished Delegates****Ladies and Gentlemen:**

Now that climate is evidently changing, what can we do to mitigate this effect? I am sure this is amongst others the top issues for discussions in this dialogue and I am share for the next two days you will all openly share your experiences develop robust strategies to deal with this challenge. It has been demonstrated through research that some types of industrial activities also contribute to climate change. The time is now ripe for all of us to rigorously assess our development actions that are detrimental to environment in particular climate and make decisions based on accurate information so as to secure meaningful future of coming generations.

Master of Ceremonies**Distinguished Delegates****Ladies and Gentlemen:**

I once again welcome you, and urge you if time allow touring our highlands and gazing at the projects where we have made our contribution in the adaptation of among others (Lesotho highlands water project). You will be met with tranquil and fresh airs that will nourish you breathe and surely will always serve as reminder that we are the kingdom in the sky.

Lastly I wish you the best in your deliberations and with these few words ladies and gentlemen I declare this dialogue officially opened.

I thank you all for your kind attention

KHOTSO PULA NALA!

A1.4 Overview of the SADC Multi-stakeholder Water Dialogue-Rising above the climate change threat

(Hastings Chikoko: Component Manager, SADC-Danida Regional Water Sector Programme)

- Revisit the link between water and development within the context of climate change and variability
- A dialogue not a workshop – we are here to talk and share. A platform open to any ideas, views, experiences perspectives from different stakeholders -everyone

Our objectives

- **Expose and raise the understanding** of the development aspects of IWRM among stakeholders
- **Share** IWRM strategies, experiences and best practices in climate change mitigation and adaptation
- To **improve awareness** of IWRM initiatives and promote collaboration between partners in the region

Components

- Look at the climate change with a focus on the implications of the water-related impacts on health, energy agriculture sectors and other aspects of development
- Examine a water resources development agenda that supports the adaptation strategies – focus on financing the requisite water infrastructure development
- An exhibition of relevant IWRM work

Structure

- Preliminary **informative sessions** and presentations
- **Open dialogue** with panelists (with a possibility of sharing the discussions through regional television media)
- An activity under the SADC Awareness Creation initiative funded by DANIDA with implementation support from GWP
- Improving awareness of IWRM and its link to poverty eradication through equitable and sustainable utilization of water in the SADC region)
- Moving beyond the water sector – an information bridge connecting water-using and water influencing sectors with the water sector
- Moving beyond IWRM concepts to application of IWRM principles

In conclusion

- Climate change is no longer the story about the future but it is the story of today
- Let us not keep on re-emphasizing the existence of the problem but share solutions to overcome it

Let us talk! Let us share – thank for your attention

A1.5 Closing Remarks

Mr B. T. Sekoli- Ministry of Natural Resources-Lesotho

Master Of Ceremonies

Acting Chief Director and Director of Infrastructure and Services, SADC Secretariat; Mr. Remigious Makumbe

Commissioner of Water

Representative from Danida, Mr Ole Houmoler

Chairperson of the SADC Water Resources Technical

Executive Secretary GWP-SA, Ms Ruth Beukeman

Chairperson of GWP-SA Steering Committee

Chairperson of Lesotho Water Partnership,

Representatives of SADC Member States from both the Water Sector and Other Sectors,

Distinguished Delegates,

Ladies and Gentlemen:

It gives me great pleasure and it is my singular honour to have this opportunity to give the closing remarks at the end of lively and vibrant dialogue on water and climate change. It has been two days since this important dialogue started and it is my concerted belief that you have reached the deductions that will benefit all the SADC countries.

It is my belief that the result of these deliberations will influence the way we have been doing business and shift to practices that will secure our environment that is seemingly under threat of the climate change.

Distinguished Delegates

Ladies and Gentlemen:

It is apparent that as I have mentioned earlier, business should not be business as usual in addressing the issues that are both incremental and detrimental to both our planet and future generations. From a quick analysis of the deliberations of this two day dialogue, there is an inevitable requirement to look back and ponder over the triggers of the climate change. There is also need to realize the rate at which the climate is changing because as long as there is increase in the causes of climate change we are faced with an invincible situation.

The SADC region is therefore faced with a challenge of reorganizing itself in setting up standards for measuring the causes of climate change and its impacts on our region.

Information has always been the tool for assisting the decisions making. The need to monitor, collect and disseminate data in relation to climate is paramount for mitigation measures including adaptation methodologies. Data analyses including the cooption of the indigenous knowledge as some of the strategies towards that need to be included in the ultimate programmes of action for all member states.

It is also imminent that involvement of all stakeholders that include the poor, women and children and those affected by different illness including HIV and AIDS, is key to success in implementation of programmes.

The need for global, regional and local fora is surely mandatory in order to provide environment for negotiations with those that are involved in activities that contribute to the deterioration and degradation of both celestial and terrestrial ecosystems and environment at large.

Distinguished Delegates

Ladies and Gentlemen:

Once again let me thank you for your concerted effort and tireless participation in this dialogue. I believe that in spite of your ever tight schedules you had a privileged of moving around and realising the hospitality of Basotho in general. You may have come to Lesotho when winter is just beginning. And some may have felt the brunt of cold weather

My unsurpassed thanks to the SADC secretariat for having organized this momentous event in our Mountain Kingdom. Further thanks to DANIDA, who, through funding have made this event possible; global water partners; regional secretariat and the Lesotho water partnership who tireless worked hard to put logistics in place and to all of you ladies and gentlemen.

It is only my last hope that, as the chairperson of the Lesotho Water Partnership said, that to add more smile in our kingdom you have left some dollars.

With these few words I officially declare the second SADC multi-stakeholder water dialogue officially closed.

Bon voyage, Tsela-t'soeu , Hambani kahle, Kwaheri, Goodbye

Thank you!!!!

A1.6 Final Programme

SADC Multi-Stakeholder Water Dialogue - Day 1: plenary Wednesday 14 May 2008

TIME	ITEM	WHO
08.00 – 08.30	Day Registration	GWPSA and Lesotho CWP Secretariats
08.30 – 10.15	SESSION 1: OPENING SESSION	Session Chair: Director of Water – Lesotho
08.30 – 08.45	Welcome by Lesotho Water Partnership	Lesotho Chair (Dr. M. Matete)
08.45 – 09.05	Remarks by Denmark Government Representative	Mr. Ole Houmoller
09.05 – 09.15	Remarks by SADC	SADC representative
09.05 – 09.30	Opening Address and Official Opening	Mr. Maieane Khaketla, Ministry of Natural Resources-Lesotho
09.30 – 09.35	Vote of Thanks	Mr. Adam Hussein, SADC WRTC (Chairman)
09.35 – 09.40	Introduction of Keynote Speaker	Ms. Ruth Beukman, GWP SA Executive Secretary
09.40 – 10.10	Key Note Presentation on theme	Professor Torkil Jønch Clausen Senior Advisor GWP
10.10 – 10.15	Close of Opening Session	SADC WRTC
	Group Photograph (at start of tea)	Session Chair
10.15- 10.40	TEA	
10.40 – 11:40	SESSION 2: Impact of Climate Change on water using and water influencing sectors	Session Chair: Mr Reggie Tekateka-AMCOW TAC
10.40 – 11.00	Overview of the SADC Multi-stakeholder Dialogue	Mr. Hastings Chikoko
11.00 – 11.30	Impacts of hydrological changes on hydropower in the SADC region	Ms. Belynda Petrie, Oneworld sustainable investments
11.35 – 12.05	Impacts of hydrological changes on agriculture and food security in the SADC	Dr. Stephanie Midgley
12.10 – 12.40	Water Supply and Water Demands in four South African Shared River Basins: Implications for Water Resources Management	Dr. Pete Ashton
12.45 – 13.15	Question and answer question	
13.15 – 14.15	LUNCH	
14.15 – 17.30	SESSION 3: Open dialogue with panelist	Moderator: Hastings Chikoko
14:30 – 14:50	Experiences of the Royal Barotse Establishment	Mr. Clement Mubita Akatama
14.30 – 14.50	Panel Discussion Overview	MsBelynda Petrie, Team Leader DFID Regional Climate Change Study
14.50 – 15.30	Panel discussion – Implications of the water related climate change impacts Dr. Stephanie Midgley – DFID Regional Climate Change Study Dr. Pete Ashton – CSIR Clement Mubita Akatama – Lozi Community Representative Ms. Belynda Petrie – Oneworld sustainable investments Mr. Washington Zhakata – Ministry of Environment Affairs, Zimbabwe Mr. B.T. Sekoli –Department of Meteorology, Lesotho	Moderator – Mr. Hastings Chikoko

TIME	ITEM	WHO
15.30 – 16.00		TEA
16.00 – 16.30	Continuation of Panel Discussion	
16.30 – 17.30	Wrap up	SADC Water Division
19.00	WELCOME COCKTAIL HOSTED BY LESOTHO COUNTRY WATER PARTNERSHIP	

SADC Multi-Stakeholder Water Dialogue - Day 2: plenary Wednesday 15 May 2008

TIME	ITEM	WHO
08.30 – 10.30	SESSION 4: Walking the talk – Developing and financing water infrastructure that deals with the climate change threats	Session Chair: Mr. O. Ngwenya- Swaziland
08.30 – 09.00	Status of water infrastructural development in the SADC region: SADC Position on the WCD Report and Regional Strategic Water Infrastructural Development Programme	Mr. Phera Ramoeli SADC Water Division
09.05 – 09.35	Financing Water Infrastructure	Mr. Rolfe Eberhard Palmer Development Group
09.35 – 10.00	Question and Answer	
10.00 – 10.30		TEA
11.00 – 13.00	SESSION 5: Walking the talk – Developing and financing water infrastructure that deals with the climate change threats	Session Chair: Mr J Mihayo-Tanzania
10.35 – 11.05	Investments in Water Resources Development – some experiences African countries	Mr. Barry Jackson
11.10 – 11.40	Financing Water Resources Development: The World Bank Perspective	Mr. Len Abrams
11.40 – 12.30	Question and answer	
12.30 – 13.30		LUNCH
13.30 – 16.00	SESSION 6: Open dialogue with panelists PUT NAMES OF PANELISTS	
13.30 – 13.45	Panel Discussion Overview	Dr. K. Msibi
13.45 – 15.20	Panel dialogue R. Makumbe – SADC DIS Charles Reeve – EU Water Initiative Mr. Masilo Phakoe – LDHA Len Abrams – World Bank Reggie Tekateka – AMCOW TAC	Moderator: Ms Alice Chavhunduka
15.20 – 15.40	Closing Remarks and Way Forward	SADC Water Division
15.40 – 15.45	Vote of Thanks	Mr. Adam Hussein, SADC WRTC
15.45 – 16.00	Closing Speech	Mr. B.T. Sekoli-Lesotho

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