



Watering development in SADC: Beyond IWRM concepts and the converted

Final Report

16-17 May 2007 (Maputo, Mozambique)

**The SADC Multi-stakeholder
Water Dialogue 2007**



TABLE OF CONTENTS

BACKGROUND	ii
EXECUTIVE SUMMARY	iv
1. INTRODUCTION	1
1.1. Session 1: Opening	1
1.1.1. Welcome by Mozambique Water Partnership	1
1.1.2. Remarks by SADC	1
1.1.3. Opening Address and Official Opening	2
1.1.4. Key Note Address	3
1.2. Session 2: Setting the Scene	5
1.2.1. Overview of the SADC Multi-stakeholder Dialogue	5
1.2.2. Overview of SADC Sectors and their Contributions to the RSAP 2	5
1.2.3. Involving Key Sectors in Water Resources Planning	7
2. IWRM AND DEVELOPMENT	8
2.1. Session 3: Water as an Engine of Development	8
2.1.1. Integrated Approach to Water Infrastructure Development	8
2.1.2. Is There a Role for IWRM in Human Development?	9
2.1.3. Dialogue on IWRM and Development	10
3. IWRM AND PEOPLE'S LIVELIHOODS	11
3.1. Session 4: Water Improving People's Livelihoods	11
3.1.1. Water for Food – Improving Food Security at Household Level	11
3.1.2. Water and Food Security in the SADC Potential and Challenges of Aquaculture and Fisheries	12
3.1.3. Role of Water in Prevention and Treatment of HIV/AIDS	13
3.1.4. IWRM – Can it Contribute to Bettering Livelihoods?	13
3.1.5. Dialogue on IWRM and Plight of the Poor and Marginalised	15
4. IWRM AND TRANSBOUNDARY WATER RESOURCES MANAGEMENT	16
4.1. Session 5: Transboundary Water Resources Management in Southern Africa Contributing to Regional Integration	16
4.1.1. The Importance of Integrated Planning in Transboundary Waters	16
4.1.2. Developing IWRM Strategies for Shared River Basins – the KOBWA and Zambezi Experiences	17
4.1.3. Dialogue on the Importance of Regional Cooperation on Transboundary Water Management	19
5. IWRM AND NATURAL DISASTERS	21
5.1. Session 6: Coping with Water Related Natural Disasters	21
5.1.1. Forecasting Systems in SADC – Securing SADC Water Future.	21
5.1.2. Impact of Climate Variability on Water Resources in Southern Africa	22
5.1.3. Natural Water Disasters – is there a Role for IWRM?	23
5.1.4. Dialogue on Role of IWRM in Resilience Building	24
6. SPECIAL PANEL SESSION – POLICY INTO PRACTICE WITH PARLIAMENTARIANS, MEDIA, PRACTITIONERS AND POLICYMAKERS	24
7. CLOSING SESSION	27
7.1. Summary of Proceedings and Way Forward	27
7.1.1. Vote of Thanks from the SADC WRTC	28
7.1.2. Closing Speech on Behalf of Mozambique	28

BACKGROUND

The SADC Multi-stakeholder Water Dialogue is one of the activities in the Creation of Awareness for IWRM Component of the SADC – Danida Regional IWRM Programme. The programme forms part of the SADC Regional Strategic Action Plan on IWRM. GWP-SA is one of the implementing partners of the SADC-Danida IWRM Programme and assisted SADC in organizing the event.

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

The Dialogue encouraged sectoral cooperation and integration in line with the SADC Regional Indicative Strategic Development Plan. The Dialogue was therefore held back to back with SADC's Water Resources Technical Committee (WRTC) meeting, to ensure that the SADC Water policy makers could engage meaningfully with policy makers in the other sectors.

The Dialogue highlighted how IWRM approaches can address key aspects of socio-economic development and poverty reduction in Southern Africa. The theme of the SADC Multi-stakeholder Water Dialogue was *"Watering development in SADC: beyond IWRM concepts and the converted"*. The SADC region has now moved 'beyond merely the concept of IWRM' towards application of IWRM principles. Since IWRM integrates sectors – it is important to move "beyond the converted" and engage other sectors more meaningfully.

Within the overall context of IWRM contributing to 'socio-economic development and poverty reduction, the SADC Multi-stakeholder Water Dialogue objectives were:

- 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 experiences and best practices 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: A Flow Across Sectors, a Confluence of Ideas and Experience, a Delta for Development

"This Dialogue takes place two weeks before the next AMCOW meeting in Congo. The theme is broadly similar to the theme of this SADC Dialogue. This indicates that we are aware of the challenges facing us in the water sector in Africa."

Reggie Tekateka, Chair, Global Water Partnership – Southern Africa

It was confirmed and it remains uncontested: water management is not just a concern for the water sector and the link between water and development is so strong that dealing with the two in isolation – no matter how well it is done - is a complete façade. This was more evident during the SADC Multistakeholder Water Dialogue convened by the Southern African Development Community (SADC) in partnership with the Global Water Partnership – Southern Africa.

Supported by DANIDA, the Dialogue was held at Joachim Chissano International Conference Centre in Maputo, Mozambique from 16 to 17 May, 2007. With the theme 'Watering development in SADC: Beyond IWRM concepts and the converted', the Dialogue sought to expose and raise the understanding of the development aspects of integrated water resources management (IWRM) among stakeholders from water-using and water-influencing sectors such as water, forestry, finance and economic planning, agriculture, energy, education (academia and research), fisheries, gender, business, information (media), environment and natural resources and donors. Community groups, civil society, and parliamentarians were also in attendance to ensure that development interventions are relevant and able to meet the needs of the people at national and local levels.

Workshop report compiled by Mr Anton Earle of the GWP-SA RTEC

EXECUTIVE SUMMARY

The participants, representing a range of economic sectors, social groupings and various spheres of government discussed topics relevant to the implementation of IWRM in the southern African region. Presentations by regional resource persons were followed by dialogue sessions where ideas and concepts were debated and assessments made of whether theoretical approaches are practically feasible on the ground. The key areas for future discussion and action emerged as:

- **Access:** broadly defined: ensuring that those most in need receive water for survival as well as livelihood purposes,
- **Inter-sectoral approach to implementation:** now is the time to move from discussion of IWRM and toward implementation – for this to succeed, other sectors have to be actively engaged,
- **Wealth creation:** we need to maximise the “jobs per drop” of water and ensure that the development of water infrastructure plays a role in regional economic development,
- **HIV/AIDS:** water policy decisions should be assessed in terms of their impact on the pandemic
- **Role of science:** water management decisions need to be based on good science – appropriate to the development needs of the southern African region,
- **Transboundary issues:** these processes are long term and hold a range of economic as well as non-monetary benefits for the region;
- **Climatic change and variability:** the water sector needs to develop a position on climatic change, as well as developing mitigation and adaptation strategies.

From the Dialogue the participants committed themselves to spreading the message – beyond the water sector. This develops a tangible link between the objectives of the Regional Indicative Strategic Development plan (RISDP) and the outcomes of the Regional Strategic Action Plan (RSAP) 2. Following is the detailed overview report of the Dialogue, with original presentations included as appendices.

Issues for Continued Dialogue and Action in Linking Water and Development

“At the 2002 World Summit on Sustainable Development, the provision of safe and reliable water supplies was identified as key to achieving the MDGs. Water plays an important role in the realisation of all the other MDGs. Countries have thus been called upon to make commitments to reaching tangible goals by 2015.”

Honourable Felicio Zacarius, Minister of Public Works and Housing – Mozambique

Water runs through and sustains all life and human activity. SADC has recognised water as the engine for economic growth and SADC Member States adopted IWRM as the fundamental approach for ensuring that water is adequately contributing to poverty eradication, regional integration and socio-economic development in a sustainable manner.

The SADC region has moved away from IWRM concepts to implementation and this requires that the water sector engages with other sectors to “market” its contribution to their goals and objectives.

Southern Africa therefore needs investment in water resource development and sound management of water resources to sustain gains in water services and achieve the MDGs. SADC should continue to accelerate infrastructure development and turn the lessons learned from other developments into opportunities.

Outside investors or donors cannot always be relied on for the infrastructure development. The region should begin to open discussions and establish mechanism for joint and cross boarder investment and also mobilise local investors. For example, SADC needs to look inwards and assess how much can be raised locally. Some of the levies being raised in sectors like mining and tourism should be allocated to water infrastructure development. Already the region has roads that have been built through the levying of fuel usage charges, and important lessons can be drawn from such examples.

Water and People’s Livelihoods

“When communities are empowered to improve their own livelihoods, they embrace the concept of “mankwankwane” (you touch one, you touch the rest) and they assume power over their lives – standing up for themselves.”

Mama Tshepo Khumbane, Community representative

There is increasing need to maximise the productivity of water in order to improve people’s livelihoods. Generally the problem is that when the benefits of water are harnessed they do not reach those that most need it most. There is a need to form a link between what is being discussed at high level discussions and the actions taking place on the ground. Evidently, there is little trickle-down effect and huge disparities in access to water and resultant benefits are evolving.

Broad-based wealth creation is the surest path towards lifting people out of poverty and the water sector should focus on empowering communities, promoting equity and maximising “jobs per drop.” This demands listening to communities and get their views on what their problems are, their preferred solutions, and how wealth can be created.

Southern Africa should reverse the current reality where water allocation favours the business sector. Companies are impacting on water management in their own business and through those in their supply chains. The business sector therefore should have an important stake in helping to address the water challenge faced by the world today and water management should be at the core of their corporate social responsibility programmes. While appreciating that “the business of business is business”, businesses should seriously consider putting funds into water infrastructure development for local communities as well as activities that support community well-being. In some cases, this may call for legislating corporate social responsibility.

For example, fisheries and aquaculture have potential to contribute towards sustainable food security and economic growth in the SADC region. In several of the SADC states fish accounts for between 25 and 50 percent of daily protein intake amongst the population. The region should invest in water resources management that sustains aquatic resources, strengthen

collaborative management of trans-boundary river and lake basins; and improve overall water efficiency and productivity of farms.

Everyone has the same legitimate need for water and improved livelihood. Given that water is life, and considering that the market cannot be left to its own devices, there is a need for government intervention to provide sufficient water for human dignity and well-being.

Livelihoods depend on the availability of unpolluted water. Businesses that use water or pollute water heavily should be charged an appropriate amount for their actions and any failure to do so should be viewed as a failure of government.

All this said, it is the responsibility of users to ensure that water is used efficiently and sustainably.

The countries of the SADC region have the highest HIV/AIDS prevalence rates in the world - all between 15 and 35 percent. This and the resultant death rates have resulted in incorrect prediction of future water demand, reduced ability to pay for services, loss of key technical staff, decline in productivity by affected people, and increased susceptibility to contaminated water due to compromised immune system.

Southern Africa must shift from the narrow approach to a developmental approach in dealing with HIV/AIDS. Water sector practitioners must change their mindset and understand a range of interactions between HIV/AIDS and water management. Each time water policies and strategies are being developed, there is need to question: how will this support people living with HIV and how will this limit HIV infection? The HIV/AIDS Unit at the SADC Secretariat should provide support to the water sector in strengthening the links between HIV/AIDS and water.

In all these issues, social hierarchies and marginalised groups - such as women - need to be given attention by breaking the barriers of containment.

Water and Transboundary Cooperation

“At international level, water resources management should go beyond observing international agreements, conventions, global values and good neighbourliness. There should be practical actions taken to ensure that these agreements can put food on the tables of the poor households.”

J.S. Mulungushi, Permanent Secretary, Planning and Economic Management Division, Zambia

Given the high degree of reliance on shared systems in southern Africa, a hydropolitical complex has emerged and water issues are a coherent driver of interstate behaviour. This has necessitated effective River Basin Commissions to provide leadership in transboundary water management. Experience from these institutions has shown that where more countries are involved, cooperation becomes an imperative and more difficult. It has become evident that the management processes on transboundary rivers are long term and a big-picture view needs to be taken when assessing their impacts.

Given this reality, southern Africa should ensure a multi-dimensional public participation that involves government officials in order to keep trust in the process but at the same time, recognises that governments are the custodians of the wishes and aspirations of the citizens. In this regard, government should strengthen mechanisms to ensure that the poorest members of society are not just being “recipients of decisions” but are mobilised into representative groups or collectives.

People need to see direct and tangible benefits for them. Given the time required for transboundary processes, there is always a risk of having too much talking than delivery. The long-term processes should therefore be combined with some activities with short-term gains.

Water and Natural Disasters

"Has the SADC water sector developed a position on climate change? As a sector we need to develop mitigatory and adaptation strategies in cooperation with other sectors. As a technical community, we have a responsibility to provide input to other sectors on the ramifications of this important issue."

A participant at the Dialogue

Climate change is a reality and has to be factored into future planning. Most of the world has experienced increases in heavy rainfall events. SADC, through its Drought Monitoring Centre, is constantly monitoring and predicting climatic extremes such as floods and droughts in a timely manner with respect to their intensity, geographical extent, duration and impact.

The region however still faces such challenges as dwindling hydro-meteorological data collection platforms, inadequate infrastructure and appropriate capacity, inadequate coordination and communication between meteorologists and various users groups and the unavailability of advanced technologies in climate prediction and applications.

Capacity for adapting to the reality of climate change must be built at all levels. As a pre-requisite, there is a need to downscale global scale climatic data to the regional and local levels. The contextualised data will then facilitate the awareness of the threat, as well as the development, strengthening and implementation of adaptation strategies.

The technical information needs to be simplified and taken to people who rely on it and, as such, the information should move beyond technical figures to facts that are interesting, easy and useful.

Key to implementation of the strategies is an integrated approach for reducing risk of floods and droughts, reducing the vulnerability of communities, improving preparedness, and improving knowledge at the national and transboundary levels.

Also important is the recognition that floods are not always bad as they can also lead to improved livelihoods through such activities as fisheries and floodplain agriculture. Investigations need to be made to look at ways for communities to benefit from them.

LIST OF ABBREVIATIONS AND ACRONYMS USED IN THIS REPORT

ACWR:	African Centre for Water Research
AMCOW:	African Ministerial Council on Water
ANBO:	African Network of Basin Organisations (affiliated to INBO: International Network..)
ANEW:	African Network of Civil Society in Water
ARV:	Anti Retro Viral
Confund:	Consultancy Fund
CSIR:	Council for Scientific and Industrial Research
CWPs:	Country Water Partnerships (of the GWP)
DMC:	Drought Monitoring Centre (SADC)
DWAF:	Department of Water Affairs and Forestry (South Africa)
FNDP:	Fifth National Development Plan (Zambia)
GDP:	Gross Domestic Product
GM:	Genetically Modified
GWP-SA:	Global Water Partnership – Southern Africa
GWP TEC:	Global Water Partnership Technical Committee (global)
HOORC:	Harry Oppenheimer Okavango Research Centre (Botswana)
ICP:	International Cooperation Partner
ICPAC:	IGAD Climate Prediction and Applications Centre (Nairobi)
IGAD:	Intergovernmental Authority on Development (East Africa)
IUCN ROSA:	The World Conservation Union – Regional Office for Southern Africa
KOBWA:	Komati Basin Water Authority
PRSP:	Poverty Reduction Strategy Papers
RBO:	River Basin Organisation
REC:	Regional Economic Community
RISDP:	Regional Indicative Strategic Development Plan
RSAP 2:	Regional Strategic Action Plan
RTEC:	Regional Technical Committee (of the GWPSA)
SADC:	Southern African Development Community

SANPARKS:	South African National Parks
SIWI:	Stockholm International Water Institute
UKZN:	University of Kwa-Zulu Natal (South Africa)
WARFSA:	Water Research Fund for Southern Africa
WaterNet:	A Regional Capacity Building Network on IWRM
WMO:	World Meteorological Organisation
WRC:	Water Research Commission (South Africa)
WRTC:	Water Resources Technical Committee (SADC)
Zacpro 6.2:	Zambezi Action Plan Project 6 phase 2

1. INTRODUCTION

1.1. Session 1: Opening

1.1.1. *Welcome by Mozambique Water Partnership*

Mr Patricio Jose (Chair of Mozambique Water Partnership)

Water is unique on this planet in that it is commonly found in all three of its states – gas, liquid and solid. This substance forms the very essence of life, sustaining organisms, ecosystems, communities and economies. Without water no life is possible – while on the other hand water also has the power to destroy, as a country like Mozambique has found out after successive floods. The story of water in our region is precisely that – abundance in some parts or at some times and scarcity in others. It is thus vital that we manage this resource carefully, with due regard for the social, environmental and economic importance of this substance.

IWRM has become the preferred approach for developing a framework through which to manage our water resources – promoting equity in access and sustainability of use. In Mozambique the GWP Country Water Partnership (CWP) has been instrumental in bringing together the various sectors involved in the use and management of water – representing government, communities, academics and the private sector. It is only through the development of strong partnerships that we can hope to find innovative solutions to the water management and supply problems currently faced by the country and the region – whether it is floods, or drought. The Mozambican CWP would like to welcome all the participants to Maputo and wish them fruitful deliberations on this important topic.

1.1.2. *Remarks by SADC*

Mr RemigiousMakumbe (SADC)

The issue of water resources management is of great importance to SADC as an organisation and the region as a whole. This is borne out by the high level of public officials attending the opening session, as well as the fact that a range of other, non-water, sectors are also represented at the meeting. The SADC states share 15 watercourses between them and yet the region as a whole is marked by a mismatch in the distribution of those resources. Temporal as well as spatial variability is a factor which needs to be factored into any planning and management framework. In response to this natural variability a range of infrastructure to store, harness and transfer water in the region has been developed. This contributes to the provision of water for irrigation, industrial development, household use, hydro-power generation, navigation and tourism. For the region to continue its path of socio-economic development, attention will need to be placed on the upgrading and further development of such infrastructure.

SADC has actively contributed to the development of a governance framework for water in the region. The SADC Protocol on Shared Watercourses (2000) commits member states to international best practise in terms of their interaction over shared watercourses, incorporating principles such as equity of access and use, the need not to cause substantive harm and environmental safeguards. More recently the Regional Water Policy and the Regional Water Strategy have been adopted by member states – providing guidance on the roll-out and implementation of these provisions.

SADC recognises water as the engine for economic growth, based on 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 a sustainable manner. As one of its policy commitments, SADC is ensuring that planning, development and management of water resources in the region should be based on the principles of IWRM and should take full cognisance of the inter-sectoral nature of water. The IWRM principles have been accepted by all member States who increasingly recognise that water resources in the SADC region are limited, demands are rising rapidly and the potential for disastrous water shortages is high unless these resources are managed with great care and for the benefit of all.

The meeting comes as a result of SADC's commitment to improve the awareness of the IWRM approach and how the approach contributes to poverty alleviation through equitable and sustainable utilisation of water in the SADC region. It is against this backdrop that SADC Water Division started an IWRM awareness creation initiative in order to ensure that decision-makers in all sectors and the media are aware of key aspects of IWRM and its relevance to social and economic development in the SADC region. This Awareness Creation initiative covers the RSAP projects on "Awareness Creation for IWRM" seeks to put IWRM issues high on the political agenda, to facilitate the application of an integrated approach in political processes, and to get IWRM into the media on news and on features.

The initiative is taking IWRM awareness beyond concepts and terminologies to showcasing IWRM best practices and transferring IWRM experiences. Secondly, it is moving IWRM awareness beyond the converted by acting as an information bridge connecting water-using and water-influencing sectors.

See the full speech in the Appendix at: *Opening Remarks By The Director Of Infrastructure and Services Of SADC*

1.1.3. Opening Address and Official Opening

Hon. Minister Felicio Zacarius (Ministry of Public Works & Housing - Mozambique)

The countries of the SADC are engaged in efforts to secure reliable and sustainable water supplies for their populations. This water is to cover the basic needs of individuals and communities as well as for productive use, as an engine of socio-economic development. In the case of Mozambique, the development and upgrading of water-related infrastructure has received prominence in government policy for several years now. Dams and rainwater harvesting systems have the capacity to enhance rural livelihoods – promoting agriculture and cattle production.

At the World Summit on Sustainable Development in Johannesburg in 2002, the provision of safe and reliable water supplies was identified as a key aspect of achieving the Millennium Development Goals (MDGs). Water plays an important role in the realisation of all the other MDGs. Countries have thus been called upon to make commitments to reaching tangible goals by 2015. For these goals to become a reality there will need to be cooperation between the different sectors in society – government, civil society, private sector and international development partners.

The determination and dedication of the GWP-SA in supporting the integrated management of water resources in the southern African region is commended. They have played a pivotal role in promoting dialogue between different groups and allowed governments to engage with other stakeholders.

Mozambique is vulnerable to extreme climatic and hydrological events – floods and droughts – accompanied by cyclones - being regular occurrences. Additionally, Mozambique is a downstream riparian on nine of the 15 SADC transboundary basins – making it dependant on cooperating with upstream neighbours. This government gives priority to promoting dialogue with other basin states to promote the equitable and sustainable management of shared water resources.

A key area to promote water security is the construction of large dams. At present Mozambique has only 12 of these, including the well known Cahora Bassa. This places the country at the lowest end of storage capacity per person in the region. In order to utilise the water resources available more effectively and regulate flow, it is necessary to construct more of these dams. However, it is also necessary to incorporate the sensitivities of the local communities as well as environmental factors into the planning, construction and operation of these dams.

Mozambique has committed that by 2015 about 70% of its population will have access to safe water supply and 60% to adequate sanitation. The country is at the moment developing a strategy for the achievement of these goals – with inputs from a range of stakeholders. The initiative of the SADC Water Division in convening this event to promote the development of joint solutions to our common challenges is welcomed.

1.1.4. Key Note Address

James Mulungushi (Permanent Secretary, Ministry of Finance and National Planning – Zambia)

Governments in the developing world have a challenge of poverty reduction and the realisation of the 2015 MDGs. Key to these are water related MDGs such as water for (food) agricultural productivity, water for domestic use, and water for energy and environment. The achievement of these milestones depends on how natural resources, especially water resources, are managed and used.

The background for Zambia's economic performance was characterised by a negative trend during the period 1990 -2000. This resulted in a further decline in productivity and the social welfare of the people. In turning the situation around, the Government in consultation with the Bretton Woods institutions embarked on the process of formulation of the PRSP. This was aimed at designing strategies that would quickly improve the economy as well as uplift the living standards of the people. Thus during the formulation of the first generation PRSP, the focus was on: *Economic growth, Social investment, Provision of infrastructure for economic growth and Crosscutting issues such as Environment, Gender and Governance.*

To build up on the successes achieved during the implementation of the PRSP, Government did not formulate the second generation PRSP but decided to formulate the Fifth National Development Plan (FNDP). This is a medium term plan which will operationalise the aspirations of the people contained in the National Long term Vision. The main focus of the development plan will still be economic growth and wealth creation.

In line with the theme of the FNDP of Broad Based Wealth and Job Creation through Citizenry Participation and Technological Advancement, water would be an integral part. This is because water is strategic resource and a major ingredient in the productivity of almost all sectors of the economy. Therefore water and Sanitation has been grouped with other sectors as priority sectors in the FNDP.

Thus for economic development, water would be needed for increased agricultural production and food security, increased mining and industrial production, transport and communication,

promotion of tourism and recreation as well as hydropower generation. For social development, water would be key in the improvement of people's well being through accessibility to clean and safe water. The benefit from supply of sufficient quantities and good quality water and sanitation are important as far as the sustenance of health is concerned.

The successful implementation of the IWRM would have a number of challenges which include the following:

- The need to address weaknesses in the legislative, institutional, management and organisational framework of the sector;
- Defining clear institutional responsibilities of all stakeholders in the Water Sector for effective management and co-ordination;
- The need to be recognising water as an economic good as well as a social good.

Although the water sector is faced by numerous challenges, there are also numerous opportunities which need to be taken advantage of in order of to overcome the challenges. Some of the opportunities are the relative abundant undeveloped water resources, good political will, international good will and stakeholder willingness to participate. These opportunities include:

- The inclusion of the water sector as one of the priority sectors in the FNDP;
- Central role of the water sector in social –economic development;
- Collaborative and all inclusive National planning framework;
- The regional support and collaborative initiatives such as the GPWSA and the SADC water forum.

Since water is a key ingredient in achieving socio-economic development, it should be conserved and utilised in a sustainable manner. This therefore would call for close collaboration by all stakeholders at local (including households) national and international levels. At household level, IWRM should translate into food security, improved health, and access to clean energy sources as well as a source of income.

At national level, integrated water resources management plans should go beyond concepts, slogans and implementation documents. It should come up with practical ways of conserving and utilisation of water for wealth creation. Water should be valued as a strategic resource.

At international level, water resources management should go beyond observing international agreements, conventions, global values and good neighbourliness which entails an equitable and reasonable utilisation of water and benefits of shared watercourses. There should be practical actions taken to ensure that these agreements can put food on the tables of the poor households.

See the full speech in the Appendix at: Keynote Presentation at the SADC Multi-stakeholder water dialogue

1.2. Session 2: Setting the Scene

1.2.1. Overview of the SADC Multi-stakeholder Dialogue

Mr Hastings Chikoko (SADC IWRM Awareness Component)

The theme of the dialogue is “Watering Development – beyond IWRM concepts and the converted”. This aims at putting the link between water and development under a microscope and interrogating it from the perspectives of different stakeholders – water sector, water using and water influencing sectors, local communities, parliamentarians, media, etc. Additionally, it recognises that the SADC region has now moved towards application of IWRM principles and that IWRM integrates sectors – needing to engage with other sectors more meaningfully.

The objectives are:

- To expose and raise the understanding of the development aspects of IWRM among stakeholders including water using and water influencing sectors and the media;
- To promote sharing of IWRM experiences and best practices that address local, national and regional socio-economic development and poverty eradication (and attainment of the MDGs);
- To improve awareness of IWRM initiatives and promote collaboration between partners in the region.

The Dialogue is an activity under the SADC Awareness Creation project funded by DANIDA with implementation support from GWP, IUCN and SARDC.

See full presentation in Appendix at: *Overview of the SADC Multistakeholder Water Dialogue*

1.2.2. Overview of SADC Sectors and their Contributions to the RSAP 2

Mr Phera Ramoeli (SADC Water Division)

The background to the SADC region was presented – covering the geographical location, institutional structure and key statistics. In 2001 the then 21 distinct sectors were clustered into four directorates - Infrastructure and Services, Food Agriculture and Natural Resources, Trade Industry Finance and Investment; and Human Resources Development and Special Programmes. A comprehensive regional development framework was developed to guide development, namely the Regional Indicative Strategic Development Programme (RISDP). This developed a regional strategy for each of the sectors, all aimed at poverty reduction (and eventual elimination) and regional integration.

Key Water Sector targets include:

- Halve by 2015 the proportion of people without access to safe drinking water and sanitation;
- Develop by 2015 water resources infrastructure needed to double land under irrigation;
- Develop the Regional Water Policy and Strategy by 2004;
- Establish and strengthen at least 8 River Basin Organisations by 2006.

To guide the process of cooperation and regional integration, a number of protocols based on the principles of the treaty were negotiated, agreed and adopted. These include the Protocol on Shared Watercourses Systems, adopted in 1995 and the Revised Protocol which came into force in September 2003. The main objective of the Protocol is to “Foster closer cooperation for judicious, sustainable and coordinated management, protection and utilisation of shared watercourses and advance the SADC agenda of regional integration and poverty alleviation”.

The Regional Vision for Water in the 21st century in the SADC region was developed through a highly consultative and inclusive process in 1999, with a 25 year horizon. The Vision was adopted by the regional water sector in 2000 as a contribution to the Africa and global water vision development process. It is based on “equitable and sustainable utilisation of water for social and environmental justice, regional integration and economic benefit for present and future generations” and is supported by eight specific sub-visions. Its realisation will be through the implementation of the regional strategic action plan on integrated water resources management (RSAP-IWRM) and is based on the principles outlined in the Protocol on shared watercourses and the SADC Treaty and other international instruments.

The Regional Water Policy (RWP) was developed using a highly consultative process over a period of two years. The RWP provides a framework for cooperation on Water Resources Management and Development at national as well as transboundary levels (Shared Watercourses). A Strategy for its implementation has been developed and approved by the Integrated Committee of Ministers (ICM) in June 2006. The RWP provides a conceptual linkage between the SADC goals of regional integration and poverty eradication; through the objective of development without compromising the environment, using IWRM as an approach; and the tools available at national and regional level.

The regional water program is defined in the Regional Strategic Action Plan (1 and 2) on Integrated Water Resources Management and Development. The mission of the RSAP is to “provide a sustainable enabling environment, leadership and coordination in water resources strategic planning, use and infrastructure development through application of integrated water resources management at member state, regional, river basin and community level”. Mr Ramoeli elaborated the conceptual framework for the RSAP, covering the four key areas of water resources, water governance, capacity building and infrastructure development.

Sectors which are in some way related to water or impacted on by it include agriculture (irrigation), energy (hydropower), industry and mining, transport, health, tourism, trade, environment, legal and finance/planning. There is a very close correlation between water development and economic development and ability to withstand water-related shocks. Some of the key challenges for the region thus include:

- Sustenance and maintenance of Political will and support;
- The need for RBO strengthening – implementation of the Strategy for RBO strengthening in SADC;
- Resources mobilisation and management;
- Sustenance of ICPs’ Support to the Sector;
- Capacity constraints to accelerate/develop Basin strategies;
- Harmonisation of programmes /projects, monitoring and evaluation;
- Disparities in economic development amongst Member States;
- Sovereignty vs. regional issues;

- Representative stake holder participation.

Water is critical for all our development initiatives as a means to an end therefore a driver. At a regional level our interventions should be strategic and add value to ongoing member states initiatives. With a multiplicity of shared watercourses (including aquifers) in SADC it is imperative that there are collective and collaborative approaches to water development and management.

Water resources in SADC are seen as an opportunity for cooperation and peace rather than cause for conflict, with the River basin approach having been adopted as an implementation mechanism for regional projects. All other sectors and role players should take part in the development of safer SADC region and Africa as a whole.

See full presentation in Appendix at: *Overview of the SADC and Contributions of Other Sectors to RSAP 2*

1.2.3. Involving Key Sectors in Water Resources Planning

Mr Alex Simalabwi (GWP-SA)

Traditionally, government is organised around sectors, with each sector having its mandate. The difficulty is getting one sector, in this case water, with no superior mandate over other sectors, to mobilise other sectors to include water in their policies, strategies and plans.

The water sector needs large investments, for infrastructure development, and budget allocations for operation and maintenance costs. Yet, it is one of the least resourced sectors – lagging behind others such as telecommunications and energy in terms of cost recovery. The water sector relies heavily on domestic public funding for investments. This places the sector at a financial disadvantage compared with other sectors – making it difficult for the water sector to exert influence over the other, better resourced, sectors in the country.

Compounding this situation is the uncertainty associated with climatic change – where it is estimated that 5%-10% of GDP will be required for adaptation. Meteorological departments are often beyond the purview of water ministries and more aligned toward the Aviation industry, military than development priorities in agriculture and water issues. This situation is also found with departments of environment, forestry and tourism – all impacting on the water sector but operating with very little input or control of it.

Experiences from the IWRM planning processes are encouraging, but water management through IWRM needs to reach out to other sectors - "Beyond the converted". Water experts should not sit and write plans/strategies about energy, agriculture, finance, etc...in isolation, without involving experts from these sectors. This is where the Country Water Partnerships have been active, raising awareness on issues such as IWRM concepts and what it means to other sectors, benefits of an IWRM approach, the need for more money from Ministries of Finance and the private sector. At the Policy level Cabinet awareness workshops for parliamentarians and Permanent Secretaries have been held - taking IWRM to non traditional water sectors. The water sector has to actively show other sectors what its contribution to GDP, livelihoods, healthcare, the environment and the broader economy is. For instance, in Zambia by showing the Ministry of Finance what value IWRM can add to National Development Planning the Ministry has become fully engaged in IWRM planning process.

2. IWRM AND DEVELOPMENT

2.1. Session 3: Water as an Engine of Development

2.1.1. Integrated Approach to Water Infrastructure Development

Dr Thomas Chiramba (UNEP)

Initial indications are that, at the current pace, many SADC countries are unlikely to meet the 2015 MDG targets. The SADC RSAP 2 seeks to address this through its four core programmes on Regional water development planning and management, Infrastructure development support, Water governance and Capacity building

According to the World Bank, Africa has tapped less than five percent of its hydropower potential – compared with over 20% in Asia and over 70% in Europe. This reflects trends in dam construction – which peaked internationally in the 1970s. This tapered off as the developed world cut back on dam building once most of the prime dam construction sites had been developed. The World Commission on Dams (concluded in 2000), seeks to develop a framework for the incorporation of environmental, social and economic lessons learned in dam construction into the development of new dams. There has been widespread endorsement of the WCD's five core values and seven strategic priorities and their use as an analytical framework (see Figure 1: WCD Analytical Framework).

According to Kader Asmal (head of the WCD) "The debate about dams is today a debate of the South- not of the North. It is in the South that dams are being built. It is in the South that the dilemma of pressing needs and limited resources is faced on a daily basis. It is in the South that governments and their citizens are engaged in a continuous debate how to overcome underdevelopment and the painful realities of poverty and inequalities"

There has been incorporation of the WCD provisions in instruments such as the SADC Regional Water Policy, including:

- River basin approach
- Integrated planning
- Water demand management
- Alternative sources of water
- Dam development and management
- Affected communities

The key message is to accelerate infrastructure development and turn the lessons learned from other developments into opportunities. Key elements to consider include:

- Focus on planning



Figure 1: WCD analytical framework

- Establish a mechanism for stakeholder participation in the infrastructure development programme
- Implement a capacity building and awareness programme on environmental and social issues
- Establish measures to reach out to other sectors
- Facilitate discussions and establish a mechanism for joint and cross border investment
- Mobilise investors and other actors

2.1.2. *Is There a Role for IWRM in Human Development?*

Mr Mike Muller (GWP TEC)

Water runs through and sustains all life and human activity. Without reliable access to enough water, social and economic development cannot occur. A quick review of the Millennium Development Goals shows that the achievement of most will have to be supported by water in one way or another. The water sector must engage in discussions around water use as an integral part of economic development. Agriculture, as a pillar of most SADC economies, will play a leading role in this – although efforts have to be made to shift to higher value uses of water in the sector, such as flower or vegetable production for the export market.

We need to shift our thinking beyond the MDGs and towards sustainable development:

Economic growth, with equity and dignity = Development

Development, for tomorrow as well as today = Sustainable development

Increasingly there will be direct and tangible interactions between water and other sectors. For instance, has the water-related impact of the increasing shift towards bio-fuels been taken into account? Why is there not more emphasis being placed on the development of hydro-power in the region? There is the potential to supply all the energy needs of the SADC region as well as to export excess power all generated from hydro. Yet, South Africa is embarking on the construction of new coal-fired power stations. Rivers such as the Zambezi could become important international waterways – linking land-locked countries to the oceans, allowing them to import and export good cost effectively.

The water sector should engage more in the debates taking place in other sectors – and “market” its contribution to their goals and objectives. We should not wait to be invited in by these sectors and should become more pro-active about engaging with them.

Without investment in water resource development and greater attention to the management of water resources, gains in water services are unlikely to be sustained. It will also be difficult to achieve the other MDGs and long term sustainable development will not be achieved. Thus it is recommended that a more intelligent and integrated approach to policy and planning is developed – Intelligent Water Resources Management = IWRM. Then IWRM should be used to incorporate water into development planning of other sectors.

2.1.3. Dialogue on IWRM and Development

Facilitated by Mr Ruhiza Jean Boroto

General discussion points – grouped in themes:

- Malawi is developing the Shire and Zambezi according to IWRM approaches.
- Generally the problem is that when the benefits of water are harnessed these benefits do not reach those that most need it most. Water resources are spatially unevenly distributed. Sometimes the country with the water resource does not have the other resources needed to develop it. There needs to be more coordination. How do investments in water infrastructure benefit the poor? How are people's lives improved? The large companies benefit – but there is little trickle-down effect. Thus huge disparities in income develop. High value crops will need to be grown in water-stressed areas.
- The meteorological community needs to be included in water planning and management as they have knowledge on how climate will change etc.
- How do the SADC desks link up? How is water incorporated in other sectors? How is gender being incorporated? Water is a driver of regional integration. In SADC the water sector can play a regional integration role – aiming for economic growth. Southern African leaders have agreed that agriculture is the engine of economic growth in the region. The role that water can play in this has to be made clear. How effective have we, as water professionals, been in getting this taken into account? The water sector must proactively approach the other sectors – not wait for them to come to us. Planning for economic development needs to be started – not just looking at political issues.
- Why are only men represented? Even in this meeting there are only men at the opening sessions.
- How much have we done to develop the resources and capacity of the poor to engage in IWRM issues? Communication strategies have to be developed – readily available to local communities.
- In the dams debate the small dams at community level are not included. These small dams can play a positive role in promoting local food and livelihood security. Need to secure financing for small dams at community level. Small dams can be useful – but it must be remembered that they cause a lot more water losses from evaporation. We need to adapt solutions to each situation.
- There is a need to engage in discussions based on evidence. It needs to be known how many jobs will be created through specific interventions. Need to look at the suitability of a resource for a specific development.
- There is a need to make sure that the people attending such events are in a position to make a difference on the ground – that they have the responsibility.
- Outside investors or donors cannot always be relied on for infrastructure development. We need to look inwards and assess how much can be raised locally.

Look at the roads being built through the levying of fuel usage charges. Some of the levies being raised in sectors like mining and tourism should be diverted to water infrastructure development. Look at the example of Israel – desalinating water at \$0.60 per cubic metre. In Germany levies from other energy businesses are used to support solar panel production. Innovative solutions like these need to be developed.

- The Songwe river experience – people living in poverty and yet they are managing to implement small actions to improve their livelihoods. Construction of irrigation schemes, fish farming ponds etc.
- There is a need to unpack what IWRM really means. What does “capacity building” mean? We need to sort these things out before moving on. There is a need for capacity building – continuous training – to be able to compete internationally.

3. IWRM AND PEOPLE’S LIVELIHOODS

3.1. Session 4: Water Improving People’s Livelihoods

3.1.1. *Water for Food – Improving Food Security at Household Level*

Mama Tshepo Khumbane (From the Community)

It is important to work with what nature has given you – hands, sun, soil, water etc. There are high levels of malnutrition in the Limpopo province of South Africa – with impacts on the young as well as adults. The net result of this poverty was a high crime rate.

Thus she started mobilising people in the district – engaging all stakeholders – health personnel, police, small business and a campaign against malnutrition was started. She bought a small plot in Bokgon – a region with bad soil, low rainfall and decided she would model how to do farming – through taking responsibility for the situation and using the limited resources available.

The Water for Food movement was started – forming a link between what is being discussed at a high level and the actions taking place on the ground. The movement is founded on two basic principles:

- Harvesting of rainwater
- Waste management and recycling (from the dumps, grey water re-use etc)

Communities are encouraged to use the resources available to start farming and producing enough food for their own needs as well as to sell. This has had a marked impact on household food security as well as community stability and security in areas where it has been operating. Each person trained up in the farming methodologies promoted by the movement is expected to share their skills and knowledge with others, along the principle of “Mankwankwane – you touch one – you touch the rest”.

The success of the movement is based on having been through what the communities have been through. It is a free-flowing movement, people taking power over their lives – standing up for themselves.

3.1.2. **Water and Food Security in the SADC Potential and Challenges of Aquaculture and Fisheries**

Dr Sloans Chimatiro (NEPAD Secretariat – Fisheries Department)

The key message is that great opportunity exists for fisheries and aquaculture to contribute towards sustainable food security and economic growth in the SADC region by:

- Investing in water resources management that sustains aquatic resources, including inland fisheries;
- Strengthening collaborative management of trans-boundary river and lake basins;
- Improving overall water efficiency and productivity of farms through integrated aquaculture-agriculture and irrigation-aquaculture.

Inland fisheries are important in the region as fish, fishing and fisheries are an integral part of the culture and economy of many peoples and countries in Africa. These fisheries can be exploited quite easily using simple technologies, and are often well-integrated with farming and other economic activities. In the large waterways of the region – Zambezi, Congo, Orange and Limpopo rivers and lakes such as Lake Malawi there are well established fishing economies spreading to other parts of the region. In several of the SADC states fish accounts for between 25 and 50 percent of daily protein intake amongst the population.

The ecology for productive fisheries relies on two eco-systems concepts:

- The river continuum concept - which describes the nutrient and energy pathways along the river, mainly the upper reaches. Degradation and transmission downstream of material entering the river in its upper reaches provides vital nutrients;
- The flood pulse concept - which describes the relationship between the river and its floodplain, mainly the lowland rivers. Seasonal inundation of the floodplain releases nutrients in this ecosystem.

Therefore, it is important to maintain connectivity and water flow in the river and between the river and its floodplain. There is close correlation between river discharge, flood events, or amount of water in the systems to fish catches

Consumptive use of aquaculture is negligible because water is the fish's habitat. Integration of aquaculture in agriculture reduces consumptive use to only evaporation and leakage because the water can be used to irrigate crops – recycling nutrients from the fish to be used as inputs in crop production.

Challenges to fisheries and aquaculture production caused by other water uses include the construction of dams and flood control infrastructure, inter-basin transfer schemes and catchment land use. NEPAD FISH has set five priority areas to address these challenges:

- Investing in water resources management that sustains aquatic resources;
- Improving management of the coastal and marine environment;
- Supporting trans-boundary management of shared fisheries resources;
- Improving overall water efficiency and productivity through integrated aquaculture-agriculture;
- Cross-cutting issues.

In conclusion - Fisheries and aquaculture offer specific opportunities for achieving sustainable food and nutrition security in the SADC region. There exists an urgent need to implement available knowledge and technologies in integrated fish-water management, supported by strategy development and capacity strengthening at country and basin level. NEPAD FISH provides an instrument for supporting RECs and national stakeholders to improve investment planning and accelerate implementation.

3.1.3. Role of Water in Prevention and Treatment of HIV/AIDS

Ms Jacqueline Nzisabira (UNAIDS)

The countries of the SADC region have the highest HIV/AIDS prevalence rates in the world – all between 15 and 35 percent. One of the impacts of this is the high number of orphaned children – making the passing on of knowledge and experience between generations difficult. The pandemic also is more prevalent amongst women than it is amongst men. Consequences of this differential impact are:

- Property grabbing predominantly from female survivor—issues of property ownership, insurance and loans;
- Child-headed household predominantly young female—potential drop out from school and early marriage;
- Grand-parent looking after orphans predominantly female;
- Recovery rate after-shock of death (male or female).

Implications of HIV/AIDS and the high death rates as a result include:

- Incorrect prediction of future water demand;
- Communities have a reduced ability to pay for services;
- Loss of key technical staff involved in water management and provision,
- Staff members with the disease show a decline in productivity;
- Increased susceptibility of persons with the disease (due to compromised immune system) to contaminated water;
- There is some risk that groundwater could become contaminated through the incorrect location or overfilling of graveyards – not that HIV/AIDS can be spread by groundwater, but rather that there is a risk of bacteriological overloading.

Gender, HIV and AIDS issues need to be brought to the centre of the Integrated Water Resources Management agenda. There is a need to shift away from the narrow approach to dealing with HIV/AIDS and towards a developmental approach, recognising a range of factors which make an individual vulnerable. These include poverty, lack of access to services (including water), weak social cohesion, unequal political power and voice and migration.

3.1.4. IWRM – Can it Contribute to Bettering Livelihoods?

Ms Noma Nesen (IWSD)

The “Water Crisis” is one of deprivation in access to water services: poverty, weak legal rights and public policies limit access to the infrastructure that provides water for life and livelihoods. The principle challenges relate to the ability and capacity to utilise natural resources for improved livelihoods differ for rich and poor coupled with the fact that

livelihoods also depend on the availability of unpolluted water. This is compounded by the fact that human activities continue to degrade the environment and climatic changes intensify water insecurity and vulnerability of the poor.

Access to safe dignified sanitation is still a challenge – and this with an even lower political commitment than to water supply. In the least developed countries there are 1.8 million child deaths caused by water-borne diseases and 50% people suffer from water related diseases.

Who gets what when and how of the shared resource is a matter of water governance and therefore there is need to address this dimension (Figure 2: Addressing Water Governance)

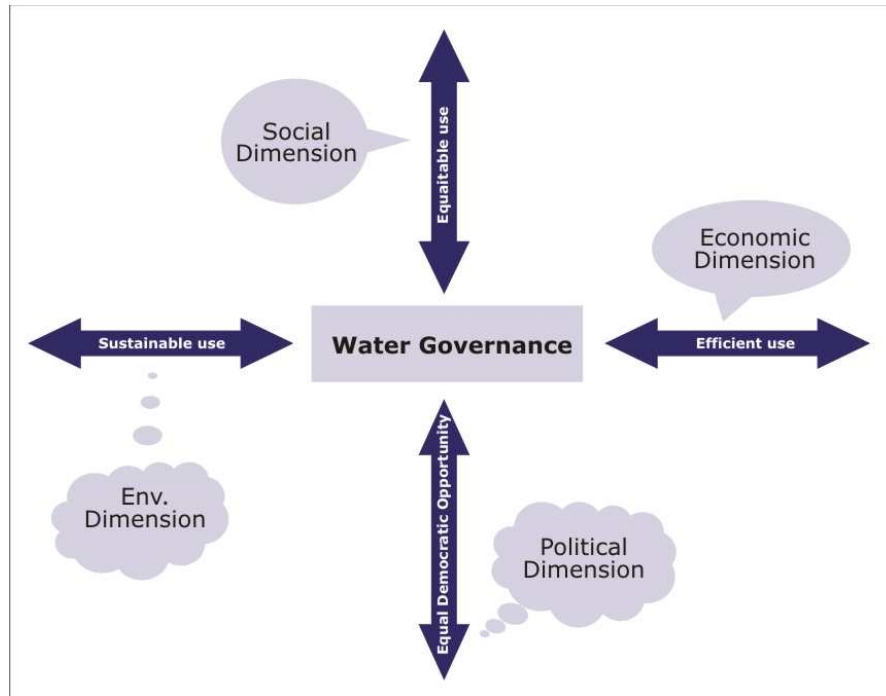


Figure 2: The dimensions to water governance

IWRM should be placed within the broader context of resource management and sustainable livelihoods placing people at the centre. Decision making should be at the lowest practical level where priorities in respect to livelihoods are best understood and the focus should be on problem solving with tangible results. While in the MDGs water and sanitation is a central feature, there is a need for a paradigm shift that places livelihoods analysis as the central feature in IWRM. There has to be continuous learning and sharing through multi-scale analysis.

3.1.5. Dialogue on IWRM and Plight of the Poor and Marginalised

Facilitated by Ngoni Mudenge (IWSD)

General discussion points – grouped in themes:

- Is the water-sector taking the matter of HIV/AIDS seriously? It would seem that it is not understood or taken seriously. At the SADC Secretariat there is a department devoted to HIV/AIDS issues. This department can provide support to the water sector. For instance – toolkits have been developed for the promotion of gender issues. To do it effectively one has to take the cultural setting into context. There are focal points for HIV/AIDS and gender issues. Perhaps a decision should be taken here to mainstream HIV/AIDS and gender issues in the SADC. The links between HIV/AIDS and water are strong and unexplored. Such as when infected women are encouraged not to breastfeed – exposing their babies to dirty water. With modern ARVs it is possible to live a productive life even if you have HIV/AIDS. We need to change our mindset and find ways to support people to carry on living productively – raising their quality of life. When policy is being developed the question has to be asked how it will limit or reduce HIV infections. Solutions have to be appropriate to the reality they have to operate in.
- Social organisation is inherently hierarchical – gender issues have to be mainstreamed. Still, women and children rank on the lowest level of the hierarchy – still lack good access to water resources. Does IWRM open up opportunities to break the barriers of “containment”? From a young age girls and boys have to be brought up with equality of opportunity. There needs to be monitoring of the respective roles of men and women in society – daily activity charting is an effective tool. Must not separate the gender issue totally from the cultural context. Men and women both contribute – even if they have different roles. In rural areas people have multiple responsibilities – e.g. fishing and agriculture. The issue of sanitation has to be addressed – women have to walk long distances to use sanitation facilities, often in the dark – exposing them to risk.
- Should the discourse not move from “food security” and towards “food sovereignty”? Then one has control over what one eats. Dangerous to talk of “food sovereignty” as it can lead to inefficient use of water, driving scarcity in dry areas.
- The “wealth creation” approach to ending poverty – with attention to distribution was previously suggested. This would then lead to an improvement in livelihood levels for the marginalised. Broad-based wealth creation is the surest path towards lifting people out of poverty. IWRM can contribute to this by letting decisions get taken at the lowest local level practical. For this to happen sufficient resources have to be devoted to capacity building. This will help issues like gender representation. Water is spoken of as a public and social good. But at what point does it become an economic good – to aid wealth creation? The shift from public good to economic good needs to take place. We need to listen to the communities as to how wealth can be created.

Communities know what their problems are – and also know what their preferred solutions are. We need to be prepared to supply people with more than a bare minimum service. People should be able to move away from subsistence and towards wealth generation and retention.

- The managers and decision-makers are the right target group – as they are the technical staff who is responsible for implementation. Not just the political decision makers and managers.

4. IWRM AND TRANSBOUNDARY WATER RESOURCES MANAGEMENT

4.1. Session 5: Transboundary Water Resources Management in Southern Africa Contributing to Regional Integration

4.1.1. *The Importance of Integrated Planning in Transboundary Waters*

Dr Anthony Turton (CSIR)

In South Africa water is a fundamental constraint for all development. In that country the National Water Resource Strategy has shown that around 96% of all readily available resources on a national scale have been allocated. There simply is no more water and basin closure is imminent in at least three of the major international river basins (Orange, Limpopo and Incomati). Water quality issues are now paramount because of loss of dilution and thus we are moving to an Integrated Salts Management paradigm as a result.

In the rest of southern Africa, given the high degree of reliance on shared systems, a hydropolitical complex is said to exist. This occurs where water issues form a coherent enough driver of interstate behaviour to be discernable as a distinct pattern of amity or enmity. Pivotal States in the Southern African hydropolitical complex include South Africa, Botswana, Zimbabwe and Namibia. Likewise, the pivotal basins in the Southern African hydropolitical complex are the Orange, Limpopo and Incomati river basins.

The existence of this complex means that national economic development aspirations are potentially constrained, making effective River Basin Commissions (RBC's) extremely important. The RBC mandate is driven by national interest – "To Compete? Or To Cooperate?". Given that all river basins are not equal, national strategy might not be the same in every basin to which a country is a riparian. So the river basin is not the best (or only) unit of analysis. The RBC is a legal and institutional manifestation of the riparian states interest in a given basin. But all riparian states are not entirely equal either – the concept of "hydrohegemony" or power (capability) asymmetry is important.

The triologue model of water governance proposes three actor clusters – science, government and society. There is a dynamic interaction between these three (see Figure 3: Triologue applied to the RBC situation).

Triologue Model of Governance: RBC Interaction

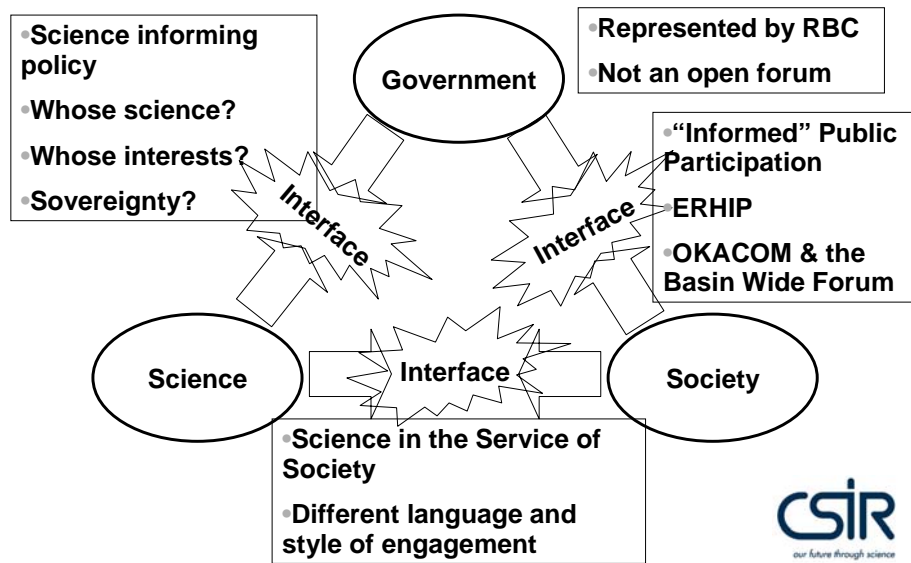


Figure 3: Triologue applied to the RBC situation

River Basin management is complex at a number of scales, with a number of important questions posed:

- • How can Science inform the decision-making process?
- • Which form of Science is best suited to:
 - Inform government officials in RBC's?
 - Inform society so they can engage in meaningful and effective public participation processes?
- Where and how does Science interface?
- Whose Science is to be trusted?
- Can Science be used to balance power asymmetries?

4.1.2. *Developing IWRM Strategies for Shared River Basins – the KOBWA and Zambezi Experiences*

The KOBWA Experience

Mr Dennis Dlamini (KOBWA)

The Komati Basin Water Office (KOBWA) was established by the Governments of the Republic of South Africa and the Kingdom of Swaziland to implement and operate Phase 1 of the Komati River Basin Development Project. This aims to relieve chronic water shortages and promote poverty alleviation initiatives using reliable water supply as a catalyst for economic development.

Transboundary water management is a challenge – requiring cooperation in the technical, political as well as the economic fields. The development of the Maguga dam has witnessed

long-term cooperation between the two countries. Tourism, hydro-electric production, agriculture, poverty alleviation initiatives and the Maputo corridor have all benefited. Technical cooperation has proceeded with national entities (e.g. Komati CMA and the Swazi Country Water Partnership), regional research initiatives (WRC, SANPARKS, DWAF, WARFSA, WATERNET and Confund) as well as internationally (ANBO, INBO and Romanian twinning). Training and capacity-building activities have included the SIDA-funded Transboundary Water Management course, with SIWI, Ramboll and ACWR, where KOBWA provides the field venue and organises the technical excursion.

Challenges for transboundary water management include water scarcity, compliance with environmental water requirements, international obligations, operational life of the reservoirs and systems protection. At present KOBWA is working on strengthening cooperation in the following four areas:

- Monitoring and assessment
 - Cooperation with national monitoring programmes run by relevant government departments
- Disaster and emergency preparedness
 - Disaster management authorities in partner states
- Participation of Mozambique
 - Renegotiations (at higher level)
 - Informal interaction at operational level
- Financial and Human Resources

KOBWA has the confidence of the partners and users and contributing towards integration / cooperation between the countries involved and continually encounters challenges managing/operating the Komati system. KOBWA is perpetually seeking ways to improve system operation in order to realise maximum transboundary water management benefits

The Zambezi Situation

Dr Jefter Sakupwanyanya (ZACPRO 6 Phase 2)

The Zambezi river basin is the most shared basin in Southern Africa and third largest in Africa after the Congo and the Nile. The basin drains an area of 1.36 million square kilometres covering eight countries: Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia and Zimbabwe. The population living in the basin is estimated at 45 million people. The current reality in the Basin is one of increasing populations despite the impacts of the HIV/AIDS endemic. This is accompanied by rapidly increasing urban water demands and mounting environmental concerns. Poverty is also a persistent problem in the Basin with more than half the rural population living below the poverty datum line.

The major water use sub-sectors are:

- The Environment
- Hydropower generation
- Agriculture
- Mining and industrial
- Domestic

- Recreational
- Fisheries

The overall objective of the Zacpro 6 (Phase 2) project is to improve integrated water resources management to facilitate equitable social and economic development, and protection against floods, droughts, water resources pollution and environmental degradation in the Zambezi River Basin. The project approach has centred on creating an enabling environment and building mutual trust and confidence. Common membership of the SADC and associated legislative frameworks such as the Protocol on Shared Watercourses has promoted cooperation amongst the basin states. The 8 riparian countries of the Zambezi River Basin share a vision of equitable and sustainable utilisation of water for social and environmental justice, regional integration and economic benefit for present and future generations.

National Steering Committees have been formed in each of the basin countries – providing a platform for stakeholders to provide input to the management of the basin. This provides a link between the project implementation unit and various national-level institutions involved. In the long run for stakeholders to participate effectively, their capacity should be enhanced.

The peculiarities of individual riparian countries should be recognised in designing interventions to enhance capacity as a way of levelling the playing field. The national governments working with civil society expedite the definition of the “rules of the game” in the management of the shared water resources.

4.1.3. Dialogue on the Importance of Regional Cooperation on Transboundary Water Management

Facilitated by Reginald Tekateka (DAAF)

General discussion points – grouped in themes:

Facilitator points:

- These RBO meetings take a lot of time out of ones schedule – is it worth the effort?
- What do we mean by stakeholder participation – is it just tokenism? If it is true stakeholder participation – then why do we still have RBOs run by governments?
- If they are so necessary then why are they not self financing?
- What if the basin states are not in fact committed to the process?

Discussion:

- Where more countries are involved cooperation becomes more difficult. What tangible achievement can be identified out of the process of cooperating over a river like the Zambezi? Modern political boundaries are not respected by river flows. We need to manage within that context. Important to move forward with all parties concerned – that is where RBOs can play a positive role. In the Zambezi case a long term perspective has to be adopted – with the aim of developing regional stability and cooperation.

Projects in the basin have led to the formation of trust and cooperation between states – data is being shared. Once this stability is present then it becomes possible to have investment in infrastructure in a sustainable way. The framework has to first be in place though.

- Activities around shared watercourses are process oriented – not one-off events. Trying to get cooperation between 8 or more states is complex. Tangible benefits are not limited to infrastructure development (dams and boreholes) – one also has to look at knowledge exchange, capacity building, trust formation, etc. This aids collaboration on joint projects later on. The discussions which started on the Zambezi led to the development of the SADC Protocol on Shared Watercourses – a cornerstone of management of transboundary basins. Important document as not all SADC states have ratified or signed the UN Convention – but its elements are now included in the Protocol.
- Government officials need to be involved to keep trust in the process. But, how will the poorest members of society be included in the structures – not just being “recipients of decisions without their involvement”? Government is the custodian of the wishes and aspirations of the citizens. In this part of the world there is some mistrust of governments – this needs to be rectified and the poorest of the poor need to be brought in. People on the ground need to become involved in the process of managing transboundary rivers. People also need to see direct and tangible benefits for them – not in the distant future but in the more near-term. There is a risk that there is too much talking and not enough doing.
- There are three dimensions to public participation:
 - Range – from being informed to being consulted through to participatory decision making.
 - Level or scale – it is not possible for every village to be represented directly on an RBO. Not every individual can be involved – collectives of some sort have to be developed.
 - Responsibility – of RBOs to encourage the formation of collectives to work in parallel on basin management issues. Individuals have to be mobilised – through farmers or women’s associations etc.

How would the Trialogue model be implemented in reality – where does the responsibility lie? Water magnifies and follows existing inequalities in a country. Legislation like the South African National Water Act is designed to redistribute water allocation. Science has to also play a role in working on solving real issues faced by people. How do we “democratise” science? The media also has a role to play in this, but needs to be brought on board.

- Information can be packaged easily by powerful groups – but the voiceless, with information from the reality on the ground, cannot respond. Dr Turton extends an invitation to people who have not published before to come forward and tell their story – hoping to publish in the suitable forum.

We need to be self critical. Frequently the agenda set is one developed outside. Issues like the generation of hydro-power in the north of the region for use in the south have been left off. The Dublin Principles are environmentally driven. The States at Rio agreed on IWRM but with development and social aspects added. Are countries such as Botswana and Namibia water stressed?

They share large rivers such as the Okavango and Zambezi. Does the agenda reflect our priorities, or external ones? But – the Dublin Principles have been adopted by GWP and are referred to for that reason.

- What is the role of parliamentarians in the Triologue? They need to be involved as they represent the people. But - Parliamentarians work on shorter time-scales, but transboundary water processes take long. But they do need to be informed and educated on the relevant issues.

5. IWRM AND NATURAL DISASTERS

5.1. Session 6: Coping with Water Related Natural Disasters

5.1.1. Forecasting Systems in SADC – Securing SADC Water Future.

Dr Brad Garangaga (SADC)

The SADC Drought Monitoring Centre is responsible for monitoring and predicting of climatic extremes such as floods and droughts in a timely manner with respect to their intensity, geographical extent, duration and impact. It was established in 1989/90 together with DMC Nairobi (now ICPAC) by African governments with the WMO as Executing Agency. Together they are responsible for 22 countries of Eastern and Southern Africa. The main activity of the centre is the monitoring of near real-time climatic trends and generating medium-range (10-14 days) and long-range climate outlook products on monthly and seasonal (3-6 months) timescales. These products are disseminated in timely manner to the communities of the sub-region principally through the NMHSs, regional organisations, and also directly through email services to various users who include media agencies.

The climate of the region is influenced by two main factors:

- Climate variability
 - The basic driving mechanism of steady-state climate: solar radiation and the rotation of the earth;
 - The circulation patterns of the atmosphere in southern Africa;
 - Applying climate information is important for socio-economic development: extremes in climate states (droughts/floods) often lead to have wreaked havoc in SADC from time to time.
- Climate Change
 - There are negative impacts of global industrialisation on climate systems;
 - The circulation patterns of the atmosphere in southern Africa projected to change, leading to more severe droughts/floods;
 - Knowledge of this is important for socio-economic development planning.

During El Nino episodes, the bulk of Southern Africa is very likely to receive considerable rainfall deficits. On average El Niño events occur once every four to seven years. Both El

Ninos and La Ninas tend to be associated with negative societal impacts over many parts of the globe. This is especially so across most of southern Africa.

Climate scientists worldwide are working tirelessly to improve techniques of climate monitoring and predictability in order to better serve all sectors of communities. The contribution of climate system monitoring and prediction to the economic and social development of mankind is now widely recognised.

The centre, in addition to supplying meteorological products, also engages in capacity building initiatives for various stakeholders and represents the region in a range of national and international panels, seminars and conventions.

Challenges for the centre include the dwindling hydro-meteorological data collection platforms in the region, inadequate infrastructure and appropriate capacity (human and equipment), inadequate coordination and communication between meteorologists and various users groups and the unavailability of advanced technologies in climate prediction and applications.

5.1.2. Impact of Climate Variability on Water Resources in Southern Africa

Prof. Roland Schulze (UKZN)

Water resources management can be divided into three main perspectives:

- River basin – in-stream and off-stream uses;
- Supply/Demand – including existing as well as future situations;
- Organisational – at institutional as well as individual levels.

Rainfall variability in the SADC region is amplified by the natural hydrological system – with a low conversion of mean annual precipitation to mean annual runoff. Land use patterns change often, either by intensification (e.g. afforestation) or extensification (e.g. Overgrazing), having an impact on the ratio of stormflow to baseflow patterns. Thus timely and accurate hydrological forecasts need to be made, with frequency dependant on the application:

- Near Real-time Forecasts (Now to Days) – warnings, hydropower releases etc,
- Short and Medium Forecasts (Days to Weeks) – irrigation scheduling, reservoir releases and crop yield estimates;
- Long Term Forecasts (Month to Season) – hydropower sales, labour and equipment costs, planning national food support etc.

Climate change is a reality and has to be factored into future planning. Most of the world has experienced increases in heavy rainfall events – even if the averages have remained the same. Drought is also becoming more prevalent. In South Africa many areas have experienced a shift in the timing of rainfall – either earlier or later than the average. More work needs to be done to downscale global scale climatic data to the regional and local levels. This then needs to be fed into models which can analyse the impacts on streamflow and water availability. From this we need to start developing strategies for adapting to the threats of climatic change – by becoming aware of the threat, then developing the intention to adapt followed by active adaptation.

Adaptation should:

- Reduce vulnerabilities of people and societies to:

- Shifts in hydro-met trends
- Increased variability
- Increased extremes
- Protect/restore ecosystems which provide land/water resources and services
- Close gap between water supply and demand

5.1.3. **Natural Water Disasters – is there a Role for IWRM?**

Dominic Mazvimavi (HOORC)

A disaster is “a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses, which exceeds the ability of the affected community or society to cope using its own resources”. These typically include an interaction of extreme hydro-meteorological events and human activities such as tropical cyclones, landslides and mudflows, floods and droughts. Floods and droughts are impacted by:

- Climatological factors – cyclones, El Nino, etc.
- Drainage basin conditions – topography, drainage network, soil type, land cover, etc.
- Human dimension – settlement patterns, land use and management, livelihood options, etc.

Drought is the “deficiency in the normally expected rainfall over a substantial area”. Thus a naturally arid climate is not necessarily a drought – of more importance is a deviation from the mean. The problem lies in determining what is “normally” expected, especially in regions with high natural climatic variability. This makes it difficult to determine the onset and cessation of a drought, making forecasts and prediction on which to base warnings difficult. There are four main phases of drought – with increasing complexity of impacts and duration of effects:

- Meteorological;
- Agricultural;
- Hydrological;
- Socio-economic and political.

What is needed is an integrated approach for reducing risk of floods/droughts, reducing the vulnerability of communities, improving preparedness, and improving knowledge. This needs to be implemented at the basin, national, and transboundary levels. We have to plan and have measures in place for the occurrences of floods and droughts. Thus the goal of Water Resources Management is to manage the spatial and temporal variability of water including flooding and droughts.

5.1.4. Dialogue on Role of IWRM in Resilience Building

Facilitated by Eben Chonguica

- Information needs to be decentralised and taken to the ground – to people who rely on it. The message needs to be communicated directly to the household level – making the message interesting, fun and useful. Strategies need to be developed to adapt to the reality of climate change. We need to build resilience to cope with climatic change – starting on the lowest levels. Capacity building needed.
- New threats such as tsunamis and FETCH pose threats to low-lying communities and should be investigated. What about issues of water quality? It is not only quantity issues which pose a risk to populations. Has the water sector developed a position on climate change? The sector is going to have to develop responses to climate change and then commit resources to them. We as a technical community have a responsibility to provide input to other sectors on the ramifications of this important issue. We need to develop drought resistant crops – whether through GM or not.
- It must be realised that even in DRC there is water stress – in the southern regions there have been below average rainfall levels in the past 10 years. More research should be done in that country by the DMC of SADC. Referring to rainfall figures for the DRC – these are averages taken over 30 years. It is recognised that there are variations.
- Floods are not all bad – some livelihoods are reliant on them – e.g. fisheries and silt on floodplains. Investigations need to be made to look at ways for communities to adapt to floods and benefit from them.
- “Constructing homogenous climate zones” is the term used to describe the compartmentalisation of rainfall in a particular area. From this the drivers of the climate in those zones can be determined.

6. SPECIAL PANEL SESSION – POLICY INTO PRACTICE WITH PARLIAMENTARIANS, MEDIA, PRACTITIONERS AND POLICYMAKERS

Facilitated by Mr Chanda Chimba

Inputs from the panellists about the seminar:

- It was good to have presentations from the academic perspective as well as the practical, but there was not enough time for discussion.
- Succeeded in bringing different groups together to discuss water issues.
- More action on the ground is needed – put those reports into practise. Lessons can be learned from Ma Tshepo.
- Water challenges us – but also inspires us to think differently. It can unite us and it can divide us. Water needs to be used as a vehicle for economic development. Discussions have been constructive.

- Good to have non-water sectors reflected – as it will grow the water sector.
- Parliamentarians can benefit from being part of these discussions – the SADC Parliamentary forum could be a platform for reaching the “unconverted”. Science is being made alive – technical issues are being made development issues.
- Evident that there are many challenges which remain – to develop water resources for livelihoods.
- “Social protection programmes” need to be brought into water projects. Sanitation access must also be promoted more strongly.
- This dialogue should become a continuous process.

Question from facilitator: The region has lots of water – so why is it that millions in the region don't have access?

- “Some are more equal than others” when it comes to the allocation of water. The inherent stratification of society leads to inequitable allocation. It has to be recognised that everyone has the same legitimate need for water. It is a societal issue – these structures need to be re-defined. What did not come out much was the need to recognise water as a basic human right. The privatisation of water leads to some getting a lot and others getting little. But - water as a human right is a good idea – but if you make that promise you have to be able to deliver. You should first make sure you can deliver on the promise. When one speaks of water as a right it is in fact the “access” which is the right. This access can be defined in terms of what the government can realistically deliver. It is the function of government to provide sufficient water for human dignity for the whole population.
- The low assurance of supply leads to inequality. This region needs investment in water infrastructure to improve assurance of supply. Our levels of technology need to be improved so as to reduce pollution loads. We are currently at the limits of what can be achieved. We have to start allocating resources (financial) to where our priorities are.
- Physical scientists have a better understanding of the importance of balance. We need to integrate the customary laws and decision-making structures in communities into water management systems. The degree of ownership is low. Very little is being done to conserve or recycle water. Rainwater harvesting is not happening. Politicians should be listening to the people – and implementing what is needed. How do we factor in the issue of corruption in the supply of water?

Question from the facilitator: “What is the role of the private business sector in the efforts to supply and manage water?”

- Water allocation favours the business sector. But water should also be a social good. Businesses could put funds into water infrastructure development for local communities. But - The business of business is business. Their only

responsibility is to maximise shareholder value. Private sector operates on demand. Private sector operates on need.

- With water we need government intervention – the market cannot be left to its own devices. Corporate responsibility needs to be legislated. Government solicits investments in a country – so also has a responsibility to protect the resource as well as the local population. Businesses that use water should be charged an appropriate amount for the water they use. Where companies pollute heavily it should be viewed as a failure of government.
- Innovative solutions are developing – industry using more dirty water and saving on the clean. Some businesses do operate on ethical lines – we need to establish mechanisms to make sure that companies don't externalise costs.
- It is important to have parliamentarians here. It would be good to hear from them how they can assist. Response: Parliamentarians need capacity building – they need to learn about the resource, its management and associated issues. They don't know everything.
- If government has budget roll-overs – unallocated amounts of money which they can spend due to capacity constraints, then they should give this to the private sector or to NGOs to provide water services.

Round-up from panel:

- We should plan water use on a regional basis. Cooperation over the water resources of the region is necessary in the long run. In a shared watercourse our actions are linked. We thus need a platform to reach agreement.
- Each one of us here have a role to play in water management. We need to provide hope for a better future. Need to ensure mutual respect to promote cooperation.
- Civil society should look at ways that they can work with parliamentarians to promote delivery. They can help with the implementation of protocols etc. Don't lose faith in politicians. Keep them involved as they do represent the people.
- The transboundary water issues need to be looked at in more depth. There are many successes in the region around water management – but we need mechanisms to share these experiences.

7. CLOSING SESSION

7.1. Summary of Proceedings and Way Forward

Phera Ramoeli (SADC)

- Access – broadly defined:
 - Ensure the benefits of water resources development reach those in need,
 - Include gender considerations in management institutions;
 - Improve capacity building and communication for marginalised groups – break the barriers of containment
- Inter-sectoral approach to implementation
 - We have moved away from debating/discussing IWRM to implementation,
 - This requires that the water-sector engages with others – not waiting for them to invite us;
 - Water should play a role in regional economic development – through contributions to sectors like energy and transport e.g. Zambezi.
- Wealth creation
 - Need broad-based wealth creation for development, with mechanisms to promote equity – maximising “jobs per drop”,
 - We need to listen to the communities as to how wealth can be created;
 - Try to source local funding for water infrastructure development.
- HIV/AIDS
 - It would seem that we don’t understand it and thus don’t take it seriously. There are a range of interactions between HIV/AIDS and water management
 - When policy is being developed the question has to be asked how it will limit or reduce HIV infections.
- Role of Science
 - We need to base water management decisions on good science,
 - Science in the service of society – has to be relevant to local challenges;
 - The region needs to move towards its own IWRM agenda – incorporating the need for development as well as social issues.
- Transboundary Issues
 - The management processes on transboundary rivers are long term and a big-picture view needs to be taken when assessing their impacts – i.e. creation of enabling environment,
 - A two-pronged approach needs to be taken to undertake initiatives that assist communities on the ground;

- Governments are the custodians of the “will of people”, with trust placed in them and thus steer transboundary processes;
- However – a range of other stakeholders need to be involved – through representation in groups (collectives).
- Climatic change and variability
 - As a sector we need to develop a position and strategies on climate change – as we shall be expected to develop mitigatory and adaptation strategies in cooperation with other sectors,
 - Climatic information should be made accessible to the community members who rely on it;
 - We need to put effort into the generation of hydrological and meteorological data as the present levels of this are low.
- Way Forward
 - “Each one, reach one” – we will take the ideas from the dialogue and share with people and institutions in relevant sectors – that’s the way to link RSAP with RISDP,
 - Will repackage the presentations and ideas/information from this dialogue and disseminate widely – include dissemination of report;
 - Will use the lessons from this to inform the 2008 SADC Multi-stakeholder Dialogue.

7.1.1. Vote of Thanks from the SADC WRTC

Mr Reginald Tekateka (DWAF)

This meeting takes place 2 weeks before the next AMCOW meeting in Congo. The theme is broadly similar to the theme of this SADC workshop. This indicates that we are aware of the challenges facing us in the water sector in Africa. The AU has given AMCOW recognition as a specialist technical committee, thus raising the voice of water in Africa. One of the actions is a formation of a multi-stakeholder forum under the auspices of AMCOW, including – INBO, GWP, ANEW and African research capacity.

The WRTC emphasised the need for research and science. It is recognised that a lot is going on – but that a lot of it is not responding to the challenges in the region. It is hoped by WRTC that this dialogue becomes an annual event. Thanks to Danida for sponsoring this event and a request extended to them to continue to do so. Thanks to GWP-SA for putting the programme together. Thanks to the SADC for being the custodian of the process. Thanks to Mozambique for hosting this event. Thanks to those from outside of the water sector for attending. It is important that decision-makers such as parliamentarians continue to participate in such events.

7.1.2. Closing Speech on Behalf of Mozambique

Patricio Jose (Mozambique CWP)

SADC is on a solid footing for the management of water resources in the region. We hereby extend a vote of thanks to the multisectoral partners present. This was a good opportunity for us to discuss the theoretical and practical aspects of IWRM. The trust that needs to be built is not just between government and civil society but also with the private sector and

international cooperating partners - also with different sectors. We have spoken about our past, present as well as our future situation with respect to water resources. We face common threats to individual as well as collective survival. The GWP and the Mozambican Partnership has played a prominent role in promoting knowledge on water issues. When we return home we need to continue to spread this message. Safe travels back home, carrying back the camaraderie of the nation of Mozambique. An invitation is extended to spend the weekend here!

