ZAMCOM

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2nd Zambezi Basin Stakeholders' Forum

25-26 September 2017
Intercontinental Hotel, Lusaka, Zambia

Theme: Benefits of cooperation and basin-wide planning in the management and development of shared water resources

Forum Report

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Table of Contents

Abbreviations and acronyms

AU	African Union
AU/NEPAD SANWATCE	AU/NEPAD Southern African Network of Water Centres of Excellence
BASC	Basin Stakeholder Committee (ZAMCOM)
CRIDF	Climate Resilient Infrastructure Development Facility
CSO	Civil society organisation
DWRD	Department of Water Resources Development (Zambia)
GFPs	Gender Focal Points (GFPs)
GiZ	*Gesellschaft für Internationale Zusammenarbeit*
GWPSA	Global Water Partnership Southern Africa
GWP WACDEP	GWP Water, Climate and Development Programme
ICPs	International Cooperating Partners (ICPs)
IIASA	International Institute for Applied System Analysis
IWMI	International Water Management Institute
IWRM	Integrated Water Resources Management
NASCs	National Stakeholder Committees (ZAMCOM)
NEPAD	New Partnership for Africa's Development
NWASCO	National Water Supply and Sanitation Council
RBO	River Basin Organisation
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
SADC-GMI	SADC Groundwater Management Institute
SARDC	Southern African Research and Documentation Centre
SDGs	Sustainable Development Goals
UN	United Nations
UNZA	University of Zambia
WACOZA	Water and Cooperation within the Zambezi River Basin project

WARMA	Water Resources Management Authority
WWF	World Wildlife Fund for Nature
ZAMCOM	Zambezi Watercourse Commission
ZAMSEC	Zambezi Watercourse Commission Secretariat
ZAMTEC	Zambezi Technical Committee
ZAMWIS	Zambezi Water Resources Information System
ZEO	Zambezi Environment Outlook
ZESCO	Zambia Electricity Supply Company
ZRA	Zambezi River Authority
ZRB	Zambezi River Basin
ZSP	The Strategic Plan for the Zambezi Watercourse

Executive Summary

i. Background

The Zambezi watercourse Commission (ZAMCOM) is one of the major river basin organisation in Africa. It was established in 2014 as an intergovernmental organisation that brings together eight Riparian States. The Riparian States are **Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania; Zambia and Zimbabwe**.

The basis for the cooperation is the Agreement on the Establishment of the Zambezi Watercourse Commission which was signed in 2004 and came into force in 2011. The Commission is headquartered in Harare, Zimbabwe.

VISION AND MISSION

ZAMCOM's vision and mission draw from regional aspirations, the Integrated Water Resources Management Strategy and Implementation Plan for the Zambezi River Basin; and the ZAMCOM Agreement. The vision envisages a future characterised by equitable and sustainable utilisation of water for social and environmental justice, regional integration and economic benefit for present and future generations. In pursuit of that future, ZAMCOM strives to promote the equitable and reasonable utilisation of the water resources of the Zambezi Watercourse as well as the efficient management and sustainable development thereof.

FUNCTIONS OF ZAMCOM

The functions of ZAMCOM include the following:

(a) To promote, support, coordinate and harmonise the management and development of the water resources of the Zambezi Watercourse;
(b) To collect, evaluate and disseminate all data and information on the Zambezi Watercourse as may be necessary for the implementation of the Agreement;
(c) To advise Member States on measures necessary for the avoidance of disputes among Member States with regard to planning, management, utilisation, development, protection and conservation of the Zambezi Watercourse; and
(d) To foster greater awareness among the inhabitants of the Zambezi Watercourse regarding the equitable and reasonable utilisation and efficient management and sustainable development of the resources of the Zambezi Watercourse

ORGANS OF ZAMCOM

ZAMCOM has three key organs. The highest organ is the Council of Ministers which comprises Ministers of Water from the Riparian States. It is ZAMCOM's supreme decision making body. The next organ is the ZAMCOM Technical Committee (ZAMTEC) which is

tasked with advising Council and implementing policies and decisions of Council. The ZAMCOM Secretariat (ZAMSEC) provides technical and administrative services to Council under the supervision of ZAMTEC.

STAKEHOLDER PARTICIPATION

Stakeholder participation in ZAMCOM is critical in order to ensure ownership and legitimacy of outputs, products and outcomes in the context of sustainable cooperation. Therefore, It is important that processes are based on a sound, consultative approach that continuously builds trust and confidence among stakeholders. Consultation with and participation of governmental, non-governmental and civil society organisations linked to water and related resources management and development in the basin are at the heart of the overall approach.

The major ZAMCOM organs such as the Council of Ministers, the ZAMCOM Technical Committee and the ZAMCOM Secretariat are supported by National Stakeholder Coordination Committees (NASCs); and a Basin-wide Stakeholder Coordination Committee (BASC) which convene regularly to address specific issues relevant to the implementation of the ZAMCOM work programme in line with the ZAMCOM Agreement.

ii. Introduction

The Zambezi Basin Stakeholders 2nd Forum under the theme; *'Benefits of cooperation and basin-wide planning in the management and development of shared water resources'* was held from 25-26 September 2017, in Lusaka, Zambia. The Zambezi Basin Stakeholder's Forums bring together stakeholders with an interest in the Zambezi River Basin to share information and experiences around selected themes.

The 2017 Forum brought together a total of one hundred and thirty-seven (137) delegates interested in the management and development of water and related resources in the Zambezi River Basin. In line with the Forum theme; discussions centred on three sub-themes: basin-wide planning; benefits of cooperation in the management and development of shared water resources; and the roles of River Basin Organisations (RBOs) in realising the benefits of cooperation.

The objectives of the Forum were;

- To bring together representatives of stakeholders with interests in the management and development of water and related resources in the basin
- To share knowledge and experiences with regard to benefits of cooperation and basin-wide planning
- To provide advice and inputs that contribute to ZAMCOM initiatives, and Zambezi basin developments including the development of the Zambezi Strategic Plan (ZSP)

To achieve the above objectives, discussions were guided by the following sub-themes:

- Basin-wide planning
- Benefits of cooperation in the management and development of shared water resources
- Roles of RBOs (and other players) in realising the benefits of cooperation.

Anticipated outcomes from the Forum included:

- Increased stakeholders' appreciation and understanding of the benefits of co-operation and inclusive basin-wide planning in the management of the Zambezi water and related resources
- appreciation of challenges in the basin and provision of strategic inputs and advice by stakeholders into the basin-wide planning process
- enhanced confidence, trust and cooperation through stakeholder interaction, sharing of information and knowledge

- Exchange of knowledge and experiences regarding various initiatives and processes in the Zambezi Basin

The Forum was divided into six sessions. Session One was the official opening, Session Two was about setting the scene during which the keynote address was made. Session Three was a panel discussion on the Forum sub-themes: basin-wide planning, benefits of cooperation and the role of RBOs. Parallel sessions were held during Session Four. In Session Five, there was group work which was around the three sub-themes. Session Six was a special session on the Nexus Approach. It was merged with the Forum closing.

Session One: Official Opening

Six speakers made presentations during the opening session. These included remarks from Zambia's Director in the Department of Water Resources Development (DWRD) in the Ministry of Water, Development, Sanitation and Environmental Protection, Eng. Kenneth Nyundu; Southern Africa Development Community (SADC) representative, Dr. Ken Msibi of the SADC Water Division, ZAMCOM Executive Secretary, Prof. Zebedia Phiri, Zambia's Permanet Secretary in the Ministry of Water Development, Sanitation and Environmental Protection, Bishop Dr. Edward Chomba and opening remarks by the Zambia's Minister of Water Development, Sanitation and Environmental Protection Hon. Lloyd Mulenga Kaziya. A presentation addressing Zambia's transition to modern water resources management and development was made by Dr. Mkhuzo Chongo from the Water Department.

In his remarks, Eng. Nyundu expressed appreciation for the opportunity accorded to Zambia to host the Forum. He urged participants to come up with actions that would ensure sustainable access to, and development and management of the water resources in the Basin.

Dr. Msibi, representing the SADC Executive Secretary said the SADC Secretariat provided support necessary to strengthen all RBOs in the region. He noted that the Zambezi River Basin had been a pioneer in transboundary cooperation in Southern Africa and that this had helped other shared watercourses in coming up with agreements. He commended the Zambezi Riparian States for the good work being done in the Basin. He acknowledged that the ZAMCOM Agreement was the basis upon which negotiations for the SADC Protocol on Shared Watercourse Systems were based.

The Executive Secretary acknowledged the critical role played by Zambia in fostering regional integration and cooperation in the SADC as well as the country's commitment towards sound water resources management.

Noting the importance of the Zambezi watercourse to all riparian states, Prof. Phiri said sustainable basin development and management would only be achieved through cooperation in the planning of actions between and among states. Cooperation, he said, was not an option

but an imperative for the Basin's survival. Cooperation, he said, is key to unlocking the development potential of the Basin as well as contributing to good neighbourliness.

The Permanent Secretary, Bishop Dr Chomba highlighted the fact that the Forum would offer stakeholders a chance to make input into the formulation of the Strategic Plan for Zambezi Watercourse being development by ZAMCOM.

Officially opening the Forum, Hon. Kaziya said the Forum provided a platform for sharing ideas and experiences on benefits of transboundary cooperation, which was central to strengthening and fostering regional cooperation.

He noted that the projected 50 million Zambezi basin population by 2025 would present new challenges as well as exacerbate existing social pressures (such as inadequate food, water, energy) that will require innovative solutions without compromising ecosystems and not undermining the development aspirations of Riparian States.

As the Zambezi River Basin is expected to contribute to the achievement of the global social economic agenda, it was important for the Forum to reflect on how the basin's water resources can be better managed. Poverty reduction, employment creation and improvement of livelihoods of the people in the Basin and the region should be the ultimate goal.

Hon. Kaziya challenged the Forum to explore ways and means of acquiring sustainable funding for ZAMCOM to ensure its financial independence.

In a presentation entitled "Zambia's transition to modern water resources management and development in the context of transboundary cooperation", Dr. Chongo spoke about how well-endowed Zambia is with water resources and efforts being made to sustainably develop and manage them despite a number of challenges.

As part of efforts to address the water resources development and management challenges, Zambia had undergone water reforms processes which have resulted in the formulation of a new water Act and Policy.

Session Two: Setting the Scene

During this Session, stakeholders were given an update on progress on the current ZAMCOM work programme. There was a presentation on progress in the implementation of the development of the Strategic Plan for the Zambezi Watercourse project and also on Development of the Zambezi Decision Support System (DSS) for planning, management and development of shared water resources. Participants had an insight into some of the roles for RBOs in a paper presented by Dr Jonathan Lautze.

The highlight for the session was the keynote address by Professor Damas Mashauri on "Benefits of cooperation and basin-wide planning in the management and development of shared water resources".

Keynote Address: ***Benefits Of Cooperation And Basin-Wide Planning In The Management And Development Of Shared Water Resources***

Noting the importance of water, Prof. Damas Mashauri highlighted the fact that its use and management required multi-sectoral and multi-stakeholder approaches to ensure varying interests and competing demands were managed.

Basin wide planning, coordination and integration require equitable utilisation, harmonisation and alignment of national water policies to regional and international conventions. He highlighted some of the benefits of cooperation as: integration of regional infrastructure, markets and trade, improved water quality, and improved water resource management. In addition, cooperation in transboundary water resources management results in benefits such as peace dividends, poverty reduction, economic growth and enhanced basin and regional capacity for transboundary planning and development.

During plenary discussion on the keynote address, stakeholders highlighted the need for Riparian States to appreciate benefits of collective basin development and management beyond political interests. There was need to focus on investments in transboundary water management.

Update on ZAMCOM's Current Work

The presentation briefly chronicled ZAMCOM's history before giving an update on some of the projects being implemented. ZAMCOM's history dates back to the 1980s when the Zambezi Action Plan (ZACPLAN) was developed under SADC. The ZAMCOM Agreement was eventually signed in 2004 and came into force in 2011. The ZAMCOM Secretariat is headquartered in Harare, Zimbabwe.
ZAMCOM's current work is centred on three components namely:

a) Institutional Development and Basin-wide Cooperation
b) Strategic Planning and Development
c) Water Resources Management and Information system

A number of achievements were noted in each component. Under ***Institutional Development and Basin-wide Cooperation,*** notable among the achievements was the development of various procedures including:

- Procedures for Notification of Planned Measures with the objective to provide clear guidance to Member States on detailed notification requirements;
- Rules and Procedures for Data and Information Related to the Management and Development of the Zambezi Watercourse; and,

- A study on Legal Equivalence Assessment aimed at assessing the degree of equivalence among Riparian States for key provisions of the national legislation and recommend best practice provisions and guidelines for ZAMCOM

Under ***Strategic Planning and Development***, the core activity is development of the Strategic Plan for the Zambezi Watercourse which commenced in January 2017 and is expected to end in January, 2019. A Detailed presentation was made on the ZSP.

Under Water Resources Management and Information Systems, a number of achievements were outline including the completion of the Zambezi Water Resources Information System (ZAMWIS) Enhancement 2; and commencement of ZAMWIS Enhancement 3 Project which is the upgrade of Hydro-met database and development of the Decision Support System for the Zambezi Watercourse.

Under **Update on the development of the ZSP** stakeholders were informed that the ZAMCOM Agreement provides the basis for its development and defines as a "development plan comprising a general planning tool and process for the identification, categorisation and prioritisation of projects and programmes for the efficient management and sustainable development of the Zambezi watercourse".

The ZSP was being developed in a cooperative and consultative manner based on generally accepted adaptive and cyclic planning processes and it is expected to build on previous basin-wide studies, assessments and strategies.

Todate, some major steps that have been taken in the development of the ZSP include:

- Conducting a situation analysis and developing strategic directions
- Consideration of national and basin level objectives, sector development plans, infrastructure inventories
- Basin development scenarios

On **Development of the Zambezi Decision Support System (DSS) for planning, management and development of shared water resources**, stakeholders were given an update on progress on the project which commenced in January 2017 and is expected to run until January, 2019. The ZAMWIS Enhancement 3 will be a web-based platform accessible to everyone that will support the promotion and coordination of cooperative management and development of the water resources of the Zambezi Watercourse in a sustainable and climate resilient manner.

The session also had an opportunity to discuss the role of RBOs in realising benefits of cooperation. In a presentation, Dr. Jonathan Lautze highlighted the fact that recognition of the benefits of cooperation in shared watercourses seems to have influenced the increased number of established RBOs between the 1950 and present. Before that, there were very few established RBOs.

He outlined three types of RBOs which include committees, commissions and authorities. Committees are the simplest of RBOs while commissions are less empowered and Authorities are formed to perform specific roles.

***Session Three**: Panel Discussion on the Forum Sub-Themes: Basin-Wide Planning, Benefits of Cooperation and the Role of RBOs*

During panel discussion, representatives from Zambezi Basin Riparian States, discussed the three Forum sub-themes namely: basin-wide planning; benefits of cooperation; and the role of RBOs. Panellists were requested to share their country experiences.

A common thread from the country representatives was the issue of benefits of cooperation and also the country consultations during the implementation of development of the ZSP. Other issues that came out of the panel discussion are as follows:

- There is need to build capacity in order to strengthen intuitional governance.
- There is need to focus on ecosystems management as these provide a multitude of goods and services.
- With regard to the role of RBOs, it was felt that it was critical to understand what works best within the context of each river basin before charting the way forward for the basin.
- The importance of RBOs coordinating their work was also highlighted.

***Session Four:** Group work on Forum sub-themes*

Group discussions were guided by a number of questions around priority issues that require basin-wide cooperation, benefits of cooperation and the role that ZAMCOM should play in achieving the benefits.

Each group outlined responses in their reports to plenary. In discussion after group reports, it was noted that feedback from the groups validated some findings during the development of the Strategic Plan for the Zambezi Watercourse. The following are some of the points highlighted from each group:

Group One: Priority Issues Requiring Transboundary Water Cooperation in the Zambezi River Basin

- Integrated groundwater in basin planning
- Investment for basin development including data collection
- Deforestation in the headwaters
- Hydrological monitoring infrastructure in the headwaters

- Increased water storage infrastructure
- Climate change

Group Two: Benefits of transboundary water cooperation

The group felt that transboundary water cooperation realises economic, environmental and social benefits as shown in the table below.

Some challenges that need overcoming before benefits could be felt were identified. These included water quality and pollution, water scarcity and variability in access to water resources, limited to moderate investment in the use of cultural and natural resources, synchronisation and coordination, National and regional vulnerabilities, Environmental and river system degradation, Policy harmonisation, and Inadequate capacity, information and knowledge.

Some of the economic benefits were listed as reduced health sector costs, enhanced trade at nationa and regional levels, energy and food security. Some social benefits identified included lower health and epidemiological risks, water for social and economic use and improved livelihoods. Environmental benefits were outlined as environmental health and sustainability, realisation of the value of the environment and functional ecosystems providing goods and services.

Group Three: The role of ZAMCOM in realising the benefits of cooperation

The group highlighted current ZAMCOM roles as stipulated in the ZAMCOM Agreement. They include; advisory, harmonisation, facilitating negotiations and process coordination. The following are some of the suggested additional roles by the group:

- Assisting in the *mobilisation of resources* beyond the maintenance of the Secretariat as well as supporting countries as they mobilise resources to develop projects and plans
- Supporting the *prioritisation of investment* projects for Riparian States as well as implementation
- *Improved decision-making capacity* moving from a commission to an authority

***Session Five**: Parallel sessions*

Four parallel sessions were convened to share and discuss the following topics:

- Building resilience through infrastructure development in the Zambezi Basin
- Institutional strengthening and capacity development for basin wide cooperation
- Improving data and information management in the Zambezi Basin

- Strengthening gender equity and social inclusion in basin wide planning

Parallel sessions were organised by ZAMCOM partners including: Global Water Partnership (GWP) Southern Africa; WaterNet, Institute for Water and Sanitation Development (IWSD); and SADC-GiZ Transboundary Water Management Programme.

A number of presentations were made during each session as outlined below. Details of the discussions in parallel sessions are in the main report:

Building resilience through infrastructure development in the Zambezi Basin

- *Transforming infrastructure delivery in Southern Africa* by the Climate Resilient Infrastructure Development Facility (CRIDF);
- *The critical role of natural infrastructure in building basin resilience* by the World Wildlife Fund for Nature (WWF); and
- *Building resilience through bi-lateral infrastructure development in the Zambezi Basin – the Zambezi River Authority experience* by the ZRA.
- Water and Cooperation within the Zambezi River Basin (WACOZA) project: *Assessing Water-Energy-Food-Ecosystems Nexus across the Basin* by the AU/NEPAD Southern African Network of Water Centres of Excellence (AU/NEPAD SANWATCE);
- *Enhancing Water Cooperation through groundwater management* by the SADC Groundwater Management Institute (SADC-GMI); and
- *Strengthening water cooperation in the Zambezi – working towards the SDGs* by Mr Davies Saruchera.

Institutional Strengthening and capacity development for basin wide cooperation

- Water and Cooperation within the Zambezi River Basin (WACOZA) project: *Assessing Water-Energy-Food-Ecosystems Nexus across the Basin* by the AU/NEPAD Southern African Network of Water Centres of Excellence (AU/NEPAD SANWATCE);
- *Enhancing Water Cooperation through groundwater management* by the SADC Groundwater Management Institute (SADC-GMI); and
- *Strengthening water cooperation in the Zambezi – working towards the SDGs* by Mr Davies Saruchera.

Improving data and information management in the Zambezi Basin

Facilitated by the Institute for Water and Sanitation Development (IWSD), the session included the following presentations:

- *Improving data and information collection, processing, validation and sharing in the Zambezi Basin* by Francisco Macaringue, ARA-Zambeze, Mozambique;
- *Experiences in working with River Basin Organisations in knowledge management* by the Southern African Research and Documentation Centre (SARDC); and
- *Sustainability of automated stations and how these can improve data capture in the Zambezi River Basin* by the Kafue Catchment Council (Zambia).

Strengthening gender equity and social inclusion in basin wide planning

Jointly convened by GWPSA and SADC-GIZ Transboundary Water Management Programme, the session included the following presentations:

- *Current efforts/progress in Mainstreaming Gender in the Zambezi Basin and SADC water sector'* by Ms Rennie Munyayi; and
- *Gender Mainstreaming Tools for Water Infrastructure Planning and Design by* Litumelo Mate of CRIDF.

Session Six: *Special Session and Forum Closure*

Special Session: *Applying a Nexus Approach to Generate New Synergies and Resolve Trade-Offs for Basin-Wide Planning*

The special session was guided by a presentation entitled *Applying a nexus approach to generate new synergies and resolve trade-offs for basin-wide planning* delivered by Drs Barbara Willarts, Simon Langan and Piotr Maguszewski from the International Institute for Applied System Analysis (IIASA).

With regard to integrated solutions for water, land and energy: the presentation noted that; nexus thinking acknowledged that water, food and energy were inter-linked. There was, therefore, need to look at solutions or actions that integrate these nexus issues. Scenarios could help to predict the future by looking at trends that can then be analysed, and evaluated to derive linkages.

As such, it was important to consider how best to bridge the gaps between scenario developers and users. Cooperation is critical in bridging this gap, as well as joint stakeholder engagement. Achieving a sustainable Zambezi River Basin future will require consideration for the trade-offs to be made; the solutions can be developed and synergies to be explored.

Forum Closing Session

Forum Facilitator, Ms Ruth Beukman, presented a summary of outcomes emerging from the Forum. Most of these have been highlighted under forum outcomes above.

A vote of thanks was made by a Mozambique representative, Ms. Tsitsi Mubvukwedu Vendo and Zambia's Permanent Secretary in the Ministry of Water Development, Sanitation and Environmental Protection, Bishop Dr. Edward Chomba officially closed the meeting.

Bishop Dr Chomba highlighted the fact that the concept of benefits of cooperation allows for Riparian States to accrue economic, environmental and social benefits which are the cornerstone for the sustainability of the water resources in the Zambezi River Basin.

iii. Forum Recommendation and Proposed Actions

Recommendations

Sub-theme: Basin-wide Planning

- The development of the Strategic Plan for the Zambezi Watercourse (ZSP) must be cognisant of the varying needs and interests between and among upstream and downstream Riparian States.
- The ZSP must be finalised and operationalised timeously so as to guide resultant actions that will enable sustainable access, development and management of the resources in the basin.
- Basin-wide planning must place concerted effort on conjunctive water resources management and development; the engagement and inclusion of input from multiple stakeholders and sectors, as well as the mainstreaming of issues such as gender, in basin programmes and activities.

Sub-theme: Benefits of Cooperation in the Management and Development of Shared Water Resources

- ZAMCOM should unpack and operationalise the benefit sharing concept to ensure optimal utilisation, development and management of the water resources in the Basin.
- ZAMCOM must invest in human and institutional capacity development and knowledge exchange which are central to improved basin management and the realisation of benefits.

Sub-theme: Roles of RBOs and Other Players in Realising the Benefits of Cooperation

- RBOs should interrogate their current mandates and explore additional roles such as focussing on investments, thereby, promoting and placing cooperation around investments at the centre of transboundary water resources management.
- RBOs should strengthen the engagement of a wide spectrum of stakeholders for ownership and legitimacy. ZAMCOM, for example, has structures in place that involve stakeholders. These are the National Stakeholders Coordination Committees (NASCs)

and the Basin Stakeholders Coordination Committee (BASC).

- RBOs should promote stakeholder participation and partnerships for ownership and legitimacy of outputs and outcomes from processes such as development of strategic plans.

Forum Proceedings

1. Session One

1.1 Official opening

In his welcome remarks, Zambia's Department of Water Resources Development (DWRD) Director in the Ministry of Water, Development, Sanitation and Environmental Protection, Eng. Kenneth Nyundu, appreciated the opportunity accorded to the DWRD to host the 2nd Basin Stakeholder's Forum. He noted that the Forum had attracted more than double the number of participants present during the inaugural Forum held in Namibia in 2016.

He attributed the increased participation to the keen interest and the willingness of basin stakeholders to contribute in coming up with actions that will guide sustainable water resources management in the Zambezi River Basin. He impressed on the Forum to come up with actions that will ensure sustainable access, development and management of the water resources in the Basin. Eng Nyundu applauded the Zambezi Basin Commission Secretariat (ZAMSEC) for the work and effort put into bringing all relevant stakeholders together and welcomed all to Lusaka.

Dr Kenneth Msibi, speaking on behalf of and bearing greetings from the SADC Executive Secretary, acknowledged that the Zambezi River Basin is the biggest basin wholly located within the Southern African region. He recalled that Zambia has always been active in regional cooperation adding that it was in Zambia where the Southern African Development Coordination Conference (SADCC), the forerunner to the SADC, was born in 1980.

He said the SADC Secretariat provides support necessary to strengthen all river basin organisations in the region. He appreciated the work being done in the Zambezi Basin, acknowledging that lessons from the Basin have provided a springboard for other shared watercourse agreements in the region; and likewise; the basis upon which negotiations for the SADC Protocol on Shared Watercourse Systems were based.

Dr Msibi recognised the cooperating partners present and appreciated their investment in the Basin. He took pride in the National Stakeholder's Coordination Committees (NASCs) and applauded riparian states for their cooperation and the support given to ZAMCOM in the implementation of basin activities. In his concluding remarks, Dr Msibi stressed the need to take into consideration gender issues and gender mainstreaming during deliberations and planning during the Forum and beyond.

Delivering his remarks, Prof Zebediah Phiri, the ZAMCOM Executive Secretary, thanked the Government of Zambia for hosting the 2nd Zambezi Basin Stakeholders' Forum. He recognised all stakeholders present thanking them for making time to participate in the Forum. The Executive Secretary acknowledged the critical role played by Zambia in fostering regional

integration and cooperation in the SADC as well as the country's commitment towards sound water resources management.

Noting the importance of the Zambezi watercourse to all riparian states, he emphasised that cooperative planning of actions between and among states will ensure sustainable basin development and management. Cooperation, as such, is not only an imperative for the Basin, but will also lead to sustainable development and management of the Zambezi River Basin. Cooperation, he said, is key to unlocking the development potential of the Basin as well as contributing to good neighbourliness.

Prof. Phiri underscored the importance of the Forum which affords all stakeholders an opportunity to contribute to shaping the development and management of the water resources of the Zambezi Watercourse, which enables continued peace and prosperity in southern Africa.

In his remarks, the Permanent Secretary in the Ministry of Water Development, Sanitation and Environmental Protection, Bishop Dr Edward Chomba, noted that the Forum brought together stakeholders interested in the management of the water resources in the Zambezi Basin and hence the need to think critically about the shared resource.

He said that the water sector is a priority in Zambia - as contained in the country's 7th National Development Plan. Therein, one of the key actions that has been identified going forward is the need to increase water storage through the construction of bigger dams for the benefit of the people. The PS appreciated that the Forum afforded all present the opportunity to make input into the formulation of the ZSP. He reminded all participants that; "the water we are talking about here was not inherited from our forefathers. [Rather,] we have borrowed it from our future generations…we should, therefore, look after it very well".

In his official opening remarks, the Minister of Water Development, Sanitation and Environmental Protection, Honourable Lloyd Mulenga Kaziya, welcomed all participants to Zambia and appreciated that the gathering provided a platform for sharing ideas and experiences on the benefits of transboundary cooperation, which is central to strengthening and fostering regional cooperation.

The Forum also afforded basin stakeholders an opportunity to appreciate activities underway in the basin. It also provided for the collective evaluation of basin activities and addresses specific issues in line with and pertinent to the implementation of the ZAMCOM agreement. The gathering, as such, signified the importance of the shared water resources that contributed to the socio-economic development of the over 40million inhabitants in the Basin.

The Basin population is projected to reach 50 million by 2025. This will present new challenges as well as exacerbate existing social pressures (such as inadequate food, water, energy) that

will require innovative solutions without compromising ecosystems and not undermining the development of riparian states. It is, therefore, important to reflect on how the water resources in the Zambezi Basin can be managed to further contribute to the achievement of the global social economic agenda through poverty reduction, creation of jobs and improvement of livelihoods of the people in the Basin and the region at large.

ZAMCOM provides a platform for accelerating development of the Zambezi water resources through climate resilient and adaptation approaches integrated into programmes in order to realise the benefits of transboundary water cooperation. Integrated planning and sustainable development, as such, must be the cornerstone upon which all interventions are anchored, the Minister said.

He impressed upon the gathering that; Zambia water reforms culminated in the enactment of the Water Resources Management Act No. 21 of 2011. Therein, transboundary water resources are recognised to foster regional integration and cooperation through equitable utilisation in order to maximise the benefits from their use. Positive steps in this regard include the recognition of water's role in development as contained in the 7th National Development Plan (launched in July 2017), which responds to the national vision 2030 aligned to the Sustainable Development Goals (SDGs) and the African Union (AU) Agenda 2063.

This requires accelerated development of transboundary water infrastructure to address the impacts of climate change and spur socio-economic development. The Minister reiterated that while Zambia continues on its national development path, the country recognises the importance of its commitment to equitable and reasonable utilisation to promote win-win outcomes for all riparian states. Focused joint development planning will, as such, realise development in the Basin.

Honourable Kaziya challenged and implored the Forum to explore ways and means to acquire sustainable funding for the Zambezi Basin Commission to ensure its financial independence.

1.2 Zambia's transition to modern water resources management and development in the context of transboundary cooperation

The presentation was delivered by Dr Mkhuzo Chongo from the Department of Water Resources Development in the Ministry of Water Development, Sanitation and Environmental Protection.

Zambia has five main rivers namely; the Zambezi, Luapula, Kafue, Luangwa and Chambeshi, of which the Zambezi and Luapula are transboundary in nature. The country is also endowed with a number of major lakes that include; the transboundary (man-made) Kariba, Mweru and Tanganyika as well as inland Itezhi-tezhi, Mweru wa Ntipa and Bangweulu.

Dr Chongo noted some of the water resources challenges as follows:

- *Uneven distribution and availability of water resources*
- *Slow pace of water reforms*
- *Limited institutional capacity of the water sector to deliver services*
- *Inadequate water infrastructure resulting in low water usage*
- *Limited economic utilisation of water resources*

He noted major water stakeholders in Zambia as:

- *Ministry of Water Development, Sanitation and Environmental Protection*;
- *Department of Water Resources Development*;
- The *Water Resources Management Authority (WARMA)* created through the Water Resources Management Act No. 21 of 2011 for inland waters management and regulation;
- Departments of *Water Supply and Sanitation; Planning and Information* (partners and communicate with stakeholders); and Environmental Management;
- *The National Water Supply and Sanitation Council (NWASCO) and the Devolution Trust Fund*;
- *Other government ministries including the Ministries of National Development Planning, Finance, Foreign Affairs, Justice, Agriculture and Lands;*
- *Water users and developers* including farmers and farmer groups, water and power utility companies, local communities and civil society organisations (CSOs) and academia; and,
- *Special institutions* such as the Zambezi River Authority (ZRA) and the Lake Tanganyika Authority, which are special instruments helping to manage shared water resources focusing on particular issues.

Water sector reforms in Zambia

Giving an overview of the reforms from the legal and policy perspective, Dr Chongo informed the Forum that the pre-independence Water Act (1949) focused on water allocation and not water resources management. Given the inadequacies therein, a series of reforms were initiated beginning with the formulation of the first Water Policy (1994), that separated the functions of water supply and sanitation from water resources management and development.

The Policy took into account some of the gaps of the 1949 Water Act, which included the lack of consideration for shared waters and the lack of regulation of groundwater. Presently, water supply and sanitation is guided by the Water Supply and Sanitation Act No. 28 of 1997 while

the Water Resources Management Act No. 21 of 2011 guides water resources management and development.

The new Ministry of Water Development, Sanitation and Environmental Protection oversees both water supply and sanitation and water resources management and development at the policy level. Principles of both policies are still in effect at operational level.

At the operational level; based on the Water Policy of 1994, the Water Supply and Sanitation Act No. 28 of 1997 separated the roles of institutions for water supply and sanitation as follows:

- water utility companies for urban water supply and sanitation;
- local authorities for rural water supply and sanitation;
- NWASCO as the regulator for water supply and sanitation.

The revised Water Policy (2010) and the Water Resources Management Act No. 21 of 2011 made provision for the formation of WARMA, catchment councils and the Department of Water Resources Development.

For international waters; Zambia ratified the revised SADC Protocol on Shared Watercourses and domesticated it in the Water Resources Management Act No. 21 of 2011. For the Zambezi River Basin, Zambia acceded to the Agreement for the establishment of the Zambezi Watercourse Commission (the ZAMCOM Agreement) in 2013.

There is, however, no explicit reference to the ZAMCOM Agreement in the Water Resources Management Act No. 21 of 2011 but this is implied by virtue of the domestication of the revised SADC Protocol on Shared Watercourses. The country recognises that cooperation in shared water resources management will translate into national economic benefits, social and environmental benefits; regional economic benefits as well as peace and security.

Thus, he said, cooperation and basin-wide planning benefits regional development that translates into national development, which in turn enables development at the sub-national level.

Discussions

During plenary discussion, a number of issues were raised and discussed. They included the following:

- The DWRD is responsible for the maintenance of small and medium sized dams together with water users. Operations and maintenance is done by the people that are operating and deriving benefits of these dams. However, large dams require special agencies such as the ZRA.
- Deliberate processes must be instituted to address the limited economic utilisation of water. For example, during the construction of small dams, communities must

participate in the siting and construction of such structures as part of community mobilisation. These developments must also include irrigation schemes so as to maximise the benefits derived from the dams. Currently, the Ministry of Agriculture's business office is encouraging communities to grow high value crops to improve their livelihoods. It is important to identify and take advantage of such opportunities to realise the economic utilisation of water. As communities benefit from growing high value crops and their livelihoods improve; water management authorities can then start to collect levies from the productive/ economic use of water;

- Stakeholder participation at the sub-national level – the University of Zambia (UNZA), among other stakeholders, has been very active in the sector. Annually, UNZA organises the Zambia Water Forum, which provides a platform for stakeholders to share ideas to push the water sector agenda forward. The Ministry also collaborates with the University in capacity building through the AU/NEPAD Centre of Excellence as well as the Integrated Water Resources Management (IWRM) Centre;

- On construction of dams in the country – there is need for proper planning which includes conducting strategic environmental impact assessments.

- Where the water resources are transboundary in nature, it is important to be aware of the transboundary impacts and to follow notification processes related to developing waters in transboundary basins; and

- It was impressed upon the Forum that issues around potential transboundary impacts affect all riparian states. As part of the SADC Transboundary Water Management Programme, each basin must develop specific programmes with specific criteria to facilitate the notification of planned measures.

2. Session Two

Setting the scene

The session set the scene for the 2nd Zambezi Basin Stakeholders Forum discussion. The session was facilitated by Ms Ruth Beukman as the overall Forum facilitator and co-Chaired by Angola and Botswana.

Ms Beukman noted that realising what the Forum theme implied would require an understanding of the benefits of cooperation including how benefits can assist in planning for the Basin, from the local level to the regional level and beyond.

Similarly, she highlighted, input from the Forum will inform the development of the ZSP adding that cross sectoral engagement is key bearing in mind the need to meet water, energy, and food security demands in the Zambezi River Basin (ZRB) among other imperatives.

2.1 Keynote address: Benefits of cooperation and basin-wide planning in the management and development of shared water resources

Delivering the keynote address, Prof Damas Mashauri recalled that the ZRB is the largest basin wholly located within the SADC and the fourth largest on the continent draining an estimated area of 1.4MKm^2 and discharging 2,600m^3/s into the Indian Ocean. The Basin supports at least 40 million people, a population size that is projected to reach 50 million by 2025.

Water resources are characterised by variable spatial and temporal distribution among Riparian States. Water stress in some Riparian States, as well as inadequate access to safe and adequate water and sanitation and the negative impacts of climate change further compound transboundary water resources management in the Basin.

Water being vital for life, its use and management require multi-sectoral and multi-stakeholder approaches in order to incorporate varying interests and to manage competing demands.

Basin wide planning, coordination and integration require equitable utilisation, harmonisation and alignment of national water policies to regional and international conventions as well as conflict management hinged on Riparian State cooperation. Cooperation is, as such, a facilitator for accruing the benefits from shared water resources. The opportunities from cooperation include integration of regional infrastructure, markets and trade, improved water quality, and improved water resource management. In addition, cooperation in transboundary water resources management results in benefits such as peace dividends, poverty reduction,

economic growth and enhanced basin and regional capacity for transboundary planning and development.
Concluding his keynote address, Prof Mashauri stressed that water is critical to regional, basin and national socio-economic development and poverty reduction. Water is also important for energy production for improvement of people's standard of living as well as contribute and stimulate economic growth and development. Coordinated management will, therefore, instil systemic benefits.

Discussion

During plenary the following are some of the points discussed:

- Participants admitted that silent competition among states in shared watercourses exists. It is, therefore, important that states appreciate the benefits of collective basin development and management beyond political interests

- Noting the amount of effort put into ensuring that countries cooperate; there is now need to focus on investments, thereby, promoting and placing cooperation around investments at the centre of transboundary water management. Promoting investment led cooperation will attract key institutions to help finance basin activities. RBOs must, as such, be at the core of facilitating investment led cooperation rather than only political cooperation. Achieving this may require taking a relook at the mandate and role of RBOs

- It was underlined that the conjunctive water resource management (where consideration is given to both surface water and groundwater management), must be factored into basin management. This is especially important because at least 70% of people in the region rely on groundwater; a demand that will increase given increased frequency and prolonged droughts as a result of climate change

2.2 Update on ZAMCOM's current work

Mr. Hastings Chibuye, ZAMCOM's Programme Manager for the Zambezi Water Resources Information System (ZAMWIS), briefly chronicled ZAMCOM's history before updating the Forum on some of the projects being implemented. .

He informed the Forum that ZAMCOM was established by the eight riparian states sharing the Zambezi River Basin through the ZAMCOM Agreement signed in 2004 and entered into force in June 2011. The Agreement draws from the SADC Revised Protocol on Shared Watercourses and the United Nations (UN) Convention on the Law of Non-navigational Uses of International Watercourses (1997). The ZAMCOM permanent secretariat was set up in 2014. The governance structure of ZAMCOM is as provided for in the Agreement.

ZAMCOM is guided by the vision that envisages *a future characterised by equitable sustainable utilisation of water for social and environmental justice, regional integration and economic benefit for present and future generations* and the mission that seeks *to promote the equitable and reasonable utilisation of the water resources of the Zambezi Watercourse as well as the efficient management and sustainable development thereof*.

Current ZAMCOM work is centred on 3 pillars:

iv. institutional development and basin wide cooperation
v. strategic planning and development
vi. water resources management and information system

Achievements to date include:

i. Institutional Development and Basin-wide Cooperation

- Stakeholder participation and partnerships: institutional development and basin-wide cooperation through the successful establishment and functioning of National Stakeholder Coordination Committees and the Basin-wide Stakeholder Coordination Committee (BASC). These platforms are important for building trust and confidence among stakeholders; the validation of inputs into ZAMCOM processes and allow for strategic engagement to harness synergies

- Development and implementation of Procedures for Notification of Planned Measures with the objective to provide clear guidance to Member States on detailed notification requirements (e.g. timelines, format, required supporting information) as well as to ensure faster project development, approval and implementation and to reduce disputes

- Development and implementation of Rules and Procedures for Data and Information Related to the Management and Development of the Zambezi Watercourse

- The near completion of the study on Legal Equivalence Assessment aimed at assessing the degree of equivalence among Riparian States for key provisions of the national legislation and recommend best practice provisions and guidelines for ZAMCOM in order to facilitate the process of harmonising national and regional policies, laws and agreements towards basin wide cooperation.

ii. Strategic planning and development

- Under this programme, development of the Strategic Plan for the Zambezi Watercourse commenced in January 2017 and was expected to end in January, 2019

- Other activities include the development and dissemination of various information and communication products such as the IWRM Strategy at a Glance; and the Zambezi Environment Outlook (ZEO) in both English and Portuguese.

iii. Water Resources Management and Information System

- Completion of the Zambezi Water Resources Information System (ZAMWIS) Enhancement 2
- Installation of the SADC HYCOS base station
- Configuration of the computer for "automated" download and upload of remote sensing products into ZAMWIS
- Commencement of ZAMWIS Enhancement 3 Project (Upgrade of Hydro-met database and development of the Decision Support System for the Zambezi Watercourse)

He outlined some foreseen benefits of cooperation in the Zambezi as: peace dividends, increased food security, increased regional economic benefits, increased energy security, joint investment planning and increased employment opportunities.

To emphasise the benefits of cooperation, Mr. Chibuye concluded by quoting an African proverb: "If you want to go fast, go alone. If you want to go far, go together".

2.3 Update on the development of the Strategic Plan for the Zambezi Watercourse (ZSP)

Eng. Evans Kaseke from ZAMCOM Secretariat (ZAMSEC) and Mr Enoch Dlamini from COWI, jointly made the presentation where they updated the Forum on progress in the development of the Strategic Plan for the Zambezi Watercourse (ZSP), which commenced in January 2017 and is scheduled to be completed in January 2019.

The presentation emphasised that; the ZAMCOM Agreement provides the basis for the development of the Strategic Plan for the Zambezi Watercourse. The ZSP is a "development plan comprising a general planning tool and process for the identification, categorisation and prioritisation of projects and programmes for the efficient management and sustainable development of the Zambezi watercourse".

The Forum was informed that the ZSP seeks to:

- Contribute to providing a basis for harmonised, basin-wide cooperation in the management and development of the water resources of the Zambezi watercourse; and,

- Provide an agreed basis for the coordinated and integrated implementation of activities in the context of efficient management and sustainable development

The Strategic Plan for the Zambezi Watercourse is ZAMCOM's core project as outlined in the ZAMCOM Agreement. The ZSP will lay a firm foundation for more systematic, cooperative and tangible actions aimed at addressing the emerging socio-economic challenges in the basin and the region in an efficient and sustainable manner thereby contributing to improved energy

security, improved food security as well as improved provision of ecosystem services. Ultimately, the ZSP will contribute to the fulfilment of the ZAMCOM mission.

The ZSP is being developed in a cooperative and consultative manner based on generally accepted adaptive and cyclic planning processes. The ZSP builds on previous basin-wide studies, assessments and strategies including:

- The Zambezi Basin IWRM Strategy (2008);
- The Multi-Sector Investment Opportunities Analysis in the Zambezi River Basin (2010);
- The Dam Synchronisation and Flood Releases in the Zambezi River Basin Project (2011);
- The Zambezi Basin Atlas of a Changing Environment (2012); and,
- The Zambezi Basin Environment Outlook (2015).

Some of the major steps in the development of the ZSP include:

- *Conducting a situation analysis and developing strategic directions* includes assessment of policy, legal and institutional frameworks; socio-economic assessment; hydrologic assessment; baseline water demands; understanding sectoral perspectives and SWOT analysis in order to inform strategic direction
- *Consideration of national and basin level objectives, sector development plans, infrastructure inventories* includes the analysis of sectoral development perspectives; infrastructure inventory; prioritised projects portfolio; current and future water uses; basin-wide development scenarios and basin-wide investment scenarios.
- *Basin development scenarios* includes costing and financial arrangements; institutional structure; targets and measures; understanding impacts of implementation of development opportunities; trade-offs facilitation and dispute prevention; risks and risk management; the development of a basin implementation plan as well as monitoring and evaluation tool

The final stages of the process will include consideration of basin investment scenarios and preparation of the actual Strategic Plan for the Zambezi Watercourse as informed by the preceding stages.

2.4 Development of the Zambezi Decision Support System (DSS) for planning, management and development of shared water resources

Dr Jens Kristian Lørup from the DHI, updated the Forum on progress in the development of the Zambezi Decision Support System (DSS) for planning, management and development the shared water resources in the Zambezi River Basin.

With support from the World Bank, work on the Zambezi Water Resources Information System (ZAMWIS) – Enhancement 3: Hydro-Meteorological Database and Decision Support System (DSS) commenced in January 2017 and will run until January 2019. The ZAMWIS Enhancement 3 will be a web-based platform accessible to everyone that will support the promotion and coordination of cooperative management and development of the water resources of the Zambezi Watercourse in a sustainable and climate resilient manner.

The ZAMWIS Enhancement 3 consists of 3 components:

i. ZAMWIS Database – a platform for sharing common sets of data and information, which can be viewed and downloaded by the riparian states, guided by the Rules and Procedures for sharing of Data and Information Related to the Management and Development of the Zambezi Watercourse. The database will house time series data, spatial data and knowledge products
ii. ZAMWIS Water Resources Planning Tool – to support the process of notification of planned measures, the updating and modifying of existing basin plans as well as support national planning and development of water resources;
iii. The ZAMWIS Flow Forecasting System - a Flow forecasting and monitoring tool that will enable integration of real time flow data, more detailed digital elevation models and more accurate hydrological models, along with integration of near real-time data (derived either automatically from hydro-met monitoring systems of national governments or dam operators, HYCOS or satellite derived data), the DSS functions can provide more accurate flow forecasting and monitoring for planning in the riparian states.

Key users for the ZAMWIS Enhancement 3 include: water resources modellers, planners, decision makers, other government institutions as well as the public. The following are some of the ZAMWIS DSS attributes:

- The ZAMWIS Database will create a platform for sharing common sets of basin-wide data and information by Riparian States;
- The ZAMWIS Water Resources Planning Tool will provide a dynamic tool to support planning, management and development of shared water resources;
- The ZAMWIS Flow Forecasting System will provide improved forecasting of flow in the basin, including inflow to dams and reservoirs;

- The use of common tools and data will consequently, enhance transparency and build confidence and trust between riparian states and demonstrate benefits of development of the water resources in the basin in a collaborative manner.

2.5 The Role of River Basin Organisations in Realising Benefits of Cooperation

In his presentation, Dr. Lautze informed the Forum that, worldwide, more than 60 international RBOs have been formed since 1950 while less than five existed prior to that. This has been motivated in part by increased recognition of need for cooperation on shared waters. Types of international RBOs include:

- committees - constituted by official representatives of Riparian States who meet at some frequency to discuss conditions and developments in a shared watercourse, seek compromises where appropriate, and advise their governments and have no regular full-time staff;
- commissions - made up of officials appointed by riparian states to undertake functions that include monitoring (e.g., data collection) and regulation (e.g. coordination, policy setting) with full-time staff and a technical office; and,
- authorities - composed by officials appointed by riparian states to undertake functions that include development and implementation, in addition to some or all of the functions performed by commissions; authorities have full-time staff and a technical office.

Committees are the simplest of RBOs while commissions are less empowered and Authorities are formed to perform specific roles.

Water management is dynamic and complicated and, therefore, calls for the need to move beyond fixed water allocation to sharing benefits. This necessitates the identification and advancement of optimal solutions, which may not emerge through old-fashioned bartering across-states. International RBOs, as such, promote gains in water cooperation; provide a platform for donor coordination, program planning, data exchange, policy harmonisation; strengthen monitoring and adaptive management; reduce conflict among riparian states; and can, in some cases, leverage investment for basin development (especially in the case of secretariat-based RBOs).

A myriad of studies in numerous basins have documented how greater benefits can be derived from coordinated operation of infrastructure through, for instance, maximising water allocation for different uses and averting disasters. Optimal water allocation leads to optimal benefits as seen in the Columbia River Basin, for example, where upstream, dams in Canada are used for flood control, and downstream, the United States of America provides power as compensation.

Social and environmental benefits can also be realised as cooperation enables processes and provides frameworks for inclusion of concerned stakeholders. Similarly, *cooperation provides benefits 'beyond the river' through regional economic integration and peace and security* as active dialogue reduces potential for conflict, fosters discussion on issues, helps overcome misunderstanding thereby catching issues before they escalate; and fosters convergence toward common understanding of situations.

Yet, realising the benefits from cooperation on shared watercourses can be slow as negotiations can be protracted particularly as more actors usually means more time and so may take longer than 'going at it alone'. Well-positioned countries may perceive their immediate benefits as greater through unilateral development. Furthermore, cooperation may carry risks and some financial costs. It is, consequently, important to consider immediate and secondary benefits as well as the role of issue linkage and side-payments.

For secretariat-based RBOs like ZAMCOM, the *role of the RBO includes facilitating collection and dissemination of data, and convergence towards common understanding of current conditions.* This convergence leads to a *shared vision for future development and the prioritisation of investments.* The *RBO must promote benefit-sharing options* as means to reducing temptation for unilateral actions, and a way of harnessing greater collective benefits of cooperation. Likewise, the *river basin organisation must reduce risk* which is a big constraint to progress; provide safeguards as appropriate; as well as capacity development.

3. Session Three

Panel discussion on the Forum sub-themes: basin-wide planning, benefits of cooperation and the role of RBOs

The panel, co-chaired by Malawi and Mozambique and composed of representatives from Zambezi Basin riparian states, discussed the Forum sub-themes namely: basin-wide planning; benefits of cooperation; and the role of RBOs. Panellists were requested to share their country experiences and these are captured below.

- **Angola** participated in the consultations on the development of the ZSP. The plan will help the country to improve on the management and use of water resources in a manner that can guarantee socio-economic development in a sustainable manner and preserve the environment in the Zambezi. Implementing the ZSP will require commitment at the political and technical level.
- **For Botswana**, the benefits of cooperation include economic – *enabling economies* to grow in many ways as activity and productivity increases in sectors such as agriculture, industry, mining and nature based tourism. Economic benefits translate into job creation hence *social benefits* that include poverty reduction and improved livelihoods. Cooperation also realises *environmental benefits* through joint planning and action; regional economic benefits as transboundary water cooperation enhances trust and peace as well strengthening international law. Also, cooperation improves governance as riparian states interact. Thus, the benefits of cooperation outweigh not cooperating, as each riparian state owes it to the other to ensure continued peace and stability.
- **For Namibia**; there should be cooperation among the riparian states. Katima Mulilo, for instance, heavily depends on the Zambezi River with the town, hotels, lodges and the people, among others, directly benefiting. *Polluting the system upstream would also negatively affect Namibia* through inflated budgets for health systems, for instance, in order to address the negative effects of compromised water quality. Therefore, cooperation is important to avoid such occurrences.
- **Malawi and Tanzania** have agreed to cooperate and jointly *develop the water resources* in the Songwe River Basin. Opportunities there include the construction of the lower Songwe dam that will not only *prevent flooding* in the basin, but will also *generate hydropower and irrigate* approximately 3000ha in Malawi and 3100ha in Tanzania. The *investment* will be managed through a joint water commission. Currently the two countries meet quarterly to jointly plan. The *mandate of the basin organisation will include planning, coordination of activities, monitoring, arbitration, enforcement, operator of basin infrastructure, advising riparian states as well as spearheading the development of projects* in the basin

- **For Mozambique** as a *downstream riparian, benefits of cooperation are particularly important* as they have implication for the operation and management of the water resources in the country. In the past, there were deficiencies in sharing information about the basin (Zambezi). At the moment, *gains through cooperation include timely sharing of information and data.* This is helping in the management of the spill gates at Cahorra Bassa for instance. To further harness this cooperation, ZAMCOM was urged to put in place technical working groups to accelerate the work in the basin in order to better manage the resource and realise the *hydropower potential* of the Basin. The planned construction of the Mpanda Nkuwa dam will help to respond to the energy deficit in the basin and the region at large. A monograph for the Zambezi that includes an investment plan has been completed.
- **The Zambian** experience can be summarised as "Together we stand, divided we fall". It is the obligation of each riparian states to cooperate as it *accelerates improved environmental sustainability, political stability*, enables riparian states share experiences at the basin and regional levels and is a *good catalyst for conflict resolution and mobilisation of funds for joint projects*. Interests of upstream and downstream states vary and these must be taken into consideration. Sound transboundary water management requires sharing information and coordination in an iterative and cyclical process. While appreciating state sovereignty, *being party to agreements limits riparian state freedom to act unilaterally* and to exercise exclusive power as it *recognises all riparian states on an equal footing with equal rights*. The *major roles of the RBO* must, therefore, include the *gathering information and data, coordination of programmes for better management, facilitating the participation of non-state actors, monitoring and ensuring compliance* as well as helping in fact finding missions and disclosing breaches.
- **Zimbabwe** has derived benefits from cooperation in the Buzi, Pungwe and Save Basins shared between Zimbabwe and Mozambique where the two riparian states are implementing a tri-basin initiative on *pollution control*. The initiative includes a *baseline study that identifies the hotspots; environmental flow and degradation and water usage.* The same can be done for the Zambezi. The conversation on cooperation, therefore, must not be about whether or not to cooperate, rather, *how best to cooperate.* This requires *optimising the benefits and sharing them fairly focusing on the use of water rather than the allocation*. The willingness to cooperate is determined by the incentives. However, while all riparian states *appreciate the benefit sharing concept, they lack the knowledge to operationalising the concept so as to realise the benefits of optimal management*. Thus, while the concept is clear but needs unpacking. For the Zambezi, the larger the number of players, the more difficult and yet the more necessary to cooperate.

Contributions from the floor included: (discussion)

- *Capacity building* must be considered as a means of implementation of basin activities as well as *strengthening institutional governance*. Transboundary water management requires that stakeholders have requisite capacity not only in terms of knowledge, but also in terms of accountability to ensure that leadership and checks and balances are in place.
- Sustainable basin management is key to achieving the SDGs. Focus must, therefore, also be on *ecosystems* based on the realisation that their functionality provides a multitude of *goods and services*.
- It is critical to understand what works best within the *context of each river basin*. This will help in *measuring performance* – economic, social and environment - of river basin institutions based on specific indicators. This will also help in charting the way forward for the basin
- The idea of RBOs coordinating work is good, bearing in mind threats from non-riparian demands on the basin. This necessitates a long-term view of basin management.

4. Session Four

Group work on Forum sub-themes

Co-chaired by Namibia and Tanzania, three groups were set up to discuss the Forum sub-themes:

i. basin-wide planning,
ii. benefits of cooperation and
iii. the role of RBOs

Group discussions were guided by the following questions:

- what are the priority issues requiring transboundary water cooperation in the context of the Zambezi River Basin?;
- what are the benefits of transboundary water cooperation?; and
- what role should ZAMCOM play in the realisation of benefits of cooperation?.

From the group discussions:

i. Priority issues requiring transboundary water cooperation in the Zambezi River Basin

- Integrate groundwater in basin planning
- Deforestation in the headwaters
- Hydrological monitoring infrastructure in the headwaters
- Increased water storage infrastructure
- Climate change
- Communication strategies
- Environmental stewardship
- Pollution and invasive alien species
- Emergency preparedness
- Investment for basin development including data collection

ii. Benefits of transboundary water cooperation

Transboundary water cooperation realises economic, environmental and social benefits as shown in the table below.

Challenges to be overcome	**Economic benefits**	**Social benefits**	**Environmental benefits**
Water quality and pollution	Reduced health sector costs	Lower health and epidemiological risks	Environmental health and sustainability
Water scarcity and variability in access to water resources	Enhance trade at the national and regional levels Regional strategic food and energy security Increased national incomes	Water for social and economic use	
Limited to moderate investment in the use of cultural and natural resources	Tourism income		Realisation of the value of the environment
Synchronisation and coordination	Optimised energy and food production taking into account improved dam management		
National and regional vulnerabilities	National and regional security Reduction in economic vulnerabilities Energy and food security	Reduction in social vulnerabilities	

Environmental and river system degradation	Food and energy security	Improved livelihoods	Function ecosystems providing good and services
Policy harmonisation	Productive use and regulation of water and related resources		
Inadequate capacity, information and knowledge			

iii. The role of ZAMCOM in realising the benefits of cooperation

Current roles of ZAMCOM include; advisory, harmonisation, facilitating negotiations and process coordination. Additional roles must include:

- Assisting in the *mobilisation of resources* beyond the maintenance of the Secretariat as well as supporting countries as they mobilise resources to develop activities and plans
- Supporting the *prioritisation of investment* priorities and projects for riparian countries
- *Facilitating the implementation of plans* and not only discussions
- *Coordinating and aligning the ZSP with existing regional strategic action plans*
- *Monitoring* ZAMCOM progress and activities
- *Harmonisation of roles and responsibilities* across scales and basin sub-units
- *Improved decision-making capacity* moving from a commission to an authority

It was noted that feedback from the groups validated some findings during the development of the Strategic Plan for the Zambezi Watercourse.

5. Session Five

Parallel Sessions

Four parallel session were convened to share and discuss the following topics:

- Building resilience through infrastructure development in the Zambezi Basin
- Institutional strengthening and capacity development for basin wide cooperation
- Improving data and information management in the Zambezi Basin
- Strengthening gender equity and social inclusion in basin wide planning

Feedback from the parallel sessions to plenary is presented below.

5.1 Building resilience through infrastructure development in the Zambezi Basin

Facilitated by the Global Water Partnership Southern Africa (GWPSA); the session included the following presentations:

- *Transforming infrastructure delivery in Southern Africa* by the Climate Resilient Infrastructure Development Facility (CRIDF);
- *The critical role of natural infrastructure in building basin resilience* by the World Wildlife Fund for Nature (WWF); and
- *Building resilience through bi-lateral infrastructure development in the Zambezi Basin – the Zambezi River Authority experience* by the ZRA.

Outcomes included:

- **It is important to consider the following issues when planning and developing infrastructure in the basin:**
  - How the poor are targeted for *benefits* and the models used to engage communities
  - *Gender and social inclusion* issues should be well integrated into planning and delivery of infrastructure
  - *Multi-sector approaches* should be used to ensure that infrastructure developed benefits a range of sectors
  - In developing large schemes; it is important to *use tools* such as the Hydropower Sustainability Assessment Protocol – which will *ensure that environmental and social safeguards* are considered

- Climate assessment needs to be undertaken in order to understand the range of scenarios that planners are likely to deal with in the future

- **Investing in green infrastructure is critical to building resilience and sustaining systems**
  - *Ecosystems* play a critical role sustaining provision of water resources
  - Need to develop an *ecological pipeline of investments* focusing on the watersheds and invest in protecting them
  - Communicate the *role natural infrastructure* plays in de-risking investments in hard infrastructure especially from the impacts of climate change
  - *Ecosystem Based Adaptation* can be implemented at different scales and levels in order to build resilience in basins
  - Need to embed *catchment management in infrastructure planning* and development noting critical conservation areas needed to sustain and support built-infrastructure

- **Strengthening the role of science in planning and delivering infrastructure**
  - There is a need to *elevate the role of science* (all forms of knowledge including local and indigenous) in influencing decision-making around development
  - Need to *facilitate knowledge institutions* to work with regional and national government institutions in order to *support evidence based planning*

- **Improved communication in order to increase understanding of the importance of investing in infrastructure**
  - Improve *communication among practitioners from science, engineering and development planners* noting that people who ultimately make decisions are the economic development planners and the language they understand is around job losses, loss of lives and economic damages

- **Scaling-up pro-poor climate resilient water infrastructure development**
  - There is need to *embed infrastructure projects into regional and national* systems from the beginning in order to ensure upscaling so as to effect transformational change
  - It is important to *invest in understanding and addressing institutional issues especially in cross-border infrastructure projects*

- **Central role of ZAMCOM in driving knowledge sharing and replication of initiatives in the basin**
    - ZAMCOM has the potential of providing a *multiplier effect through supporting knowledge sharing and acting as a facilitator to drive replication of good practices* across the basin

- **Financing of water infrastructure remains a challenge and strategies to unlock this have to be identified**
    - There is need to *explore the roles that RBOs can play in supporting project preparation and taking projects towards bankability.*
    - There is need *to find ways of mainstreaming some of the functions provided by project preparation facilities in early project concept development into RBOs* to increase the chances of project being financed

- **Objectively conducted monitoring and learning should be play a critical role of feeding back into planning and delivery of infrastructure and ensuring that learnings influence future projects.**

5.2 Institutional Strengthening and capacity development for basin wide cooperation

Facilitated by WaterNet, the session included the following presentations:

- Water and Cooperation within the Zambezi River Basin (WACOZA) project: *Assessing Water-Energy-Food-Ecosystems Nexus across the Basin* by the AU/NEPAD Southern African Network of Water Centres of Excellence (AU/NEPAD SANWATCE);

- *Enhancing Water Cooperation through groundwater management* by the SADC Groundwater Management Institute (SADC-GMI); and

- *Strengthening water cooperation in the Zambezi – working towards the SDGs* by Mr Davies Saruchera.

<u>Outcomes from the session included:</u>

- The Zambezi has had more than 10 agreements before the current ZAMCOM Agreement indicating a long history of cooperation on water resource in the basin

- A lot is happening at the basin level, yet *critical information does not filter down to the grassroots*. *Capacity building* initiatives must also be targeted at the *grassroots level*

- A lot of initiatives are taking place within the basin in terms of both human capacity development and institutional support and not much being done to investigate the enabling environment. Even then, there is *not much synergy among partners*. Thus, there is a need for *ZAMCOM and partners be more proactive to ensure that efforts are not duplicated*

- Sub-committees must be set up to handle specific issues

- *ZAMCOM must coordinate* increased use of ICT and direct more concerted effort to *formalising feedback mechanisms* on ongoing initiatives

- Beyond information sharing, the *ZAMSEC must play an active role in research processes so to enable utilisation of results* from insightful research

5.3 Improving data and information management in the Zambezi Basin

Facilitated by the Institute for Water and Sanitation Development (IWSD), the session included the following presentations:

- *Exeperiênca da JOTC na Partilha de Informação Hidroclimatológica na Bacia Hidrográfica do Rio Zambeze* by ARA-Zambeze;

- *Experiences in working with River Basin Organisations in knowledge management* by the Southern African Research and Documentation Centre (SARDC); and

- *Sustainability of automated stations and how these can improve data capture in the Zambezi River Basin* by the Kafue Catchment Council (Zambia).

Outcomes included:

- *Decline in the state of monitoring stations for collecting hydrological data* in river systems and in the basin at large. For instance, a total number of 322 gauging stations are required in Zambia yet the existing network has 179 of which 169 are functional

- *Quality of data* collected at the stations is compromised as some instruments are clogged and calibrated figures are corroded or cannot be seen

- There is need for an *integrated information sharing systems as well as to create inter-sectoral links* so that all sectors share information The ZAMSEC must, therefore, deliberately include other sectors to encourage integration

- *Institutional roles* in terms of who sets up data monitoring stations, who manages and collects data need to be defined

- *Sustainability of monitoring stations* is important. Funds for maintenance can be levied from selling data and information for instance

5.4 Strengthening gender equity and social inclusion in basinwide planning

Jointly convened by GWPSA and SADC-GiZ Transboundary Water Management Programme, the session included the following presentations:

- *Current efforts/progress in Mainstreaming Gender in the Zambezi Basin and SADC water sector'* by Ms Rennie Munyayi; and
- *Gender Mainstreaming Tools for Water Infrastructure Planning and Design by* Litumelo Mate of CRIDF.

Feedback from the session included:

- For most gender focal points (GFPs) in riparian states, the Basin Forum was the first encounter with the river basin organisation as well as RBO activities
- So far, much mainstreaming of gender is happening in NASCs and GFPs are currently not participating in the NASCs
- There is need for clarity on who, between the GFPs and gender machineries, is supposed to coordinate gender mainstreaming within the RBOs
- All basin documents have to be translated into Portuguese and French to enable effective participation by all
- Gender mainstreaming checklists have to be developed as they are very useful at the planning stage
- There is need to align national gender mainstreaming strategies developed or those being developed in the water sector at the national and regional levels to the Basin gender mainstreaming processes
- Education and raising awareness on gender mainstreaming are important at the higher levels and in day to day activities and programming
- Gender mainstreaming in water resources management is weak with more focus being placed on mainstreaming gender in water supply and sanitation
- There is limited to no linkage or communication between the GFPs and gender machineries at the national level

6. Session Six

Special session and Forum closure – Co-chairs: Zambia and Zimbabwe

6.1 Applying a nexus approach to generate new synergies and resolve trade-offs for basin-wide planning

The special session was guided by a presentation entitled *Applying a nexus approach to generate new synergies and resolve trade-offs for basin-wide planning* delivered by Drs Barbara Willarts, Simon Langan and Piotr Maguszewski from the International Institute for Applied System Analysis (IIASA).

With regard to integrated solutions for water, land and energy: the presentation noted that; nexus thinking acknowledges that water, food and energy are inter-linked. There is, therefore, need to look at solutions or actions that integrate these nexus issues. Scenarios can help to predict the future by looking at trends that can then be analysed, and evaluated to arrive at synergistic linkages. As such, it is important to consider how best to bridge the gaps between scenario developers and users. Cooperation is critical in bridging this gap, as well as joint stakeholder engagement. Achieving a sustainable Zambezi River Basin future will require consideration for the trade-offs to be made; the solutions can be developed and synergies to be explored.

Thereafter, participants were divided into groups to discuss the following questions:

- what are the main constraints and barriers that prevent nexus (water, land, energy) cooperation between countries; and
- what are the opportunities (policies decisions or actions).

IIASA collected the group responses and will collate and share them with the ZAMSEC.

6.2 Forum closure

6.2.1 Tying Loose Ends

Ms Ruth Beukman, presented a summary of outcomes from the Forum. The presentation highlighted the following issues:

a) Benefits of Cooperation (economic, environmental, hydrological, institutional, political at the national, basin and regional levels)

- Enabling environment - peace, stability political commitment confidence building and trust

- Need to move towards a shared basin identity
- Need for human and institutional capacity development, knowledge management and exchange
- Data and information sharing towards improved water resources management and predictability
- Stakeholder engagement for stakeholder ownership
- Improvements in water quality leads to improved health
- Better land management/ reduced degradation
- Restored ecosystems
- Reduced poverty
- Expanded activity and productivity
- Cascading benefits from regional to local level
- Regional markets for goods services and labour
- Development of transnational infrastructure

b) Basin-wide planning: Needs expressed included the following:

- Capacity development to include accountability, leadership and institutional capacity enhancements at all levels
- Need for further analysis of costs and benefits of cooperation as well as basin-wide planning
- The need to operationalise the concept of benefit sharing - the 'how to' of identifying and assessing benefits
- More and strengthened cross and multi sectorial engagement

c) ROLE of RBOs – ZAMCOM

- Continue the advisory role as outlined in the ZAMCOM Agreement - advise member states on planning, management, utilisation, development, protection and conservation of the Zambezi water course.
- Consider needs and the implications on the role – i.e. resource mobilisation and enhancing investment-led cooperation.

- Ensure groundwater issues are given similar attention as surface water.

6.2.2 Vote of Thanks

Delivering the vote of thanks, a Mozambique representative, Ms. Tsitsi Mubvukwedu Vendo, thanked: ZAMCOM and all organisers for planning, organising and coordinating the Forum; the Ministry of Water Development, Sanitation and Environmental Protection of Zambia for the hosting and the warm hospitality; and all participants for their contributions during the course of the Forum. He urged participants to implement all that had been deliberated upon and agreed upon in order to realise the benefits from cooperation in the basin, especially at the community level. He wished all safe travels.

6.2.3 Closing Remarks

In his closing remarks; the PS - Bishop Dr Edward Chomba, expressed gratitude to all participants for coming together to deliberate and share experiences and best practices related to the management of transboundary waters in Zambezi. He observed that all that had been discussed would remain rhetoric if it does not translate into development for the people on the ground.

The use of the benefits of cooperation concept allows for riparian states to accrue economic, environmental and social benefits important for the sustainability of the water resources in the Zambezi River Basin. It also requires a vision as well as the mobilisation of resources to make the basin institution self-sustaining. The Principal Secretary stressed that; commitments must translate access to water and improved livelihoods for all to realise socio-economic benefits. It is also important that transboundary water management involves all stakeholders.

APPENDICES

Appendix 1: 2nd Zambezi basin Stakeholders' Forum Programme

ZAMBEZI WATERCOURSE COMMISSION

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Win-win cooperation/ cooperacao, ganhas tu, ganho eu

2nd ZAMBEZI BASIN STAKEHOLDERS' FORUM
VENUE: INTERCONTINENTAL HOTEL, LUSAKA, ZAMBIA
DATE: 25-26 SEPTEMBER 2017

THEME: ***Benefits of Co-operation and Basin-wide Planning in the Management and Development of Shared Water Resources***

PROGRAMME

Time	Item	Presenters/Facilitators/ Panelists/Convenors	
	Sunday 24 September 2017 Arrival of Delegates		
16:00 – 19:00	Registration	ZAMSEC/Zambia	
	Day 1 - Monday 25 September 2017		
08:00 – 09:00	Registration	ZAMSEC/Zambia	
	Session 1 Opening Ceremony Session Facilitator: Zambia		
09:00 - 10:00	Welcome/Opening Remarks and Official Opening Speech	Master of Ceremony: Zambia	
10:00 – 10:20	Group photograph	All	
10:20 – 10:40	**Health Break**		
10:40 – 11:00	Zambia's transition to modern water resources management and development in the context of transboundary cooperation	Zambia	
	Session 2 Setting the Scene Session Chair: Angola, Co-Chair: Botswana		
11:00 - 11:10	Objectives of the Zambezi Basin Stakeholders' Forum	Leonissah Munjoma, ZAMSEC	
11:10 – 11:40	Key note presentation: Benefits of Co-operation and Basin-wide Planning in the Management and Development of Shared Water Resources	Prof. Damas Mashauri Namibia University of Science and Technology (NUST)	
11:40 – 11:55	Update on ZAMCOM's Current Work	Hastings Chibuye, ZAMSEC	
11:55 – 12:10	Update on the Development of the Strategic Plan of the Zambezi Watercourse	Evans Kaseke, ZAMSEC Enoch Dlamini, COWI	

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Time	Item	Presenters/Facilitators/ Panelists/Convenors	
12:10 – 12:25	The Development of the Zambezi Decision Support System (DSS) for the Planning, Management and Development of Shared Water Resources	Jens Kristian Lørup, DHI	
12:25 – 12:40	The role of RBOs in realising the benefits of cooperation	Jonathan Lautze, IWMI	
12:40 – 13:00	Plenary discussion	Facilitated by session Chairs	
13:00 – 14:00	**Lunch break**		
	Session 3 **Focus on Forum Sub-Themes (Facilitated panel discussion)** **Session Chair: Malawi, Co-Chair: Mozambique (Assisted by Facilitator)**		
14:00 – 14:20	Basin-wide Planning: Issues and Perspectives	NASC representatives, partners and other experts (Panel 1)	
14:20 – 14:40	Benefits of Cooperation in The Management and Development of Shared Water Resources	NASC representatives, partners and other experts (Panel 2)	
14:40 – 15:00	The Roles of RBOs and Other Players in Realising the Benefits of Cooperation	NASC Representatives, partners, private sector and other players (Panel 3)	
15:00 – 15:30	Health break		
	Session 4 **Group Work on Forum Sub-Themes** **Session Chair: Namibia, Co-Chair: Tanzania**		
15:30 – 16:30	Group Work Questions: 1. What are the priority issues requiring transboundary water cooperation in the context of	Forum Facilitator	

Time	Item	Presenters/Facilitators/ Panelists/Convenors		
	the Zambezi River Basin? 2. What are the benefits of transboundary water cooperation? 3. What role should ZAMCOM play in the realisation of benefits of cooperation?			
16:30 – 17:00	Group Work Report Back and Plenary Discussion	Session chair		
17:00 – 17:30	Day 1 wrap-up	Forum Rapporteur and ZAMSEC		
	Day 2 – Tuesday 26 September 2017			
08:00 – 08:15	Recap of Day 1 and Programme for Day 2	Facilitator		
	Session 5 **Parallel Sessions on Topical Issues**			
Sessions	**Parallel Session 1:** Building resilience through infrastructure development in the Zambezi Basin	**Parallel Session 2:** Institutional strengthening and capacity development for basin-wide cooperation	**Parallel Session 3:** Improving data and information management in the Zambezi Basin	**Parallel Session 4:** Strengthening gender equity and social inclusion in basin-wide planning
Session Facilitators	**GWP SA**	**WaterNet**	**IWSD**	**GWP SA/GIZ**
Objectives	- To share experiences in developing sustainable water infrastructure - To discuss how climate resilience can be integrated into infrastructure - To highlight the importance of natural infrastructure in	- To share experiences on capacity development in the region - To improve the understanding of the institutional setups in the Zambezi Basin - To discuss how to improve stakeholder engagement in the Zambezi basin	- To highlight the gaps and how to address them in data and information management - To share experiences on how information has been collated - To share experiences and explore challenges in data and information sharing among Riparian States	- To share experiences on mainstreaming gender efforts in the Zambezi river basin and SADC water sector - To highlight tools that can be used to support gender mainstreaming - To discuss ways

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Time	Item		Presenters/Facilitators/ Panelists/Convenors	
	building basin resilience			Zambezi GFPs can support the basin-wide planning process
8:15-8:45	Building resilience through Bi-lateral infrastructure development in the Zambezi Basin- the Zambezi River Authority experience – **Christopher Chisense, Zambezi River Authority (ZRA)**	Strengthening water cooperation in the Zambezi – options towards the SDGs – **Davies Saruchera, IMWI**	Experiences in working with RBOs in knowledge management - **Admire Ndhlovu, SARDC**	Current efforts/progress in Mainstreaming Gender in the Zambezi Basin and SADC water sector – **Rennie Munyayi**
8:45-9:15	Developing climate resilient water infrastructure for poverty reduction - **CRIDF**	Water and Cooperation within the Zambezi River Basin (WACOZA) project: assessing Water-Energy-Food-Ecosystems Nexus interdependencies across the Zambezi River Basin by means of scientific/technical cooperation - **Prof Daniel Nkhuwa, UNZA**	Improving data and information collection, processing, validation and sharing in the Zambezi Basin - **Francisco Macaringue, ARA-Zambeze, Mozambique**	SADC TWM Gender Mainstreaming initiative – **Cathrine Mutambirwa, GWP SA**
9:15-9:45	Critical role of natural infrastructure in building basin resilience – **Dr Loreen Katiyo, WWF**	Enhancing Water Cooperation through Transboundary Aquifers Management – **James Sauramba, SADC GMI**	Sustainability of automated stations and how these can improve data capture in the Zambezi river basin – **Rowan Jani, Water Resources Management Authority (WARMA)**	Gender Mainstreaming Tools for Water Infrastructure Planning & Design - **Litumelo Mate & Caroline Brown**
9:45-10:30	Discussions on issues around infrastructure development to be considered in the planning process	Discussions on institutional strengthening and capacity development	Discussions on enhancing data and information management	Critical analysis of the gender mainstreaming efforts in the Zambezi Basin and recommendations on how Zambezi GFPs can be engaged and strengthen gender issues in the planning process
10:30 – 10:50	**Health Break**			

	Session 6 **Special Session and Closure** **Session Chair: Zambia, Co-Chair: Zimbabwe**		
10:50 – 11:50	Applying Nexus Approach to generate new synergies and resolve trade-offs for Basin-wide planning	Dr. Barbara Willarts, Dr. Simon Langan and Dr. Piotr Magnuszewski – International Institute for Applied Systems Analysis (IIASA) - Austria	
11:50 – 12:05	Summary of Proceedings	Facilitator	
12:05 – 12:10	Vote of Thanks	Mozambique	
12:10 – 12:20	Closing Remarks	Zambia	
12:20 – 12:25	Announcements Including Field Trip Logistics	ZAMSEC	
12:25 – 12:30	Collection of Packed Lunch	ZAMSEC	
12:30 - 17:00	Field Trip	Zambia	
19:00 – 21:00	Cocktail and Book Launch	ZAMSEC	
	Wednesday, 27th September 2017 **Departure of Delegates**		

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