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# Major Water Infrastructure Development in Africa

Balancing Economic, environmental and social aspects for sustainable outcomes

Regional East and Southern African seminar convened by SADC, EAC, AMCOW-TAC & NEPAD with support from InWEnt, UNEP, GTZ and GWP



On behalf of:



Federal Ministry  
for Economic Cooperation  
and Development



Capacity Building International  
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## **Imprint**

Regional East and Southern African seminar on  
**Major Water Infrastructure Development in Africa:  
Balanceing economic, environmental and social  
aspects for sustainable outcomes**  
held from July 25-27, 2007  
in Mbabane, Swaziland

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25-27 July, 2007, Mbabane, Swaziland

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## Seminar Title

### **"Mainstreaming Adaptation Strategies to Climate Change in transboundary river basin planning and management" (CCA)**

(with an emphasis on shared water course institutions)

The mandate at political level to undertake awareness creation and capacity building (e.g. the proposed seminar) originates from the outcomes/recommendations of the Petersberg Process, and diverse resolutions of AMCOW, ANBO and other political networks in Africa on the subject of climate change.

The seminar is an initiative of the GTZ project "Cooperation among River Basin Organisations". The (GTZ Kampala) as one of the key outputs to follow-up the implementation of the resolutions mentioned above. The InWEnt "River Basin Dialogue" capacity building program has been requested to prepare and conduct the seminar. InWEnt will supplement the budget towards the implementation of the initiative, especially during the preparation and follow-up phases. UNEP has been invited to provide technical and other assistance towards the organization of the seminar and the dissemination and further follow up on the outcomes of the seminar. Its contribution will be in the framework of contributing to the implementation of its Water Policy and Strategy approved by its Governing Council in 2007 as well as promoting adaptation to climate change.

#### **Convenors (Seminar implementing partners): GTZ + InWEnt + UNEP; NBI (requested)**

GTZ (Project: Coordination among River Basin Organisations, Kampala);

InWEnt (Programme: River Basin Dialogue, Germany);

UNEP (DEPI - Freshwater Ecosystems branch);

Contact persons: Henry Ntale (GTZ), Thomas Petermann (InWEnt), Thomas Chiramba (UNEP)

**Advisory and review panel:** 1 representative of ANBO (chair or secretary to be contacted), 2 representatives of selected established RBOs (to be discussed: Niger Basin? ORASECOM? SADC?); Mr. Reginald Tekateka (GWP SA /South Africa); Simon Thuo (GWP-EA)

**Hosting:** The Nile Basin Initiative (NBI) will host the seminar.

NBI is linked to the African Network of River Basin Organization (ANBO) and AMCOW.

**Organiser/Administration:** Steven Mukibi, MMC Kampala (in preparation)

#### **Participants, Region**

40 senior program coordinators and project managers (senior operational level) of river basin organisations (i.e. shared watercourse institutions such as Commissions, Basin initiatives, Basin Authorities) and their national and local partners.

Region: Southern and Eastern Africa (English), West and Central Africa (English and French)

Language: English moderation with simultaneous translation French-English

#### **Expected output**

Senior staff at programme and operational levels of Shared Water Course Institutions (SWCI) are aware of the multiple challenges presented by climate change. They are exposed to concepts and practical approaches to mainstream adaptation measures in the planning and operational programs of transboundary basins. The type and level of assistance that is required by SWCI to implement adaptation measures for climate change at basin level are identified.

#### **Tentative action plan for the preparation of the seminar and immediate follow-up**



- **20 March** - Finalization of Contracts, LOI; preparation of Broad Concept paper (topics, agenda/schedule, learning objectives); identification of experts to prepare background papers; identification of staff for the organisation and moderation of seminar.
- **3 April**: Identification of RBOs (SWCI); and dissemination of general information on the forthcoming seminar
- **7 April**: Assignment of background papers (tentatively 5 thematic papers; 1 paper on climate change model predictions for Africa)
- **May-June**: follow up programme; peer review, invitations
- **July-mid Aug**: final organisational preparations; follow up invitations; preparation of papers and background material
- **26-29 Aug**: Seminar in Entebbe
- **Sep-Dec**: follow up phases (next steps to be determined at the seminar)

**Venue:** Entebbe/Uganda

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**Hotel:** (optional: Imperial Botanical Beach) 2 offers have been invited; in parallel, the options of using the NBI facilities being investigated.

50 pax (40 participants, plus staff and supporting organisations), 1 big seminar room, plus 2 small break away rooms.

**Dates** (1<sup>st</sup> proposal): **26-29 Aug**, plus travel days (alternatively 2-5 September 2008)

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25 Aug (Tue) evening: Arrival

26-27 Aug: Seminar

28 Aug: Field trip (Lake Victoria, NBI, Jinja, etc.)

29 Aug: Seminar

30 Aug (Sat) from morning: Departure

**Tentative programme (draft version 1.0)**

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**26 - 27, 29 Aug**

1. Introduction and Opening of Seminar (Welcoming remarks, context for organizing seminar, the seminar concept - interactive dialogue between participants, on-site learning)
2. Consensus on impacts of Climate Change to transboundary water resources (The key note speech: "Climate Change" models for Africa, the envisaged impacts including on transboundary rivers; Group work and plenary discussions)
3. Adaptation to Climate Change - The multiple challenges
  - a. The water resources management dimensions of Climate Change Adaptation in key aspects (management practices, design criteria, infrastructure, regulations, )
    - i. IWRM planning and implementation: national and river basins
    - ii. Flood and drought management
    - iii. Ecosystems management (environmental flows; catchment management; sensitive ecosystems, wetlands, river basins, forests, etc.)
    - iv. Infrastructure: Water storage / dams
  - b. Social and economic dimensions of Climate Change Adaptation in key sectors and vulnerable aspects
    - i. Agriculture, food supply, irrigation
    - ii. Water supply, impacts on commercial utilities
    - iii. Health (related to water-borne or water diseases)

- iv. Livelihood of poor and marginalized groups
  - v. Market systems
  - vi. Access to natural resources (land and water, etc.)
  - vii. Social systems
  - viii. National vs. local levels
  - c. Institutional dimensions: The capacity to react
    - i. Governance for adaptation
    - ii. Institutional set up for adaptation
    - iii. Harmonizing sector policies
    - iv. Regulations
    - v. ....
  - d. Financial mechanism:
    - i. Instruments for financing for adaptation
    - ii. Adaptation Fund
    - iii. Aid effectiveness
    - iv. ....
  - e. Capacity building for adaptation for River Basin Organisations there key constituencies
    - i. The need for Change Management
    - ii. Adaptive management....
4. Conclusions, Recommendations, Follow up

28 Aug

Field trip (full day): Entebbe and surroundings (potential themes: NBI; impacts of climate change on Lake Victoria; initiatives on managing the environment on the lake; water supply schemes of NWSC, Nile dams)

DOGL Felo

AP  
MCPA

MPA

→ Houlata Bah

→ Cheikh Lo.  
Abdou

→ Maramine



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InWEnt	
UNEP	
AMCOW	
AMCEN	
Organising team	

## List of Participants

## Seminar Programme

### Separate pdf-files:

1. Key Recommendations on the Way Forward: "Resolution MWID Final"
2. Draft Capacity Building Programme (prepared by Thomas Chiramba)

PowerPoint presentations and background papers delivered by resource persons will be made available on internet [www.gc-21.inwent.org/nrm-net](http://www.gc-21.inwent.org/nrm-net) (in preparation) and on a separate CD. Please enquire also at ACWR African Centre for Water Research, Anton Earle and Daniel Malzbender: [antonearle@acwr.co.za](mailto:antonearle@acwr.co.za) or [dbmalzbender@acwr.co.za](mailto:dbmalzbender@acwr.co.za)

## List of acronyms

AfDB: African Development Bank  
AC: Affected Communities  
ACWR: African Centre for Water Research  
AFREC: African Energy Commission  
AMCEN: African Ministerial Council on Environment  
AMCOW: African Ministerial Council on Water  
AU: African Union  
BS: Benefit Sharing  
CSOs: Civil Society Organizations  
DDP: Dams and Development Project  
DBSA: Development bank of Southern Africa  
EAC: East African Community  
ECOWAS: Economic Community of West African States  
EIAs: Environmental Impact Assessments  
EMPs: Environmental Management Plans  
EMS: Environmental Management Systems  
EU: European Union  
FEMA: African Ministerial Forum on Energy  
ICOLD: International Commission on Large Dams  
INWENT: Internationale Weiterbildung und Entwicklung gGmbH, Capacity Building International, Germany  
IWMI: International Water Management Institute  
GTZ: Deutsche Gesellschaft fuer Technische Zusammenarbeit GmbH  
GWP: Global Water Partnership  
IWRM: Integrated Water Resources Management  
KOBWA: Komati Basin Water Authority  
LOI: Letter of Intent  
MDGs: Millennium Development Goals  
MOV: Means of Verification  
MOU: Memorandum of Understanding  
NBI: Nile Basin Initiative  
NEPAD: New Partnership for African Development  
OA: Options Assessment  
ORASECOM: Orange-Senqu River Commission  
RBOs: River Basin Organizations  
RIEE: Roadmap for the implementation of the environmental and social aspects of the Action Plan of the African Ministerial Conference on Hydropower and Sustainable Development  
REC: Regional Economic Community  
SADC: Southern Africa Development Community  
SEA: Strategic Environmental Assessment  
SIA: Social Impact Assessment  
SP: Strategic Priorities  
TAC: Technical Advisory Committee  
TDA: Transboundary Diagnostic Analysis  
TPTC: Tripartite Permanent Technical Committee  
ToR: Terms of Reference  
UNEP: United Nations Environment Programme  
WCD: World Commission on Dams  
ZAMCOM: Zambezi Basin Commission

## ***1. Background***

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### **1.1 Development and water infrastructure in Africa**

There is an increased focus on developing water infrastructure in Africa as an important measure of underpinning the diverse development efforts of the continent aimed at meeting the MDGs, reducing poverty and improving the general standard of living of people. The "Abuja Ministerial Declaration on Water - a key to Sustainable Development in Africa" in April 2002 marked the launch of the African Ministerial Council on Water (AMCOW), a major step forward in forging region-wide collective action for sustainable development and paving the way to achieving the Africa Water Vision 2025. Under the auspices of AMCOW, the 2003 Pan-African Implementation and Partnership Conference addressed the implication of the outcomes of the World Summit on Sustainable Development (WSSD) for regional water initiatives, as well as the continent's role in the implementation of the Summit's outcomes. Development of water infrastructure featured prominently in the outcomes of the Conference.

The Sirte Declaration on Agriculture and Water of the 2004 Assembly of the African Union called for governments to "Develop and promote water resources through support to infrastructure projects, including the construction of dams and canals, sinking of wells and providing irrigation equipment". The declaration emphasized the need to undertake the development in an environmentally and socially sustainable way. NEPAD, under the African Union (AU), has prioritized water resource management and has moved forward with the support of the African Development Bank to develop the NEPAD Short Term Action Plan (STAP) on Water, Energy, Transport and ICT infrastructure. It urges the regional economic communities to enhance their capacity to support regional water initiatives. In so doing, NEPAD emphasises the need to address properly environmental and social issues based on thorough Environmental Impact Assessments of proposed infrastructure developments. At international level, there has been growing support for the development of water

and energy infrastructure in Africa and other developing regions as illustrated by the Declaration of the Beijing Conference on Renewable Energy (2004), the Ministerial Declaration at the 4<sup>th</sup> World Water Forum (2006), the G8 Summit of 2005 and the establishment of the Infrastructure Consortium.

Against this background, the African Ministerial Conference on Hydropower and Sustainable Development (March 2006 in Johannesburg, South Africa), attended by Energy and Water Ministers from the continent, explored developing "a holistic and integrated development strategy to meet Africa's growing demand for water and energy through sustainable hydropower, while maintaining assets". The Conference resolved that there is:

- an urgent need to move ahead with water management infrastructure;
- the need to do so in a socially and environmentally responsible manner that takes due account of the sustainability of water resources and strives to make project-affected people beneficiaries of dam projects and not victims;
- a need to develop practical measures for the short-term that establish emerging good practice with respect to arbitrating between the claims of different water users, ensuring sustainable water resource use and ensuring the full participation of affected people in all dam related decisions;
- a need to ensure cooperation between water, energy, environmental and other ministries as well as with civil society as dams are designed, constructed and operated;
- a need to develop African capacity to carry out these tasks.

The Conference Action Plan adopted a series of actions to ensure adequate consideration of environmental and social issues alongside economic aspects. Key amongst these was capacity building.

### **1.2 Dealing with environmental & social issues in infrastructure development**

The outcomes of the Hydropower Conference reflect the growing consensus that one of the key features of good practice regarding planning, construction and operation of infrastructure, such as in the case of dams, is the need to deal

adequately with environmental and social impacts (Conference Declaration, Record of UNEP-AMCOW-FEMA-AFREC and AMCEN planning meeting of 08 and 09 August 2006 in Nairobi). For example, regarding dams, it has become evi-

dent that failure to deal adequately with these issues generates a great deal of opposition to them, which in the past has made both public and private investors - including multilateral finance institutions - reluctant to get involved in financing dams. Learning how to design and build dams in a socially and environmentally responsible manner is the key to reducing this opposition and creating a groundswell of support for new dam projects.

Options assessment, beginning with policy options and run through the project cycle up to operations, has assumed great significance as the various options available at each levels impact the environment and society to varying degrees. Once a dam or dams emerge as the preferred option, the major challenge becomes that of building a good dam - taking on-board good practise and lessons learned from other projects. In the context of dealing with environmental and social issues beginning with options assessment, participation has emerged as a key instrument for incorporating the views and expectations of stakeholders, addressing environmental and social risks and enhancing the social acceptability of the projects.

Experience has shown that dealing with these issues in the absence of a sound legislative, policy and regulatory framework is extremely difficult, since dam sponsors and dam opponents alike do not know what the ground rules are for dealing with the issues. An effective legislative, policy and regulatory framework should make explicit the values and expectations of society with respect to the allocation of scarce water resources between competing uses, the environmental deg-

radation of rivers and the treatment of affected people. The challenge is to give a voice and representation to the environment and communities and to balance their interests with those of other users in the project planning and decision-making process. To do this requires that the values and priorities of the government and its citizens be set out explicitly in a policy document or legislation. This sets out the rights, roles and responsibilities of the various groups involved promoting transparency in decision-making and the ability for agreed to principles to be enforced.

Through consultative processes such as those carried out during the Dams and Development Programme of the UNEP it has emerged that making legislative, policy and regulatory frameworks function effectively is greatly influenced by the degree to which dam planning and other agencies and stakeholders have the professional capacity to deal with these issues, which is problematic in such a rapidly evolving field, as well as by the existence or absence of institutions, formal and informal, with mandates to ensure that dam sponsoring agencies carry out their responsibilities in a satisfactory manner. It is recognized that developing frameworks will of necessity take time. Informed professionals, particularly at decision making levels, in the absence of comprehensive appropriate frameworks can have a significant impact on the development of frameworks themselves and on how things are done in the interim. The discussions at the Conference reflected in the Action Plan emphasize therefore the need to urgently embark in capacity building efforts.

### 1.3 The Roadmap to implementing the Action Plan

Since the Conference, representatives of UNEP, AMCOW, FEMA, AFREC and AMCEN have worked out how to implement aspects of the Action Plan focusing on environmental and social issues. A Roadmap on implementing these aspects was put together in Nairobi, August 2006. Capacity building emerged as a key component prioritized to be pursued in the short term i.e. immediately.

UNEP, InWEnt, GWP and GTZ have expressed interest to support, through partnership approaches, capacity building on environmental and social issues in the development of major water infrastructure. AMCOW has requested the Regional Economic Communities of EAC and SADC to organize a regional planning seminar to detail the capacity building programme on these

aspects to be rolled out with the support of the above organisations.

It is recognized that the outcomes of the UNEP DDP process and in particular the Compendium on relevant practices present opportunities for capacity building for decision makers and managers on these aspects. It presents information on the global efforts in dealing with some of these issues in a progressive way without being prescriptive. It underscores the need to learn from one another through networking and on real life examples. Further, it promotes multi-stakeholder and inter-sectoral dialogues on these often controversial issues. These experiences have informed the organization of the planning seminar and it is anticipated that they will be incorporated in the envisaged approaches for capacity building.

## ***2. Seminar goals, specific objectives and expected outputs***

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### **2.1 Seminar content**

It is a three (3)-day seminar with one (1)-day field exposure. Outline of the programme:

#### **Day 1:**

- Introduction of key environmental and social issues to be considered in the development of major water infrastructure
- Key note presentations by the Chair of the WCD, the World Bank, and UNEP
- Technical papers on selected key issues will be presented
- Group discussions on experiences in dealing with the selected issues

#### **Day 2:**

On site learning by groups about good practices and lessons learnt on the Maguga Dam and KOBWA. Field trip to be organized around three focal areas: communities, water use and environment.

#### **Day 3:**

- Planning the long term capacity building programme
- Summary of lessons learnt from the groups
- Presentation and discussion of some consolidated principles from regional frameworks and an outline of the capacity building programme
- Structured discussions on opportunities for capacity building to achieve sustainable outcomes in plenary and groups
- Establishment of priority areas, identification of suitable approaches, target groups etc.
- Determination of inter-sectoral collaboration mechanisms in groups and plenary.
- Recommendations on the way forward through a panel discussion.

### **2.2 Goals**

Sustainable development of major water infrastructure in eastern and southern Africa addressing adequately environmental and social issues and meeting water and energy needs the implementation of the "Action Plan of the African Ministerial Conference on Hydropower and Sustainable

Development" (March 2006) based on the findings and tools of the UNEP Dams and Development Project and other materials through partnerships and sharing experiences on how to balance different interests.

### **2.3 Specific objectives**

- o To create awareness and broad understanding of the issues that are critical to achieving sustainable development of major infrastructure (incl. dams) i.e. environmental and social issues
- o To enhance the understanding of the opportunities and options available to accelerate the achievement of the MDGs through careful consideration of environmental and social issues in the development of major water infrastructure.
- o To provide detailed (technical and managerial) information on available approaches, possible mechanisms and relevant examples to be considered in the development of major water infrastructure in the region for sustainable outcomes drawing on the experiences of DDP and others.
- o To provide guidance on the way forward in terms of capacity building measures around environmental and social issues essential to ensure sustainable development of major water infrastructure in the region. This shall include setting of priorities on topics to be handled, how to utilize the tools developed by DDP and other institutions in recent times, identifying suitable approaches.

- To contribute to effective networking between the water sectors professionals and actors of other relevant sectors as well as civil society and the affected persons in particular

with the view of jointly promoting sustainable development of major water infrastructure.

#### 2.4 Expected outputs/ deliverables

- Report on the proceedings of the seminar
- Consolidated principles drawn from available regional frameworks on dealing with environmental and social issues for consideration during the development of major water infrastructure
- Outline of a capacity building programme on environmental and social issues to be con-

- sidered in the development of major water infrastructure in eastern and southern Africa
- Recommendations on the implementation of the programme taking into account the above mentioned partnership approaches on capacity building around promoting sustainable development of major water infrastructure

### 3. Cooperating partners

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#### 3.1. Convenors and organisers

Hosted in the Kingdom of Swaziland the seminar was convened by AMCOW (TAC), EAC, SADC and NEPAD, with InWEnt, UNEP, GWP, and

GTZ as implementing development partners. ACWR was entrusted with the organisation of the seminar.

#### 3.2. Participants

More than 70 senior government officials from the water sector and other relevant sectors (development planning, agriculture, energy, environment, water utilities); representatives of IFIs, executives of river basin organisations; Representatives of Regional Economic Communities, pro-

gramme managers, planners/researchers, and representatives of the private sector and civil society, donor agencies and development partners. Participants were to be drawn largely from Eastern and Southern Africa.

#### 2. 4. Contacts for more information

- AMCOW: Mr Reginald Tekateka; [tekatekar@dwaf.gov.za](mailto:tekatekar@dwaf.gov.za)
- EAC: Dr Nyamajeje Weggoro; [weggoro@eachq.org](mailto:weggoro@eachq.org)
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**Impressions from the Opening Session, Presentations and Plenary sessions**



The ACWR-organisation team

## Session I: Opening

### 1.1 Opening remarks SADC: Mr. Phera Ramoeli

*Mr Phera Ramoeli, Head of the SADC Water Division, delivered the opening remarks on behalf of SADC. See full text of opening remarks below:*

*DIRECTOR OF CEREMONY,  
HONOURABLE MINISTER OF NATURAL  
RESOURCES, KINGDOM OF SWAZILAND;  
HONOURABLE MEMBERS OF PARLIAMENT  
HERE PRESENT;  
MEMBERS OF THE DIPLOMATIC CORPS  
DISTINGUISHED GUESTS  
LADIES AND GENTLEMEN:*

*It gives me great pleasure and it is indeed an honour and privilege for me to be given this opportunity gives these few remarks at this very important and momentous seminar. I would like to first of all on behalf of the Executive Secretary of SADC, Dr. Salamao, and the Director of Infrastructure and Services, Mr. Makumbe, convey their gratitude to the Government of the Kingdom of Swaziland, for hosting this very important seminar, which will contribute to the sustainable development of our regional water resources. I would to specifically recognize with humble appreciation the presence in our midst of the Da iHonorable Minister of Natural Resources, who I know will give us clear guidance and instructions in her message to us this morning. I would also like to point out that the convening of this seminar is joined initiatives between SADC, East African Community, NEPAD and AMCOW and has been made possible by the kind contribution of our various development partners. I should state from the onset that this is a topic in a sector that is highly regarded and prioritized within the SADC programme of action.*

*As part of my opening remarks this morning I would like to ask for your indulgence to allow me to just give you a brief overview of the SADC process in terms of infrastructure development. You may all be aware that prior to the decisive extra-ordinary Summit of heads of state and government that was held in Windhoek Namibia in March 2001, SADC was operating using a decentralized coordination approach, where sector programmes were coordinated by specific member states. The Summit then took a decision that SADC should restructure and re-look at increasing the efficiency and level of coordination in conducting its business. Some of the salient features of the restructuring process were to develop*

*a comprehensive plan for moving the SADC programme of action ahead in a way that will enhance coordination and build up on the gains of the past. This was realized through the development of the Regional Indicative Strategic Development Plan (RISDP). The RISDP sets out the framework for SADC development in the various intervention areas and identified infrastructure development as a critical enabling prerequisite for SADC to achieve its various goals and objective, such as poverty reduction, regional integration, social and economic development and peace and stability.*

*Water resources management and development is very central to achieving any and all of the goals set out above as a means to an end and an important engine for development. You more than me can attest to the fact that in our region water is the most commonly shared resource between and among nations and one that does not respect political boundaries of any particular nation. As if this peculiarity is not enough water is also very unevenly distributed in both time and space hence the need for us to development strategies and means that can insure and assure us of its continued availability for our various needs. To avert these seemingly negative aspects towards development there is need to steep up development and rehabilitation and maintenance of our water infrastructure. At a regional level this would have to be strategic and cost effective and be an instrument of joint management and development of our shared water resources, as defined by the Revised Protocol on Shared Watercourses (i.e. the principle of equitable and reasonable utilization using joint and coordinated management).*

*SADC on its part over the past years has focused its attention to the development and creation of an enabling environment to allow for sustainable development of hard infrastructure. This process was pioneered through the elaboration of Regional Strategic Action Plan on Integrated Water Resources Development and Management (RSAP-IWRDM) in 1998. The bulk of the 31 priority projects identified in the plan were focused on creating the enabling environment such as through addressing issues of legal and regulatory frameworks, information collection, processing and dissemination, policy and strategy development, stakeholder participation, training and ca-*



capacity building. This plan was revised in 2004 and new one developed in its place. The new RSAP has a clear and dedicated focus on developing strategic water infrastructure that has regional impact or regional implications. It has been elaborated into four main strategic thematic clusters that include:

- Water Governance
- Infrastructure support
- Capacity building and
- Regional water resources planning and management.

Within the framework of the Infrastructure cluster of the RSAP SADC has developed and adopted a Regional Strategic Water Infrastructure Development Programme, which is of direct relevance to our deliberations in the next three days.

This programme (the RSWIDP) is very long overdue and we have to steep up our efforts in making sure that the region can realize the benefits from our engagement in it. This is because as early as the time during which the first RSAP was developed, the Ministers responsible for water were already impatient about the regions involvement in hard infrastructure development, but they noted that this will have to be build on a solid foundation of an enabling environment. This we think has been achieved and will still need to be maintained but we now have to shift gear towards more practical solutions to our water problems, hence the RSWIDP has come at an opportune time. Our major Development Partners and multilaterals are now talking and promoting the development of infrastructure and this is seen in the context of the imperatives that are laid down by global commitment such as the millennium development goals (MDGs), the Global Climate Change and variations, the results of which we already experiencing in our region and the other regions of the world like Europe and the Americas. We should capitalize and take advantage of this favourable mood and be ready to meet the challenge and the current interest in this area.

The SADC Summit of Heads of State and Government will this year focus its discussions on accelerating the implementation of infrastructure that will facilitate and fast track the regions achievement of its goals of regional and economic integration and poverty reduction. A brainstorming session has been organized in which the Summit will look at sectors of infrastructure

such as water, energy, transport, Communication and ICT. It is therefore important that the outcomes of this seminar and your recommendations informs this deliberations and brings forward the contributions that water can make in this big equation. We should also stand ready to implement the decisions and directives that are likely to come out of the highest body of our regional organization, the Summit.

Your efforts in the next three day will need to contribute towards the achievement of a lot of sub-regions targets within the water program, as outlined, for SADC in the RISDP. The two most relevant targets that will definitely be addressed meaningfully by RSWIDP programme are: "Halve by 2015 the proportion of people without access to safe drinking water and sanitation services" and "Develop by 2015 water resources infrastructure needed to double land under irrigation."

I would like to bring to your attention that what we will be discussing in the next three days will be capacity development needs to address the imperatives of water infrastructure that will enable us to do things better and more efficiently taking every one and their respective concerns on board.

I therefore hope that during the coming three days we will together come up with a program that SADC and EAC and AMCOW can promote among our development partners and resources mobilization frameworks such as the NEPAD and others. Of critical importance is that we should be able to determine and agree broadly on the roles and responsibilities of the various players in the implementation of the program especially the role of our respective RECs.

I would like to end my brief remarks by once again thanking you, honourable Minister, for having found time in your busy schedule to be in this very important seminar. I would also like to give special thanks to our cooperating partner Germany represented by InWEnt and GTZ, the Global Water Partnership and UNEP, for giving us resources to make this possible. I will like to also recognize those who were working behind the scene to make this a reality.

I thank you all very much for your attention.

## 1.2 Opening remarks by InWEnt: Dr Thomas Petermann

Thomas Petermann of InWEnt - Capacity Building International Germany, presented the opening remarks on behalf of the organisers. He pointed to the fact that integrated management of water resources and especially water infrastructure development in Africa is lagging far behind other world regions. In the light of the decision of African Water Ministers and in consideration of the SADC Regional Water Policy (2006) to build more water infrastructure to enhance social and economic development in Africa he emphasised the need for a commensurate capacity building initiative in order to cope with the challenges associated with infrastructure development that tries to balance social, economic and environmental issues for sustainable outcomes.

Following a brief introduction of InWEnt as an organisation of the German Development Cooperation, entrusted by the German Ministry of Economic Cooperation and Development (BMZ) to design and conduct capacity building programs worldwide, he provided a brief background to the concept of capacity building and capacity development. He asked participants to give, at the end of the seminar, the organisers a mandate to develop and implement a capacity building programme for major water infrastructure development based on the recommendations of this seminar. The following is the summary of his presentation:

There is a partnership amongst InWEnt with UNEP, GTZ and GWP to support capacity development and -building initiatives because these partners view themselves as 'development partners' to support AMCOW, NEPAD, SADC and EAC. There are many challenges as there are opportunities facing the water sector. Some of the challenges are associated with global climate change; others are related to water scarcity and lack of sufficient services to water users due to shortfalls in water resources management that can support rural and urban livelihood and hydro-energy for economic development in the region. However opportunities in these areas have not been fully explored and exploited. Poverty reduction, wealth and integrated water resources development would require large funding schemes to invest in water infrastructure. Therefore, there is a need to move beyond political

rhetoric and address the implementation vacuum. However some of the challenges that might be experienced are the weak role of the private sector and civil society as a whole, resulting in a lack of effective participation mechanism and poor communication between actors, etc.

Africa needs to explore storing water for multi-purposes like Europe did, with 70% of its water storage potential being used for energy, water supply etc. A key challenge that needs to be addressed to get Africa ready for water storage for multi purposes is capacity development (CD) at all levels of decision making and management. The results of the CD framework are tangible "impacts", that can be defined by Outputs - Outcomes - Impacts. This framework looks at both capacity development (CD) and capacity building (CB).

- CB of individuals encompasses building competencies for individuals to act in their jobs wisely and responsively with regard to social, methodological and subject related dimensions. CB improves awareness-knowledge-skills.
- CD is a process whereby organisations and society as a whole strengthen, create, adapt and maintain capacity over time. Also it includes institutional, legal, regulatory frame.

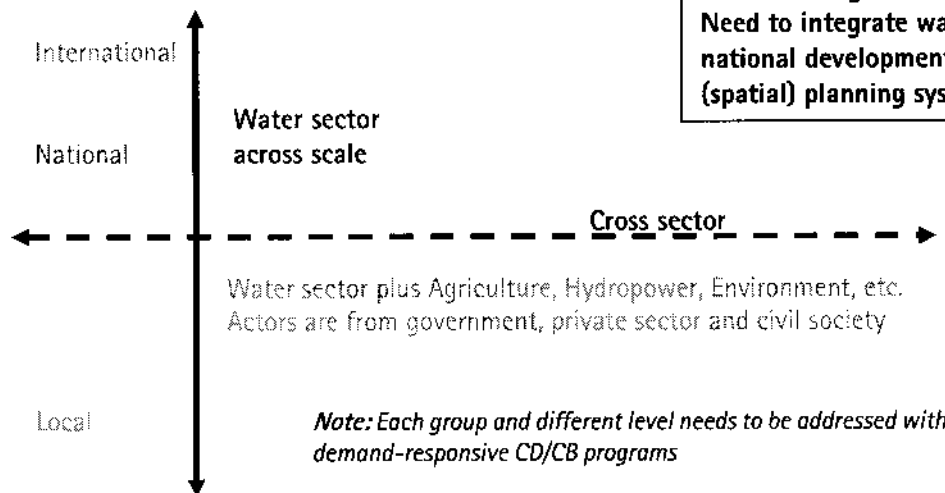
It means addressing actors at different levels like:

- o Decision makers; Parliamentarians; policy level actors; local government, RBO and regional organisations
- o Practitioners, sector specialists in government and private sector
- o Local communities including water user associations or groups
- o Advocates, observers like research and professional associations, NGOs, Media, development partners and UN-Organisations.

CB issues identify and prioritise key topics (to be defined) for better decision making related to:

- o Awareness: water governance issues, transparency, accountability and cross-sector, and others
- o Knowledge and technology options
- o Managerial skills: to improve capacity to act

CD dimensions are made up of:



**Cross-Cutting Governance:**  
Need to integrate water management into national development planning and local (spatial) planning systems

The possible outcomes of a CD programme are:

- 'Decision-making process' for major infrastructure is balancing the economic-environmental and social aspects through engagement by employing transparent participatory approaches.
- Good practices in planning, building and managing major water infrastructure are applied
- Stakeholders from different levels are empowered to perform in the decision-making process
- A 'multiplying effect' (with in-house training or external trainers/facilitators) is in place to initiate a sustainable, self driven CB - process

The supporting 'development partners' see the objectives of the workshop as being:

- To get the mandate from key stakeholders to design and implement a capacity building development programme

- Get guidance on major issues (topics), methodology and main target groups for CD to major water infrastructure development
- Promote the UNEP Dams and Development Compendium concept to balance economic-environmental- social aspects in decision making for sustainable outcomes (following IWRM principles)

The current partnership of UNEP, InWent, GTZ, and GWP is not exclusive and other partners are welcomed to create more synergies. Mr. Petermann concluding remarks were "Major water infrastructure and development and especially dams is a highly controversial subject; in some cases positions will remain unchanged between different interest groups or between government and parts of the civil society; then we may conclude: *Let us agree to disagree*". However this seminar aims to identify technical and managerial options and tools for planning and decision making to develop major water infrastructure to the benefit of all water resource users.

### 1.3 Opening remarks by AMCOW: Mr. Reginald Tekateka

Mr. Reginald Tekateka, a Member of the AMCOW Technical Advisory Committee (TAC) presented the opening address on behalf of AMCOW the speech is as follows:

*Honourable Minister of Natural Resources and Energy,*

*Cooperating Partners,*

*Representatives of the Regional Economic Communities of East and Southern Africa,*

*Distinguished delegates,*

*Ladies and Gentlemen,*

*It is a great honour to stand before you and to make a few remarks on behalf of the African Ministers Council on Water, at the opening session of this important seminar on Major Water Infrastructure Development. We owe much gratitude to the Kingdom of Swaziland for having agreed to host this seminar and to allow us to use the magnificent Maguga Dam as a case study. We are particularly indebted to you, Honourable Minister, for having given so generously of your time to be with us here today. It is a particularly happy occasion for me to be back in Swaziland after having spent several years of my youth as a high school student in this beautiful country. I can certainly attest to the fact that the warm welcome we have been accorded since our arrival is consistent with the well known tradition of hospitality of the Kingdom of Swaziland.*

*The African Ministers' Council on Water (AMCOW) was formed in 2002 in Abuja, Nigeria and brings together all African Ministers responsible for water. The main purpose of AMCOW is to provide political leadership, policy direction and advocacy in responding to the broad range of challenges facing the African water sector, and in pursuit of Africa's quest to achieve the Millennium Development Goals (MDG's) and WSSD Targets for Water and Sanitation, and the development of IWRM and Water Use Efficiency Plans. The emergence of AMCOW should be seen within the broader continental context that lay behind the replacement of the Organisation of African Unity, whose primary aim had been the political liberation of the African Continent; and its replacement with the African Union, with its emphasis on regional economic and political integration. This new alignment also recognised the importance of partnerships that respected Africa's desire to be master of its own destiny in an increasingly interdependent world. The New Partnership for Africa's Development (NEPAD) was to be the new framework through which Af-*

*ricans were to take charge of their destiny while benefiting from the experience of other regions.*

*The stark realities confronting AMCOW at its formation were, as we all know, daunting, to say the least. These included a highly variable regional climate that is prone to extreme events such as drought and floods; unpredictable rainfall patterns; a preponderance of trans-boundary rivers, all with high strategic importance for the countries they traverse; extremely low utilisation of the renewable resource throughout the continent.*

*The main challenges for AMCOW were fourfold, namely:*

- 1. Meeting basic needs in terms of water supply and sanitation;*
- 2. Securing food supply, protecting ecosystems and managing risks;*
- 3. Promoting water governance through sharing water resources;*
- 4. Ensuring the knowledge base and valuing and allocating water.*

*To achieve these, AMCOW sought to:*

- o Create an inclusive platform for consultation and the sharing of sector knowledge and experience*
- o Promote integrated water resources management at national, sub-regional and continental levels*
- o Establish collaborative frameworks and build capacity for the management of transboundary waters*
- o Develop the resource for food and energy security*
- o Establish and maintain effective partnerships*
- o Maintain close collaboration with water user and water influencing sectors*
- o Prioritise water in national development plans*

#### **Institutional Structure of AMCOW**

*The institutional structure of AMCOW consists of the Council, which is made up of all African Water Ministers. Council meets at least once every two years. Responsibility for the management of the affairs of AMCOW in the intervening period lies with the Executive Committee, with a membership of 15 drawn equally from the five AU regions. AMCOW- EXCO is supported by the Technical Advisory Committee (TAC), consisting of 25 water sector officials drawn from member states, also with equal regional representation.*

The Chairman of AMCOW, the membership of AMCOW EXCO and AMCOW TAC, are rotated every two years at the occasion of AMCOW's two yearly Ordinary Session. The Secretariat of AMCOW is headquartered in Abuja, Nigeria.

#### **Major Global and Regional Events**

In the five years of AMCOW's existence, there have been several significant global events including, in particular, the World Summit on Sustainable Development (WSSD), the 3<sup>rd</sup> and 4<sup>th</sup> World Water Forums, the United Nations Commission on Sustainable Development (CSD) and in particular its 12<sup>th</sup> and 13<sup>th</sup> Sessions, and, to a lesser extent, the Stockholm Water Week. These have been important events for AMCOW's interaction with the global water sector, thus exposing AMCOW to global developments and thinking, particularly in the area of water governance and policy. They have also provided AMCOW with the opportunity to articulate Africa's case and ensure its wider appreciation.

In the year 2000, two years before AMCOW's launch, 25 African Ministers responsible for Water took part in the launch of the African Water Vision 2025, at The Hague on the occasion of the 2<sup>nd</sup> WWF. What was remarkable about the formulation and development of the African Water Vision was that it was the result of a partnership between civil society and governments to develop ideas through broad-based consultation on a multi-stakeholder platform. This was certainly the case in the SADC region where a comprehensive consultative process took place led by the Global Water Partnership, under the auspices of SADC. That Water Vision continues to serve as the light house for water governance for the African Water Sector today.

On the African Continent, the significant events that have continued to mould Africa's approach to water governance have included:

- The launch of the NEPAD Infrastructure Development Programme in July 2002, which underscored the critical importance of infrastructure development in the economic integration programme of the African Union. Of particular significance was the inclusion of the Water Sector in the Short Term Action Plan (STAP) and the Medium to Long-term Strategic Framework, alongside the Energy, ICT and Transport sectors
- The Pan African Implementation and Partnership Conference that took place in Addis Ababa in December 2003. As the title suggests, this conference saw the launch of several important partnerships for the African water sector. Significantly, the meeting identified the need to organize African civil society in the sector so as to facilitate and formalise its interaction and partnership with AMCOW. This led to the establishment of the body known today as the African Civil Society Network on Water Supply and Sanitation (ANEWS).
- The Extraordinary AU Summit on Agriculture and Water held in Sirte, Libya in February 2004, formally recognised AMCOW's political custodianship of Africa's water resources and initiated the process towards AMCOW's recognition as a Specialised Technical Committee of the AU. It also provided some guidelines on the management and sharing of trans-boundary rivers - including through the conclusion of river basin agreements; and called for the development of appropriate water infrastructure. Most significantly, the summit also firmly established the importance of inter-sectoral collaboration for development.
- The Ministerial Conference on Hydropower and Sustainable Development brought together 34 African Ministers responsible for Energy and Water that took the bold step of committing to sustainable hydropower development to meet Africa's development needs, while also strongly affirming the broad range of widely recognised sustainability principles.
- The conference on African River and Lake Basin Organisations that took place in Kampala, Uganda, responded to the call of the African Union for the establishment of a continental body to coordinate African RBO's under the auspices of AMCOW. The conference upheld the African Network on River and Lake Basin Organisations (ANRO) and recommended a series of amendments of ANRO statutes, reflecting an African allegiance as opposed to a hitherto global one. ANRO at its General Assembly held in Johannesburg in March 2007, adopted the new statutes.
- The 6<sup>th</sup> Ordinary Session of AMCOW decided to establish a Multi-stakeholder Forum that would bring together, among other bodies, ANEWS, ANRO, GWP-Africa. It also,
- underscored the need to strengthen water governance and coordination structures at sub-regional level and in particular through REC's;
- called for a response-strategy to Climate Change;
- emphasized the need to mainstream ground water in fresh water resource assessment.

### Partnerships

Partnerships that have had a significant impact on AMCOW's work include:

- UN-Water /Africa- through which the various UN agencies active in the sector have lent their respective specialist competencies and assisted in catalyzing relations with other sectors;
- The European Union, through the EU Water Initiative
- The G-8 Action Plan on Water for Africa- in transboundary waters governance and capacity building support. The leadership role of the Federal Republic of Germany is worthy of mention in this regard;
- The African Development Bank plays host to important Water Sector initiatives including the African Water Facility, its own Rural Water Supply and Sanitation Initiative, the AMCOW Monitoring and Evaluation Programme, and provides technical oversight for the NEPAD Infrastructure Programme, among others;
- The World Bank through the Water and Sanitation Programme and the Global Environmental Facility;
- An increasingly important role is being played by the United Nations' Secretary General's Advisory Council through its high-level support for AMCOW.
- Other increasingly important partners include the GWP, ANEW and WSSCC.

### The Way Ahead

At its 6<sup>th</sup> Ordinary Session in Brazzaville, Republic of Congo, AMCOW took decisions that clearly reflected its desire to:

- Enhance the water Sector's support for regional integration;
- Consolidate AMCOW's governance structures and support mechanisms;
- Consolidate existing partnerships and create new ones as necessary;
- Monitor and keep under review implementation of the MDG's related to Water Supply and Sanitation
- Specifically, AMCOW has identified the need to develop structured partnerships with the private sector, African parliamentarians and the African media.
- AMCOW has agreed to, among other things, engage in high level interaction with its European partners in a Water Policy Dialogue Forum aimed at increased mutual accountability for commitments made.

- AMCOW has decided to establish a multi-stakeholder forum bringing together civil society, GWP, ANBO among others, in a consultative forum.
- To endeavour to hold member states true to their responsibility to make financial and in kind contributions to ensure the sustainability of AMCOW and its programmes

### Infrastructure Development

The African Ministers responsible for water resources fully associate themselves with, and support the African Union's drive for regional integration. They see as an important feature of this the infrastructure development drive of NEPAD. Indeed the statistics showing the huge infrastructure deficit in Africa illustrate the need for urgent action. Africa's storage capacity is hardly comparable to that of the developed world. The often quoted figure is that of 43m<sup>3</sup> per capita storage capacity for Ethiopia, compared to over 6000m<sup>3</sup> per capita storage in North America. Many of us will have seen the table that illustrates the shock impact of floods on the economy Mozambique and of drought in Zimbabwe at the turn of the decade. We also know that Africa has only achieved irrigation coverage of less than 20% of its potential; while less than 5% of the estimated 1.4million GWP hydropower potential is currently developed.

For AMCOW therefore, the issue is no longer whether water infrastructure is required to attenuate the effects of floods and drought; to generate the necessary power for industrial, economic and social use; to irrigate sufficient agricultural land to secure the continent's food supply; or to provide access to clean water supply and sanitation for the continent. The issue now lies with whether the decisions and choices we make with regard to the options available are appropriate, sustainable and optimal. This new resolve is clearly illustrated by the outcomes of the Johannesburg Ministerial Conference on Hydropower and Sustainable Development of March 2006.

The seminar that begins today is therefore seen by AMCOW as an important contribution to the implementation of the Plan of Action of the Johannesburg conference. The broad stakeholder participation of this seminar is in line with AMCOW's conviction that the solution to the challenges of the water sector lies with all who use water. That water is indeed everybody's business! It is also worthy of note that this event is designed to facilitate an exchange of experiences between sub-regions, using as a case study a recent and living example of water infrastructure built in Africa by Africans.

*We are challenged to develop guidelines to create the human, institutional and systems capacity to adequately address the infrastructure development challenge. AMCOW remains convinced of our collective ability to rise to the occasion. Let us therefore use this unprecedented opportunity to apply our minds collectively, and generate con-*

*structive ideas to guide Africa's urgent quest to achieve the millennium development goals for the benefit of current and future generations.*

*I thank all very much for your attention.*

#### ***1.4 Official opening: Honourable. Dumsile Sukati (Minister of Natural Resources and Energy, Kingdom of Swaziland)***

Following the opening remarks on behalf of AMCOW, the Under Secretary in the Ministry of Natural Resources and Energy in the Kingdom of Swaziland, Mr. Bremer Nxumalo, introduced the Honourable Dumsile Sukati, Minister for Natural Resources and Energy in the Kingdom of Swaziland, who officially opened the seminar. The following is the speech:

*Representative of AMCOW  
Representative of East African Community (EAC)  
Representative of SADC Secretariat  
Representative of NEPAD  
Cooperating Partners and Organisers  
Distinguished Guests  
Ladies and Gentlemen*

*It gives me great pleasure and honour to welcome you to the Kingdom of Swaziland. The African continent is blessed with a huge diversity in its regions, its peoples, landscapes and climates. This diversity and range has built resilience and contributed to adapting to changing world trends. Coupled with this diversity is the fact that the climate of the continent is highly variable. Both in terms of time and space. We are confronted with extremes – floods followed by droughts not being uncommon. Some areas consistently receive good amounts of rainfall – making possible the production of rainfed crops. Other areas of Africa are virtually deserts – with only limited agricultural possibilities.*

*Thus it has been necessary to conserve available water resources – holding back quantities of water during times of plenty in anticipation of what lies around the corner. The ability to harness the water supplies of our continent, in a sustainable and equitable way has thus become a cornerstone of the continued economic development of the African region. This natural variability has in recent years been compounded by a factor of man's doing – climatic change. Although this phenomenon is not yet entirely understood, what is known is that the decision-making and planning structures of yesterday will not serve the reality of tomorrow. We need to factor in the changes in*

*climate, hydrology, runoff and water use into our planning frameworks.*

*For this reason there is an increased focus on developing water infrastructure in Africa as an important measure of underpinning the diverse development efforts of the continent aimed at meeting the Millennium Development Goals (MDGs), reducing poverty and improving the general standard of people. According to the well-known principles of sustainable development, water has become an embodiment of "our common future" – linking us across social, economic and political borders into shared development trajectories. Any solution or response to water scarcity thus has to be viewed in terms of its long term sustainability – both in environmental as well as social terms.*

*The "Abuja Ministerial Declaration on Water - a key to Sustainable Development in Africa" in April 2002 marked the launch of the African Ministerial Council on Water (AMCOW), a major step forward in forging region-wide collective action for sustainable development and paving the way to achieving the Africa Water Vision 2025. Under the auspices of AMCOW, the 2003 Pan-African Implementation and Partnership Conference addressed the implication of the outcomes of the World Summit on Sustainable Development (WSSD) for regional water initiatives, as well as the continent's role in the implementation of the Summit's outcomes. Development of water infrastructure featured prominently in the outcomes of the Conference.*

*The Sirte Declaration on Agriculture and Water of the 2004 Assembly of the African Union called for governments to "Develop and promote water resources through support to infrastructure projects, including the construction of dams and canals, sinking of wells and providing irrigation equipment". The declaration emphasized the need to undertake the development in an environmentally and socially sustainable way.*

*NEPAD, under the African Union (AU), has prioritized water resource management and has moved forward with the support of the African*

Development Bank to develop the NEPAD Short Term Action Plan (STAP) on Water, Energy, Transport and ICT infrastructure. It urges the regional economic communities to enhance their capacity to support regional water initiatives. In so doing, NEPAD emphasises the need to address properly environmental and social issues based on thorough Environmental Impact Assessments of proposed infrastructure developments.

At international level, there has been growing support for the development of water and energy infrastructure in Africa and other developing regions as illustrated by the Declaration of the Beijing Conference on Renewable Energy (2004), the Ministerial Declaration at the 4<sup>th</sup> World Water Forum (2006), the G8 Summit of 2005 and the establishment of the Infrastructure Consortium.

Against this background, the African Ministerial Conference on Hydropower and Sustainable Development (March 2006 in Johannesburg, South Africa), attended by Energy and Water Ministers from the continent, explored developing "a holistic and integrated development strategy to meet Africa's growing demand for water and energy through sustainable hydropower, while maintaining assets".

The Conference Action Plan adopted a series of actions to ensure adequate consideration of environmental and social issues alongside economic aspects. Key amongst these was capacity building. The timing of this seminar is thus opportune, as it builds on the previously mentioned declarations and policies and moves towards their implementation. I feel honoured by the fact that the convenors, SADC, EAC, AMCOW and NEPAD; have chosen to hold this important event in the Kingdom of Swaziland. Of significance is the symbolic importance of having both the East African Community as well as the Southern African Development Community col-

laborating on such important matters. This harmonisation of policy and exchange of ideas bodes well for the future common development goals of the African continent.

I am particularly grateful for the input and support of the development partners and organisers (InWent, UNEP, GWP and GTZ) involved in the successful planning and implementation of this seminar. We look forward to their continued support beyond this event – moving into the all-important implementation phases. Finally, I welcome the participants from the east and southern African regions, and indeed others from outside these regions, who have taken time out of their busy schedules to attend this seminar. I thank you for your dedication and commitment to forging sustainable solutions to our common challenges.

The Kingdom of Swaziland is engaged in a drive to develop dams to harvest flood water and avail more water for poverty reduction and economic development. As Swaziland is a landlocked country, all water resources are shared, hence the Maguga Dam is an example of the Kingdom's commitment in good cooperation in transboundary Water Resources development and management with her neighbours.

I wish you fruitful deliberations and I look forward to receiving the outputs of the seminar and would like to commit my support to the implementation of your recommendations. On behalf of the people of the Kingdom of Swaziland I invite you to enjoy our hallmarks of hospitality and natural beauty while at the conference venue as well as during your field trip to the Maguga Dam area. Please make yourself at home while visiting with us and do not hesitate to contact me if you need any assistance!

### **1.5 Vote of thanks: Mr. Washington Mutayoba**

*Vote of thanks to the Minister was delivered by Mr. Washington Mutayoba (Director Water Affairs, Tanzania):*

Mr. Mutayoba expressed his appreciation to be invited to give the vote of thanks to the Ministers. He stated that take the opportunity with great pleasure to wholeheartedly thank the Minister for taking time out of her busy schedule and give the seminar participants guidance with her very insightful opening remarks. He mentioned that as he flew over southern Africa (and particularly Swaziland) he noticed that the countryside is

empty and brown, indicating that infrastructure is needed to green the country, giving the participants a direct example of the need for the seminar and to develop sustainable solutions for infrastructure development. He thanked the Minister for inviting the participants to sample the hospitality of the people of Swaziland and committed that, as requested, the participants will pass on the recommendation from the seminar to the Minister. In concluding he once again thanked the Minister for her political support.



## *Session 2: Key note address*

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The key note address was presented by Mr. Mike Muller of GWP-TAC.

Mr Muller emphasised the urgent need for water infrastructure development in Africa and pointed out the high opportunity costs of non-development, using examples from South Africa. He pointed out that due to the long planning horizon for infrastructure development urgent action is needed now, particularly after the '90's had been a stagnant decade as far as infrastructure development is concerned. He pointed to the new opportunities for infrastructure development as a result of IFIs giving up their reluctance to fund infrastructure projects on the one hand and increasing availability of Chinese funding for infrastructure development. With respect to the criticism that Chinese funding agencies do not apply strict safeguards for social and environmental aspects, he pointed out that it should not be considered to be a Chinese problem if Africans chose to disregard social and environmental concerns. He emphasised that it is an African responsibility to ensure that these concerns are addressed – the seminar is a part of a process to meet that responsibility.

He pointed out that water has many other economic benefits. For example industries like mines, breweries need reliable water for their production; services like tourism can be negatively impacted if water is not reliable; hydro-power is important in driving the economy of many countries and countries like Malawi, Ghana, Uganda and Tanzania are feeling the impact of lack of this type of development. Domestic and commercial users also require reliable and good quality water. In terms of looking at the cost incurred with construction of dam and the costs without it Mr Muller argued that the latter is far more costly. He urged participants to write up case studies that demonstrate the opportunity costs of the absence of a water infrastructure. Mr Muller stated that not enough water infrastructure was developed in the 1990s and the costs of that is felt much later through water shortages that are plaguing most of the African states. He mentioned that African states' economies and electricity demands are growing therefore decisions that support this growth in the water sector needed to be made sooner. Much as there were external pressures from lobbyists about the concern for the environment during construction of major water infrastructure developments, as well as those who used the construction of dams to demonstrate poverty and marginalisation, Afri-

can states also missed an opportunity to engage in the debates and demonstrate the opportunity costs of lack of major water infrastructure. He mentioned that it is important for the domestic political cycle to be borne in mind because the duration of the major water infrastructure development often does not fit into the political cycle. It is the governments' responsibility to determine the policies and priorities of the country than want to leave it to donors. The governments need to be technically able and politically prepared to counter one sided positions in order to avoid learning the lessons too late. However the 21<sup>st</sup> century brought in opportunities and challenges with the WCD being set up, World's Bank Water Resource policy, NEPAD's Comprehensive African Agricultural Development Programme, aid effectiveness the global source boom, China as an investor and climate change.

In terms of the World Bank, Mr Muller highlighted that Africa is still dependant on donors' policies and approaches; and this needs to change by African states engaging with these. The World Bank needs to engage with the WCD and move towards committing together with its agencies to financing water infrastructure again, with challenges in Africa receiving special highlighting. NEPAD's Comprehensive African Agricultural Development Programme is an important programme but without water it will not meet its desired outcomes. African countries need to work with the changing terms of donors and spend money for the intended purposes as here is growing impatience to the contrary. China's economic growth needs to be used to an advantage through means like adopting China as an economic partner because it is willing to support African infrastructure programmes and offer financing on a set of different conditions than the usual multi-laterals. The threats to climate change needs to be geared towards adaptation than just mitigation by using water as an adaptation strategy and energy for mitigation. Even in the new century it is important to consider old strategies like governance, management, finance, environmental and social issues, building alliances with serious partners. Concerns around major water infrastructure have to be addressed like their social impacts on displacing poor people. However there are opportunities to be taken advantage of, for example the Chinese model moved beyond looking at water infrastructure for water but thought of other things like transport links, power, flood protection and only last thought of water transfers. Water development

becomes relevant if it is recognised that it is important for development but does not lead it. Water planning needs to be aligned with national, local development planning and it needs constant reflection. Water planning needs to be done with IWRM principles in mind.

In conclusion Mr Muller emphasised that there are opportunities to unlock water's potential to contribute to Africa's development. Africa has to use its experiences and lessons of the past two decades. There is a need to understand the environment we are working in by understanding the external forces, understand political cycle, work with other sectors in our countries. Then using water resources development countries will be able to achieve their goals.

**Comments:**

Two comments were raised in response to the presentation:

- It was pointed out that there have been in the past and are currently serious issues of injustice and disregard for social concerns related to water infrastructure projects, which need to be addressed. The speaker also pointed out that poverty is indeed an African problem but in addressing it one should not only focus on income poverty only but also on intellectual poverty (e.g. displacement and associated loss of a sense of belonging), which, according to the speaker, could change the parameters when assessing the options for infrastructure development.
- Another participant re-iterated the need to look at the issues more holistically and to learn from our experiences in the past and find the balance between the different aspects.

### ***Session 3: Dams and development***

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*Note: All PowerPoint presentations will be made available on internet [www.gc21.inwent.org/nrm-nef](http://www.gc21.inwent.org/nrm-nef)*

#### **1. Presentation Dr. Ola Busari: NEPAD and the development of Water Infrastructure in Africa**

Dr. Ola Busari from the Development Bank of Southern Africa provided an overview of the NEPAD Infrastructure Programme, the NEPAD Infrastructure Project Preparation Facility (IPPF) as well as the strategic partnership with the EU

and other multilateral partnerships that support infrastructure development projects in Africa. He further gave an overview of the Medium-to-Long Term Strategic Framework of NEPAD and the Key Sustainability Challenges it faces.

#### **2. Presentation ARN: Geoffrey Kamese**

Mr Geoffrey Kamese presented the African Rivers Network perspective on major water infrastructure development in Africa. Conceding that water infrastructure development projects in Africa are needed to reduce poverty and increase access to safe water and sanitation he illustrated the challenges faced by civil society to be included

in decision-making processes in the planning and implementation of many large dam projects. He proposed to make efforts for greater transparency, open sharing of information and meaningful inclusion of stakeholders in infrastructure development projects.

#### **3. Presentation GTZ: Anne Cramer**

Ms Anne Cramer, after providing an overview of the role of GTZ and its activities worldwide and Africa in particular, presented the GTZ perspective on major water infrastructure development. It was pointed out that GTZ, in line with the policy of the BMZ on large dams, does support large

dams as a development options provided strict social and environmental criteria are met in the planning, construction and operation of dams. In this context she pointed out that initiatives, which contribute to meeting these standards, such as the seminar, can count on GTZ support.

#### 4. Presentation UNEP: Alberto Calcagno

Dr. Alberto Calcagno gave an overview of the UNEP experience from the DDP and the Compendium on Major Water Infrastructure development: "Dams and Development - Relevant Practices for Improved Decision Making" (UNDP 2007). He presented some detail of the structure and the key components of the compendium as well as the strategic programmatic approach it

proposes. He concluded with providing an overview of the UNEPs expectations from the seminar.

Downloadable version of the handbook [www.unep.org/dams/includes/compendium.asp](http://www.unep.org/dams/includes/compendium.asp)  
Related DDP documents: [www.unep.org/dams](http://www.unep.org/dams)

### ***Session 4: Technical topics presentations***

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*Note: All PowerPoint presentations will be made available on a CD and internet [www.gc21.inwent.org/nrm-net](http://www.gc21.inwent.org/nrm-net)*

#### 1. Options assessment: Tinashe Nhete (Practical Action)

Mr Tinashe Nhete provided an overview of the role of options assessment for infrastructure de-

velopment as well the key elements and factors affecting options assessment.

#### 2. Affected communities (Bujagali case): Prof. Afunaduula

Prof. Afunaduula presented the case study of the proposed Bujagali dam in Uganda and the experiences made by the affected local communities, concluding with lessons learnt from the Bu

jagali case which can possibly guide the implementation of other dam projects in Africa.

#### 3. Environmental Management plans: Arnold Waiswa

Mr. Arnold Waiswa from the National Environment Management Agency (NEMA) in Uganda provided an overview of the role of Environ-

mental Management Plans: general principles contained in them, preparation, implementation and monitoring of EMPs in practice.

#### 4. Ecosystems approach: Hillary Masundire

Dr. Masundire presented the concept of the ecosystems approach, its conceptual framework guiding principles and some critiques to the ecosystem approach. He thereafter linked the application of the ecosystems approach to major water infrastructure development, concluding that it offers an enabling framework for designing, build-

ing and utilisation of MWI in an environmentally sustainable manner. Dr. Masundire concluded his presentation with an overview of perceived capacity gaps and required capacity building needs for the optimal utilisation of the ecosystems approach in MWID.

#### 5. Benefit Sharing: Vincent Roquet

Mr Vincent Roquet introduced the participants to the concept of benefit sharing and the need for its application in dam projects. He stressed the need for economic rents being generated through dam projects, parts of which need to be used for (in the form of compensation) for benefit sharing with affected communities. Mr. Roquet presented

a number of benefits sharing case examples from different world regions and concluded that the key to effective benefit sharing is to move from a conflicting to partnership relationship between the various role-players through the equitable sharing of the benefits of dam projects.

## 6. African Development Bank, AfDB, by Mike Salawou

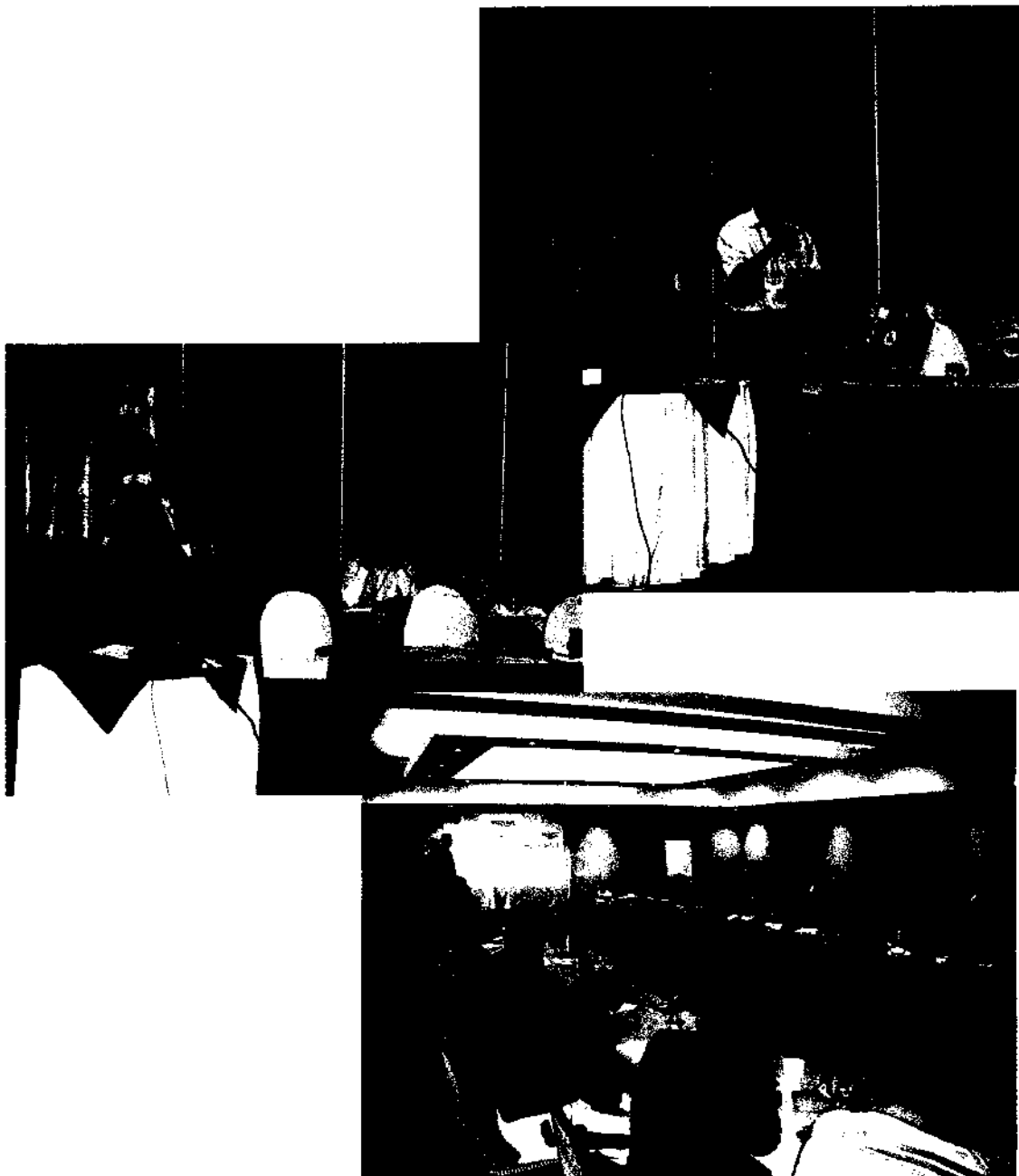
Mr. Mike Salawou of the African Development Bank presented an overview of the NEPAD infrastructure programme and further detail of the Infrastructure Project Preparation Fund (IPPF), particularly how the latter can assist in develop-

ing capacity building activities related the MWID. He pointed out that the ADB is looking forward to having a clearer idea after this seminar of potential capacity building initiatives for MWID which can be supported by the IPPF.

### Comment:

Mr. Tekateka, representing AMCOW, expressed his appreciation of the ADBs position on and support to capacity building. He indicated that it would be a good sign if the ADB could indicate its availability to play a role in capacity building

and convey the message that Africa is developing its agenda for dealing with the various aspects related to MWI projects. Mr. Salawou expressed his intention to take this message to Tunis for further discussion.



## ***Field Trip to Maguga Dam site (KOBWA)***

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The field trip consisted of three main elements:

- Guided tour of Maguga dam and related constructions
- Presentations and group work discussions
- Visit to the resettled community and agricultural project

### **1. Guided dam tour**

Mr. Enock Dlamini from KOBWA as well as Mr. Twala from the Swaziland Electricity Board showed the participants the Maguga dam infrastructure, i.e. dam wall, hydro-power station and extension weir. The purpose of this guided tour was to point out how the element of multi-purpose use of dams has been integrated into the design of the dam. The power station is used only for peak hour generation. Water releases for peak hour generation are higher than those required for environmental flows and irrigation downstream. The recently completed extension weir al-

lows to capture the water released for peak hour hydro-power generation and to release it at a slower rate (during the day and over the weekend when there is no power generation taking place), meeting the demands for environmental flow and irrigation more accurately. The combined release structures thus prevents that water released for hydro-power generation is lost and ensures a more accurate implementation of environmental flow requirements and delivery of water to irrigation projects downstream of the dam.

### **2. Presentations and group discussions at Maguga Lodge**

After the guided tour of the dam the participants met at the Maguga Lodge Conference Centre. Following an overview presentation of the Maguga dam project by Mr Enock Dlamini the participants split into two working groups in order to discuss presentations and discussions of the KOBWA experience. The groups were:

- Affected communities (resettlement issues) and environmental issues, and
- Economic issues

#### **Group 1: Affected communities/ resettlement issues**

A key aspect of the discussions in this working group was the resettlement programme that was implemented in connection with the building of Maguga dam. The building of Maguga dam required the resettlement of a number of people formerly living in the now inundated areas. KOBWA, in close cooperation with the affected communities, has developed an innovative resettlement project that led to high levels of buy-in from the communities and created increased welfare and economic opportunities for the communities. Participants discussed the case study examples in the light of the working group discussion of Day 1 and tried to identify lessons learnt that can be included in the seminar outputs.

The second main topic for this group were the environmental management aspects related to the planning, construction and operation of Maguga dam such as applicable environmental legislation, the institutional framework for implementation and practical measures taken on the ground for the implementation of environmental flows (on a transboundary basis) and other environmental requirements.

Mr. Dlamini provided an overview of how resettlement aspects and environmental issues had been included in the planning, construction and operation of Maguga dam and the Komati system. He illustrated the environmental requirements that have to be adhered to and the institutional mechanisms through which environmental and resettlement aspects have been implemented. A key recommendation from the Maguga dam experience is to include stakeholders meaningfully from the beginning, ensure transparency and plan and implement the project meeting the objective that "everyone needs to be better off", an aspect that needs to be factored into the project costs from the beginning of the planning stage.

#### **Group 2: Economic issues**

Mr Chris Keevy (KOBWA CEO) provided an overview of the economic aspects of the Maguga

dam project, the economic and social water needs that led to the decision to build Maguga dam and illustrate how accounting for the different water use needs (e.g. irrigation, hydropower generation, domestic use, tourism development) is integrated into the management of the dam operations.

In a second presentation Mr. Moses Vilakati from the Swaziland Water and Agricultural Development Enterprise (SWADE) provided an overview of the agricultural development activities supported by SWADE. The SWADE projects are a di-

rect result of the Maguga dam project since the irrigation water used has only become available through the Maguga dam project. Mr. Vilakati illustrated the capacity building activities of SWADE at grass-roots level (e.g. farm management skills, budgeting and marketing skills), which complement the Maguga dam project as far as rural agricultural development is concerned.

### 3. Visit of resettlement community and agricultural development project

Split into the two working groups formed during the morning sessions the participants drove through the resettlement area to see the houses and agricultural areas now occupied by the resettled community.

The resettlement/ environmental issues group visited the resettled community and met community members for questions and discussions about their experience with the resettlement project.

The economic issues group visit a SWADE agri-

cultural development project and met with beneficiaries of the project (i.e. members of the local farmers association) and SWADE project managers for questions and discussion about the project.

The visits to the resettled community and the agricultural development projects concluded the field trip and participants returned to Lugogo Sun Hotel in Ezulwini Valley.



## *Group work round one report back: Issues and challenges*

### *Session 5: Group work*

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An introduction of working group methodology was facilitated by Mr. Anton Earle of ACWR. He gave the following as instructions for the group

work. Participants need to split into 5 working groups – each group dealing with one of the technical topics:

- **Macro-economic benefits of major water infrastructure development**
- **Options assessment**
- **Affected communities**
- **Environmental issues**
- **Benefit sharing**

A set of group work questions was provided by the organisers (see below) as proposed guidelines for the group work – groups were however free to

change or add to the set of questions as found appropriate. The instructions for the group were as follows:

*Aim:*

To discuss in-depth the various issues associated with major water infrastructure development;

*Outputs:*

- Identification of key issues and challenges associated with the developments of MWID
- Definition of guiding principles in dealing with issues and challenges identified

*Methodology:*

- Split into 5 groups as chosen
- Each group moves to a room next door and chose a venue
- Participants introduce themselves
- The Chair (resource person) introduces the topic
- Agree on a set of questions to discuss (Add or modify those suggested)
- Discuss until 17h30
- Groups continue discussing informally in the evenings and during the field trip
- Gather observations during the field trip to help you answer the questions
- De-brief sessions (informal) after fieldtrip (share experiences)
- Reconvene Friday morning and develop presentations until 10h00
- Each group report back in plenary from 10h00 – 11h00 followed by discussions

The morning session started with the participants meeting in their working groups of Day 1 and incorporating the lessons learnt on the field trip into the outputs of day one discussions. This

was followed by the report back of the group work results.

The following pages present the outputs of the group work.

## Group 1: Options assessment

Group one on options assessment identified two main issues and challenges, these were the importance of the exact determination of the need for MWID projects as well as the magnitude level at which the need arises. The second was the recognition of the fact that agreement on all issues between role-players is not possible and that this requires the projects to have clear and transparent processes so as to develop acceptance.

Three levels of needs analysis were identified as regional, national and local. Emphasis was placed on the need to conduct transboundary needs analysis. Stakeholder participation was identified as a major challenge and the reasons advanced were the specialist nature of some issues, which may limit or curb active participation by some stakeholders. The second reason was the levels of disclosure more so in cases where the private sector is involved.

The group noted that for the Maguga dam the options assessment was done without sufficient stakeholder participation and the decision to go ahead with the development was made before (non-government) stakeholders were involved. They also did not view the dam option as selected entirely on a "least cost criteria" basis. The group pointed out that in applying a multi-criteria approach for options assessment there is a need to give equal opportunity for all options to compete.

### **Comments:**

- A participant pointed out that the Maguga dam option was NOT decided purely on a "least cost" basis, environmental issues were also part of the options analysis for Maguga dam.
- It was pointed that in applying a multi-criteria approach for options assessment there is a need to give equal opportunity for all options to compete.

## Group 2: Macro-economic benefits

The group started of by looking at the drivers of MWID and the resultant economic benefits of

such major infrastructure developments. Their findings were as follows;

<p><u>Drivers of MWID</u></p> <ul style="list-style-type: none"> <li>○ Agriculture and food security</li> <li>○ Meeting MDG's</li> <li>○ Economic growth (expanding middle incomes)</li> <li>○ Political expediency (political cycle)</li> <li>○ Security of Supply</li> <li>○ Energy needs</li> <li>○ Disaster management</li> <li>○ Environmental flows</li> <li>○ Climate change</li> <li>○ Risk of not doing anything</li> </ul>	<p><u>Economic benefits of Major Water Infrastructure</u></p> <ul style="list-style-type: none"> <li>○ Security of Supply (and food)</li> <li>○ Agricultural production</li> <li>○ Energy</li> <li>○ Stimulated economic activity and growth</li> <li>○ Tourism, Fisheries, Industry,</li> <li>○ Employment</li> <li>○ Poverty reduction</li> <li>○ Health</li> <li>○ Transboundary cooperation</li> </ul>
<p>The group then developed a list of issues and challenges that arise. These were given as:</p>	
<ul style="list-style-type: none"> <li>○ Risk of not doing anything</li> <li>○ Markets for agricultural production</li> <li>○ Weakness of agricultural sector</li> <li>○ Multi-use strategies</li> <li>○ Traditional view of dams</li> <li>○ Political accountability (political cycles)</li> <li>○ No broad access to media</li> <li>○ Water-sector-to-user-sectors links</li> <li>○ Creating multiplier effects</li> <li>○ Understanding economic growth</li> <li>○ Services to support growth</li> <li>○ Political expediency limits effectiveness</li> </ul>	<ul style="list-style-type: none"> <li>○ Human and institutional capacity</li> <li>○ Catchment degradation</li> <li>○ The "Asian" alternative</li> <li>○ Integration of benefits from micro to macro</li> <li>○ Financing</li> <li>○ Institutional systems</li> <li>○ Governance in widest sense</li> <li>○ Water resource scarcity (some areas)</li> <li>○ Donor dependency, conditionality, bias</li> <li>○ Participation</li> <li>○ Stopping unviable projects because of political momentum</li> </ul>



The strengths and opportunities associated with them were found and listed as follows:	
<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>○ Regional cooperation</li> <li>○ Potential dam sites</li> <li>○ Progressive and aligned water policy</li> <li>○ Knowledge base</li> <li>○ Peace</li> <li>○ Improving technology</li> <li>○ Water resources (a challenge in some areas)</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>○ Reintroduction of MWID to world agenda</li> <li>○ Improved technology</li> <li>○ Low per capita storage volume</li> <li>○ "Asian" alternative</li> <li>○ Regional solidarity e.g. SADC RSIDP</li> <li>○ Globalisation (controversial)</li> <li>○ A shift to adaptation to climate change</li> </ul>
The group then developed guiding principles for dealing with the challenges given the opportunities and the strengths that exist. These are given below as:	
<p><b>Guiding principles</b></p> <ul style="list-style-type: none"> <li>○ Driven by user sectors – so coordinate</li> <li>○ Focus on poverty reduction (wealth creation)</li> <li>○ Multi-use of projects</li> <li>○ Use competitive advantage</li> <li>○ Everyone should be better off</li> <li>○ Follow IWRM's 3 E's</li> <li>○ Empower water managers</li> <li>○ Multi stakeholder approaches to decisions</li> <li>○ Use big and small approaches to infrastructure and beneficiaries</li> <li>○ Acknowledge cultural, language, social diversity</li> <li>○ Comprehensive river basin approaches</li> <li>○ Project design to convert potential to actual / real benefits</li> <li>○ Ground MWID in actual / real socio-economic circumstances</li> <li>○ Use innovative financing models</li> </ul>	<ul style="list-style-type: none"> <li>○ Strengthening of RBO's operationally (KOBWA)</li> <li>○ Long-term planning for delayed benefits</li> <li>○ Recognise the preponderance of shared rivers</li> <li>○ Government support for capacity building for local economic development (e.g. SWADE)</li> <li>○ Empowerment of indigenous authorities</li> <li>○ Transparency</li> <li>○ Integrate economic benefits from micro to macro</li> <li>○ Sharing benefits</li> <li>○ Inclusivity</li> <li>○ Include economic links to user sectors</li> <li>○ Cross-sectoral planning</li> <li>○ Economic empowerment</li> <li>○ Water is an economic as well as a social / merit good</li> <li>○ Balance social and economic drivers</li> </ul>

**Comments:**

The discussion following the group work presentation focused on the so-called "Asian (Chinese) approach to MWI financing". It was re-iterated that it places the bonus on governments to develop their own standards (in terms of social and environmental commitments) rather than being

supplied with a set of safeguards that need to be met, as it is the case with the "traditional" multilateral IFIs. In other words the responsibility for safeguards in the "Asian/Chinese alternative" lies with African governments, not with the lending institutions.

### Group 3: Affected communities

The group had identified who, generically, should be considered as affected communities as well as means of identifying affected communities on a case by case basis. Furthermore the group had identified processes and procedures for identifying the issues of affected communities as well as the important considerations for effective mitigation. The following is the summary of their presentation:

Children and youth are not involved. Gender considerations are still lacking with participation of women being minimal despite them being the most water stressed. The involvement of the indigenous people based on class and sex discrimination. The most affected in the communities are the people living closest, people living downstream, host community, job seekers and people who remained in the area after the displacement by the major water infrastructure. Affected communities can be identified by carrying out scoping assessment of communities and biodiversity, PRA exercises that help identify community needs and expectations and through EIA that help clarify issues, measure magnitude and set

benchmarks for evaluation. To identify issues and affected communities ways have to be sought to identify those who are directly or indirectly affected in the society as well as their resources natural and material ones. Their diverse needs have to be determined. A land assessment needs to be carried out in order to determine how much has been affected as well as other resources.

There is also a need to assess the community's socio-economic, political and legal status. Effective mitigation would need to include social justice intervention, dignity and respect for human resources, democratic principles and appreciation and sensitivity to diversity and political and cultural considerations. Relevant laws and policies have to be in place especially with regards to equity in development planning. Economic sustainability will have to be secured through exploring viable alternatives. The expected outcome of this will be sustainable programmes based on identified issues and needs, valid information from EIA and PRA reports and working together of different stakeholders.

### Group 4: Environmental issues

Group 4 had identified the main types of water infrastructure as well as a list of possible impacts of MWI on the environment. In addition they

listed the currently existing instruments for addressing environmental concerns in MWID and the main constraints for doing so in practice.

<p><u>Environmental Issues</u>  <i>Environment defined as social, physical and biological</i>          Infrastructure divided into</p> <ul style="list-style-type: none"> <li>○ Dams</li> <li>○ Canals</li> <li>○ Reservoirs water</li> <li>○ Water conveyance structures</li> <li>○ Tunnels</li> <li>○ Pipelines</li> <li>○ Groundwater abstraction</li> <li>○ Wastewater treatment</li> <li>○ Allied infrastructure i.e. transmission lines</li> </ul>	<p><u>Impacts</u></p> <ul style="list-style-type: none"> <li>○ Catchments degradation (both upstream &amp; downstream)</li> <li>○ Water weeds infestation</li> <li>○ Flood mitigation/ recession agriculture</li> <li>○ Micro climates &amp; Hydrological processes</li> <li>○ Displacement of people</li> <li>○ Pollution</li> <li>○ Impacts on biodiversity</li> </ul>
<p><u>Existing Frameworks</u></p> <ul style="list-style-type: none"> <li>○ Enabling national policy</li> <li>○ Strategic Environmental Assessment SEA</li> <li>○ EIA Legal framework exists in most countries</li> <li>○ Enabling legal and institution frameworks</li> <li>○ Integration /mainstreaming environmental issues in all development plans</li> <li>○ Donor policies</li> </ul>	<p><u>Major constraints/Challenges</u></p> <ul style="list-style-type: none"> <li>○ Political interferences</li> <li>○ Capacity             <ul style="list-style-type: none"> <li>➤ people power</li> <li>➤ Skills</li> <li>➤ Lack of standards</li> </ul> </li> <li>○ Poor enforcement of environmental laws</li> <li>○ Fragmented laws (Lack of harmonized laws)</li> </ul>

<ul style="list-style-type: none"> <li>○ Adoption World Commission on Dam guidelines</li> <li>○ Existence of donor social and safeguards</li> <li>○ Regional protocol agreements on Transboundary water courses</li> </ul>	<ul style="list-style-type: none"> <li>○ Poor public participation in processes</li> <li>○ Population and poverty</li> <li>○ Short term planning horizons</li> <li>○ Failure to respect/accept professional advices</li> </ul>
<p><u>Stakeholder participation in identification of environmental issues</u></p> <ul style="list-style-type: none"> <li>○ Transparencies and sharing information right from the planning stage/pre feasibility stage</li> <li>○ Enhance capacity</li> <li>○ Harmonization of environmental laws in the region</li> <li>○ Enhance Gender participation in Environmental issues</li> <li>○ Address population + Poverty issues (livelihood)</li> <li>○ Multi stakeholder Fora at National and regional</li> <li>○ Incorporation of NGO CBO and media in dissemination</li> </ul>	

**Comments:**

The following comments were raised in response to the group 4 presentation:

- On the impacts level the group had listed water weeds only – one should look broader at alien species in general (e.g. alien infestation of grazing lands).
- An overall biodiversity assessment is needed – also required in most EIA processes.

It was proposed that the scientific definition of the environment should be broadened to “the environment is everything” in order to be able to consider elements currently not covered by the scientific definition, such as the “spiritual environment”. The vast majority of participants rejected this proposal as the proposed definition is not “workable” in practice

**Group 5: Benefit sharing**

The group focused on identifying the scope and elements of the benefit sharing concept. It was pointed out that there was some disagreement in the group about the definition of benefit sharing: some understood it within a the narrower definition of compensatory measures, while others preferred a wider definition that takes benefits beyond the compensation scheme into account - compensation vs. long term benefit sharing. The discussion then focused on benefit sharing in the narrower sense (compensation) and key requirements for achieving sustainable benefit sharing in this context were identified.

In terms of issues the group identified that it was important for communities to participate in the decisions on how they are resettled. There is a need to distinguish between national benefit

sharing (transboundary) and local or regional cost benefit sharing, therefore integrate benefit sharing into project costs. It is important to distinguish compensation before construction starts and a long term sustainable plan for supporting livelihoods.

Sustainability is important in promoting self reliance and sufficiency by the community within a reasonable amount of time in such developments. The main messages that need to be punted are building of leadership capacity within the community and addressing any social outstanding issues. Benefit sharing should be for the region and not only locally based. Guaranteeing benefits through compliance institutionally and in the political context.

**Comments:**

The following points emerged during the discussion following the group’s presentation:

1. A differentiation between compensation and benefit sharing should be made – benefit sharing is much wider.

2. It should be ensured that benefits are disbursed (shared) right from the beginning of a project and incorporated into the planning process.
  3. The notion of benefit sharing should/ could be expanded to negotiations between governments (that would include the sharing of benefits and costs).
  4. Cost sharing needs to be an inherent component of the benefit sharing concept.
- This concluded the first round of group work, which was then followed by a brief presentation session.

### **Presentation Thomas Chiramba: draft capacity building programme**

Dr. Thomas Chiramba provided an overview of the draft capacity building outline developed for the seminar – its mandate, process of development and its objectives.

Following the presentation the participants went back into their five working groups and were to develop key elements of a proposed capacity building programme for MWID.

The groups identified the main capacity gaps for their respective topic as well as target groups and type of capacity interventions needed for the respective role-players.

After the completion of the second round of group work, Mr. Morgan Sithole of ESKOM/WESCOR presented details of the WESCOR project

### **Group work round two report back: capacity gaps & proposed interventions**

The groups identified the main capacity gaps for their respective topic as well as target groups and type of capacity interventions needed for the re-

spective role-players. The following are the results

#### **Group 1: Options assessment**

Options assessment is not included in the sectoral regulatory and legislative frameworks	<p>The group used an approach that identified a target group, necessary interventions and the primary actors, for each of the discussion questions. Their results are as follows:</p> <ul style="list-style-type: none"> <li>o <i>Target groups:</i> Politicians (awareness raising), professionals in ministries involved in planning and management of infrastructure, regulatory agencies</li> <li>o <i>Interventions:</i> Seminars for awareness raising, training for professionals, country or regional exchange</li> <li>o <i>Actors:</i> Ministries in leading countries, Senior Consultants, Universities and Professional Institutions</li> </ul>
It is also not well integrated in the planning frameworks – sectoral and basin planning frameworks	<ul style="list-style-type: none"> <li>o <i>Target groups:</i> Professionals in ministries involved in planning and management of infrastructure, basin management authorities</li> <li>o <i>Interventions:</i> Training of professionals (study tours, training of trainers)</li> <li>o <i>Actors:</i> consultants, professionals (the people who know – preferable that peers train each other across countries and basins)</li> </ul>
There is a general lack of awareness about options assessment and its value in decision-making	<ul style="list-style-type: none"> <li>o <i>Target Groups:</i> Sector policy makers, professionals, ministries, regulatory agencies, professional associations, civil society organizations, local authorities, etc)</li> <li>o <i>Interventions:</i> Short presentations at seminars, short training courses</li> <li>o <i>Actors:</i> International organizations, Senior Consultants</li> </ul>
There is a lack of a critical mass of cases of relevant practice	<ul style="list-style-type: none"> <li>o <i>Target Group:</i> (Project Promoters, Project Financiers)</li> <li>o <i>Interventions:</i> Documentation of current and future projects</li> </ul>

Low levels of information especially on non-structural, non-conventional and demand side options	<ul style="list-style-type: none"> <li>○ <i>Target Group:</i> (Planners, ministries, regulatory agencies, universities, research institutions)</li> <li>○ <i>Interventions:</i> Support resource mapping – training of professionals</li> <li>○ <i>Actors:</i> Consultants, Professional in Ministries, Research Institutions and Universities</li> </ul>
Lack of systematic appraisal of options	<ul style="list-style-type: none"> <li>○ <i>Target Group:</i> Decision Makers in Ministries, Regulatory Agencies, and Professional Associations</li> <li>○ <i>Interventions:</i> Technology transfer and training</li> <li>○ <i>Actors:</i> Consultants, International Training Institutes</li> </ul>
General lack of technical personnel to undertake options assessment	<ul style="list-style-type: none"> <li>○ <i>Target Group:</i> Postgraduate, working professionals</li> <li>○ <i>Interventions:</i> Training, technology transfer. Multi-stakeholder dialogue – electronic and physical. Partnerships amongst the actors (universities, research, civil society organizations). Exchange programmes – e.g. professional secondment</li> <li>○ <i>Actors:</i> Universities, International Training Institutes, Consultants</li> <li>○ Regional coordination through RECs</li> </ul>

## Group 2: Macro-economic benefits

<p><u>Capacity gaps were identified as:</u></p> <ul style="list-style-type: none"> <li>○ Integrated Planning Approaches</li> <li>○ Economic aspects</li> <li>○ Project Planning</li> <li>○ From local to national</li> <li>○ Translation of plan to action</li> <li>○ Negotiation skills</li> <li>○ Understanding &amp; embracing diversity</li> <li>○ Awareness and Knowledge sharing on M-S dialogues e.g. WCD/DDP processes.</li> <li>○ Simple best practice tools and guides</li> <li>○ Technical expertise</li> <li>○ Senior officials and politicians awareness of issues</li> <li>○ Development partners understanding of the African way</li> <li>○ Responses to development partners</li> <li>○ Retention programme for African skills (skills flight)</li> </ul>	<p><u>Areas of intervention were given as:</u></p> <ul style="list-style-type: none"> <li>○ Promotion of centres of excellence</li> <li>○ Sharing of best practices</li> <li>○ Learner-ships, internships and exchange programmes (technical and managerial) <ul style="list-style-type: none"> <li>○ Symposia</li> <li>○ Publications</li> <li>○ Study tours</li> <li>○ Twinning</li> </ul> </li> <li>○ Regional/national/ basin contextualisation of international instruments (e.g. SA M_SI)</li> <li>○ Use basin-level multi-stakeholder processes</li> <li>○ Trainer-of-trainers programmes</li> <li>○ Awareness/knowledge programmes differentiated according to function in the decision-making chain especially political and senior officials</li> <li>○ Use African Diaspora in structured way</li> <li>○ Targeted intervention with emerging cooperating partners</li> <li>○ Promote partnerships with and between existing capacity building programmes (ACBF, AfDB, CapNet, UNECA etc)</li> <li>○ International mentorship programmes</li> <li>○ Promote communities of practice and interest</li> <li>○ Information clearing house for capacity building opportunities.</li> </ul>
<p><u>Areas of collaboration and collaboration mechanisms:</u></p> <ul style="list-style-type: none"> <li>○ Centres of excellence</li> <li>○ Networks (WaterNet)</li> <li>○ Leverage international transboundary water programmes (EU)</li> <li>○ Leverage inter-basin interactions RBO's and REC's Maximise use of existing forums e.g. AMCOW, SADC ICM</li> <li>○ Annual (Periodic) Pan-African meeting / workshop</li> <li>○ Look for the African Water Journal</li> </ul>	

### Group 3: Affected Communities

<p>In terms of capacity gaps, Group 3 identified:</p> <ul style="list-style-type: none"> <li>○ Lack of project management skills and limited basic education and training</li> <li>○ A lack of clearly defined vision, mission and project objectives</li> <li>○ Capacity building for environmental development in partnership with CSO</li> <li>○ Baseline information on local communities</li> <li>○ Identification of local, regional and best national best practices</li> <li>○ Understanding of environmental justice</li> <li>○ Capacity to monitor and evaluate interventions</li> <li>○ Little support in formulating by laws, policies and regulations that conform to existing protective legislation at local, regional and national levels</li> <li>○ Build capacity on how to develop compensation criteria amongst cooperative countries</li> <li>○ Awareness raising amongst political leadership and technocrats</li> <li>○ Knowledge gaps in negotiation and dispute resolution</li> </ul>
<p>To concretise capacity building Group 3 offered the following as forming part of the definition of the term capacity building:</p> <ul style="list-style-type: none"> <li>○ Develop flexible and adaptive programming that recognises different community needs</li> <li>○ Multi stakeholder participation must be evident throughout the process</li> <li>○ Provide project management skills for all the different social groups at all levels through trainers of trainers of courses for affected communities</li> <li>○ Develop specific and targeted training modules</li> <li>○ Empower CSO to provide requisite training and skills development</li> <li>○ Develop baseline survey guideline and databases</li> <li>○ Organise tours, seminars, and workshops to demonstrate appropriateness of regional best practices</li> <li>○ Capacitate local lobbying and advocacy platforms to ensure knowledge of laws and policies and their applicability to the project</li> </ul>

### Group 4: Environmental issues

<p>Major capacity gaps:</p> <ul style="list-style-type: none"> <li>- Human resource including skills as well as financial resources. These they indicated get in the way of identifying key environmental issues. There lack of skilled staff to identify key issues including impact prediction. There is a need for management and coordination of capacity building processes as well as of different interests. There is a need to build and strengthen relationships with regulatory agencies like ECZ, NEMA, NEMC, DEA/DEAT. Disaster response with regard to major water infrastructure development (prevention, management, response, restoration) needs to be established. However for all of his to be possible there need to be a drive for resources mobilization; funds and human resources,</li> <li>- Gaps in reference to existing frameworks for management of environmental issues. This include developing regional frameworks for all shared water systems in Africa; e.g. Lake Victoria, Lake Chad, Nile Basin, Congo Basin. There is a need to strengthen of multi-stakeholders engagement for e.g. civil societies such as Nile Basin Discourse Course. There is a lack of capacity in enforcing the laws and there are no standards and guidelines in place</li> <li>- Stakeholder engagement through public awareness on existing frameworks such as protocols e.g. AMCOW, NEPAD in relevance to MWID etc. Stakeholder engagement to address literacy levels and disparities in representation in different fora. Dialogue with all stakeholders e.g. local, national and regional has to be brokered and social and cultural issues addressed. There is a lack of structured institutions that support multi-stakeholder</li> </ul>
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engagement
<ul style="list-style-type: none"> <li>- A capacity building intervention has to address Formal/informal - short-term targeted training courses (to address specific needs), workshops, seminar, on-job training, study tours, exchange visits. Capacity intervention needs to target decision makers at all levels, practitioners/professional in environmental assessment and use of local resource users such as PAP's needs to be looked into.</li> </ul>
<ul style="list-style-type: none"> <li>- Intergovernmental organizations such as regional protocols, trade agreements /intra-governmental committee e.g. municipalities, local councils, district development committee like multi-stakeholder forum's, extension services such as in agriculture and forestry and links to civil society networks and village committees</li> </ul>

### **Group 5: Benefit sharing**

This group looked at capacity development for benefit sharing and the referent points used were Basin/Transboundary level and Regional/Local

level. The gaps for each level were are given below. The group did not provide intervention suggestions for Regional/Local level.

Basin/Transboundary level gaps	<ul style="list-style-type: none"> <li>o No framework for Basin Agreements in East Africa vs. SADC Protocol on Shared Water Courses</li> <li>o Absence of RBOs</li> <li>o Weak RBOs</li> <li>o Lack of negotiation fora</li> <li>o Lack of effective "shared benefits mapping"</li> <li>o Lack of appreciation of benefits</li> <li>o Lack of awareness across sectors</li> <li>o Lack of common acceptable information platform</li> </ul>
Regional/Local level gaps	<ul style="list-style-type: none"> <li>o Absence of benefit mapping across all levels</li> <li>o Inter-sectoral awareness</li> </ul>
Basin/Transboundary level interventions	<ul style="list-style-type: none"> <li>o Improve negotiating skills and skills development</li> <li>o Creation/strengthen RBOs</li> <li>o Development of toolbox for benefit sharing mapping</li> <li>o Looking back at existing projects for benefit sharing opportunities (resolving outstanding issues)</li> <li>o Promoting integrated management</li> <li>o Develop Transboundary Diagnostic Analysis</li> <li>o Creating awareness at basin and political level</li> <li>o Strengthening government structures/institutions at all levels for benefit sharing</li> <li>o Developing/strengthening monitoring regimes</li> <li>o Promoting sharing of experiences (existing mechanisms applied elsewhere)</li> </ul>

## Summary of proceedings

After the reporting back of the group work results Mr. Daniel Malzbender presented a brief summary of the seminar proceedings. He pointed out that the seminar discussions were based on the agreed baseline that more MWID in Africa is needed, and that the objective of the seminar was to contribute to an African consensus on "how to

do it right". He then identified a number of key points that had featured prominently in the seminar discussions, i.e.

Finally, the point was made that in the capacity building debate we should not forget the importance of capacity retention.

- The importance of comprehensive options assessment and detailed planning.
- The need for clear policy, legal and institutional frameworks
- The importance of stakeholder involvement
- The concept of benefit sharing
- The changing approach to infrastructure financing – Chinese alternative, and
- The need for capacity development

The summary of proceedings was following by recommendations presented by Mr. Phera Ramoeli (SADC).

### *"Key recommendations on the way forward"*

#### Vision:

To derive the greatest benefit from the envisaged water infrastructure development through sustainable outcomes, there is a need to adapt and incorporate new approaches to mobilise and utilise resources effectively.

To this end the participants recommend the establishment of a "new African culture of balancing social, environmental and economic components of water infrastructure development" – encompassing policy development as well as practical implementation.

#### Concepts:

To move towards the above vision, implementation of capacity building needs to be enhanced by learning from good practise in the region as well as internationally from reference material such as the UNEP DDP Compendium and adapting these lessons to local conditions.

Appropriate individual capacity building should compliment the development of institutional and policy frameworks.

Capacity building initiatives should include all relevant sectors (horizontal) as well as different levels (vertical) – encouraging networks and partnerships at all levels.

Capacity building activities should include the enhancement of the skills and knowledge of civil society to interact meaningfully in decision-making and planning processes.

#### Embedding in political processes:

The participants request the forthcoming SADC Summit (Aug 2007) as well as the EAC structures to commit to the sustainable balancing of the social, environmental and economic factors in the development of water infrastructure.

The participants request the SADC Heads of State and the EAC to support the implementation of a capacity building programme in support of the above commitment.

The participants recommend to SADC and EAC to submit the outcomes of this seminar and the resultant capacity building programme to the AMCOW Presidency and the NEPAD Secretariat.

#### Establishing Partnerships:

Further, the participants recommend the wide dissemination of the key messages from this seminar to development partners regionally and internationally through a variety of forums, such as World Water Week in Stockholm, the Petersburg Dialogue in Bonn, and the African Water Week in Tunis.

The participants recommend that a reference group, comprised of key development partners, be formed to champion the capacity building initiative and establish a partnership for the development of water infrastructure.



## Closing remarks

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The closing remarks of organisers and convenors concluded the seminar.

### InWEnt

Dr. Thomas Petermann thanked the participants for their participation and very valuable inputs, which will form the basis for InWEnt's support to capacity building measures for "MWID" in the future. He pointed to the importance of all sectors in the region working together to ensure a better future for their people. The field trip has shown that the people on the ground want projects of this kind if all important stakeholders will benefit.

In this context, he stressed that many Western governments are still hesitating to support large scale infrastructure development, or enforce strict conditionalities related to environmental and social standards. He asked those participants who are invited by the German Government and The World Bank to attend the forthcoming "Petersberg Round Table 2007: From Agreements to

Investment - How to Put Measurable Value on Transboundary Water Resources Management in Africa" to bring this up. It would be the responsibility of African governments and representatives of all groups to convince the donor community that relevant social and environmental standards are taken seriously and will be in future applied in decision making in planning and managing large scale water infrastructure investments, including dams.

He thanked the convenors of the seminar and the organising partners as well as the team of ACWR and Thomas Chiramba for putting it all together to come to an "tangible outcome and joint learning experience that eventually leads towards water infrastructure development that is socially accepted by all stakeholders and environmentally friendly".

### UNEP

Mr. Alberto Calcagno stressed that UNEP is committed to building a knowledge base on MWID issues, which is based on the DDP and the Dams and Development Compendium. UNEP's initiative is built on a partnership with InWEnt and GTZ. He stated that he is happy with the outcomes of the meeting – it is a substantive and important step in the process of building capacity in Africa. It is now his task to

take these outcomes to Nairobi to report to his organisation.

Mr Calcagno thanked the convenors of the meeting as well as the co-organisers. He expressed his thanks to the ACWR team and Thomas Chiramba for the efficient organisation of the seminar and bringing all these participants together from all over the Africa continent and beyond for these important deliberations.

### AMCOW

Mr. Reginald Tekateka stated that at the beginning of the seminar he said that it was a great honour to address the participants. Today he would like to repeat this with a great sense of humility and emotion.

Last year AMCOW had started a process to develop a process of multi-stakeholder dialogue on water issues on the continent. They also decided to take regional initiatives to start this process. This seminar is a manifestation of these decisions, taking forward a very important principle of NEPAD that Africans must take charge of their own destiny (this is what fills me with emotions).

It is also to address that misconception that Africa has not started to take responsibility for its destiny - watch us, we have started. If some governments or groups are reluctant to support

MWID, there are initiatives like this seminar which can contribute to changing this approach.

I fully agree with the reference to the importance of capacity retention. This seminar is proof of the degree of African skills and knowledge. There is no better way to retain skills than appreciate skills. We should thus thank our African Ministers to start these processes and at the same time not disappoint them and continue this effort.

We have the Representatives of two UN agencies and the ADB amongst us. I would like to encourage them to assist us with taking this initiative further.

Colleagues from SADC – I hope you can assist us to take this forward – at the Summit and beyond, so that we can say this was a turning point that took this issue further.

Once again thank you very much.

## **AMCEN**

The final vote of thanks was delivered by Mr. Germain Kombo, representative of AMCEN (African Ministers Conference on the Environment).

He stated that his presence at the seminar is a follow up to a meeting in Nairobi, which was the follow up of the hydropower conference in March 2006 in Johannesburg. He would like to provide the group with some reflections that are also shared with other colleagues from Africa. The discussions of the seminar can also assist with planning in the Congo basin, where there are already exchanges between the Congo and the Amazon and Mekong basins. It is hoped that such exchanges can eventually be extended to all over SADC and East Africa.

### **Organising team**

Mr Anton Earle of the African Centre for Water Research and Mr Thomas Chiramba thanked the participants on behalf of the organising team. They expressed their appreciation for the dedication the participants had shown over the three

days of the seminar and thanked them for the fruitful deliberations and for contributing their knowledge to the development of a capacity building agenda on major water infrastructure development in southern and eastern Africa.

He pointed out that the seminar outcomes will also be important for discussions in the context of the African MDG objectives.

Mr Kombo stressed that AMCOW and AMCEN have recommended that the Ministers of Finance also become involved in these decision making processes, but that they need clear directions from Heads of States before they can make decisions concerning infrastructure development. AMCEN therefore believes it is important to get the Heads of States to be involved in the important decisions relating to water and environment decisions.

AMCEN will keep all of you informed and also hopes to receive technical input and advice on these matters.

## **END OF SEMINAR**

Major Water Infrastructure Development in Africa: Balancing economic, environmental and social aspects for sustainable out-comes Regional East and Southern African seminar convened by SADC, EAC, AMCOW-TAC & NEPAD

25-27 July, 2007, Ezulwini Valley, Swaziland

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Major Water Infrastructure Development in Africa: Balancing economic, environmental and social aspects for sustainable outcomes

Regional East and Southern African seminar convened by  
SADC, EAC, AMCOW-TAC & NEPAD

with support from UNEP, InWEnt, GTZ and GWP-SA

25-27 July, 2007, Ezulwini Valley, Swaziland

DRAFT

# Seminar Programme

Tue 24 <sup>th</sup> 17.00 h	Participants arrive in Swaziland – transfer from airport to the Lugogo Sun Hotel, Ezulwini Valley Registration. Briefing Dinner will be announced upon arrival at hotel	Organisers (InWEnt, UNEP, GWP-SA, GTZ) and partners (ACWR)
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Wed 25 <sup>th</sup>	<b>Day One - Conference Venue: Lugogo Sun Hotel Conference Centre Facilitator: Joshua Mashauri</b>	
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8.30 h	<b>1 Official Opening Session</b> Welcome message from host country	Minister of Natural Resources – Swaziland
8.50 h	Remarks by the Convenors (EAC/SADC/NEPAD)	Phera Ramoeli (SADC)
9.10 h	Remarks from the Organisers – (InWEnt/UNEP/GWP-SA/GTZ)	Thomas Petermann (InWEnt)
9.30 h	Opening Address by AMCOW	Reginald Tekateka (AMCOW-TAC)

9.50 h	<b>2 Keynote Address</b> The relevance of the WCD for Africa	Mike Muller (GWP-TEC)
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10.10 h	<b>3 Dams and Development</b>	Mike Salawou (AfDB)
10.30 h	<ul style="list-style-type: none"> <li>• "The Opportunity cost of non-development of Water Infrastructure and the role of the AfDB in infrastructure development"</li> <li>• An ARN perspective on water infrastructure development</li> <li>• Large Dams in Africa – the BMZ perspective</li> <li>• "Major Water Infrastructure Development: the UNEP experience from the DDP and the Compendium"</li> </ul>	Geoffrey Kamese, ARN Anne Cramer Alberto Calcagno (UNEP)

11.00 h	<b>Tea/Coffee</b>	
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11.30 h	<b>4 Introduction of Technical Topics</b>	Tinashe Nhete (Practical Action)
11.45 h	• Options assessment	Prof. Oweyegha-Afunaduula (Uganda)
12.00 h	• Affected communities: the Bujigali case	Ayazika Waizwa (NEMA-Uganda)
	• Environmental management plans	





12.15 h	• Ecosystems approach in water infrastructure development	Hillary Masundire, IUCN –CEM
12.30 h	• Benefit sharing	Vincent Roquet (Roquet & Associates)
13.00 h	<i>Lunch – Royal Swazi Sun</i>	
	<b>5 Working groups</b>	
14.00 h	• Introduction of the working group methodology	Anton Earle (ACWR)
14.10 h	• Participants select which of the technical workings to join	
14.20 h	• Discussion around selected questions	Groups facilitators & rapporteurs
15.30 h	<i>Tea/Coffee</i>	
	<b>6 Introduction of KOBWA &amp; Field Trip</b>	
17.00 h	• The Komati Basin Water Authority – an overview	Enock Dlamini (KOBWA)
17.20 h	• Overview of the Field Trip	Daniel Malzbender (ACWR)
17.30 h	• Overview of the Concept Note	Thomas Chiramba
	• Close of Day One	
19.00 h	<i>Cocktail function at the Royal Swazi Sun</i>	
Thu 26 <sup>th</sup>	<i>Day Two: Meet in Lugogo Sun lobby</i>	
	<b>7 Field Trip</b>	
7.30 h	• Depart by bus from Lugogo Sun for KOBWA offices at Maguga Dam	
9.30 h	• Technical tour of Maguga Dam	Enock Dlamini/ Alfred Nhlengetfwa
10.30 h	• Presentations on the KOBWA projects & discussions	Kobwa representatives (see field trip programme for details)
12.30 h	<i>Lunch at Maguga Lodge</i>	
13.30 h	• Site visits - Resettled community and Commercial water users downstream of the dam	KOBWA Representative
16.30 h	• Return to hotel by bus	<i>Note: a detailed programme for the field trip will be distributed at the end of Day One</i>
	<i>Individual dinner</i>	
Fri 27 <sup>th</sup>	<i>Day Three - Conference Venue: Lugogo Sun Hotel Conference Centre Facilitator: Joshua Mashauri</i>	
	<b>8 Completion of Group Work</b>	
8.30 h	• Introduction of the day's programme	Joshua Mashauri
8.40 h	• Reconvene in Day One groups	
8.45 h	• Integrate inputs and observations from Field Trip and prepare presentations	
10.00 h	• Group Rapporteurs report back in plenary	Group Rapporteurs
11.00 h	<i>Tea/Coffee</i>	
	<b>9 Developing the way forward</b>	

11.30 h	• Introduction of the group discussion	Thomas Chiramba
12.00 h	• Participants divide into 3 groups: 2 comprised of water-sector professionals and the 3 <sup>rd</sup> from other sectors	
12.10 h		
12.15 h	• Group discussions	
13.00 h	<i>Lunch – Royal Swazi Sun</i>	
14.00 h	• Groups report back in plenary	
14.30 h	• Multi-sectoral panel discussion on the way forward	
15.30 h	<i>Tea/Coffee</i>	
16.00 h	<b>10 <u>Closing Session</u></b>	
	• Summary of the proceedings	Organisers
	• Closing address	Convenors
19.30 h	<i>Cultural Event at the Royal Swazi Sun</i>	
Sat 28 <sup>th</sup>	<i>Departure</i>	

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