

First call for Abstracts

17th WaterNet/WARFSA/GWP-SA Symposium on
**Integrated Water Resources Management:
Water Security, Sustainability
and Development in Eastern
and Southern Africa**

Jointly convened with the International
Association of Hydrological Sciences (IAHS)
and the University of Botswana

Gaborone International
Convention Centre
(GICC)

Botswana

26th – 28th October 2016



Background

The 17th WaterNet/WARFSA/GWP-SA Symposium will be held in Gaborone, Botswana from 26th – 28th of October 2016 under the theme Integrated Water Resources Management: Water Security, Sustainability and Development in Southern and Eastern Africa. The Okavango Research Institute (ORI), University of Botswana is the lead host of the 17th Symposium. This year WaterNet, WARFSA and GWPSA welcome the International Association of Hydrological Sciences (IAHS) as a co-convenor of the symposia.

The Symposia have been held annually in the Eastern and Southern African regions for the past 16 years to promote interaction among policymakers, academics, practitioners from water and related sectors, and cooperating partners. Together, they identify regional issues, gaps and priorities that require further research and support. Great emphasis will be placed on integration of knowledge, particularly involving scholars from the natural, medical and social sciences.

Sub-Themes

Policymakers, academics, practitioners from water and related sectors, and cooperating partners are invited to register and attend the symposium and make use of an opportunity to listen and debate on presentations focusing on different sub-themes. Authors wishing to present the results of their work should submit their abstracts targeting the sub-themes detailed below.

Hydrology and Climate Change

For sustainable water security in Eastern and Southern Africa, there is need for effective planning, design, management and utilisation of water

resources through an improvement in our understanding of different components of the hydrological cycle and the spatial and temporal distribution of water now and in the future. However, water balance dynamics are complex and require integration of information from multiple domains at different scales. Furthermore, in Eastern and Southern Africa, there is limited reliable data available for application of conventional prediction tools so as to develop and manage freshwater resources in a sustainable way. There is also limited and fragmented understanding of groundwater which is the largest storage in the two regions. Groundwater maintains the base flow of many national and transboundary basins in Eastern and Southern Africa during the dry season and is an important resource for providing water for household use through natural springs, shallow wells and boreholes. National plans for water supply and sanitation indicate that in almost all the countries of the two regions, groundwater is the main source of rural, urban and peri-urban water supply, implying that any sustainable water security planning has to encompass groundwater development. However, groundwater monitoring systems are sparse or absent in most countries in Eastern and Southern Africa. There is also limited data on the extent of national and transboundary groundwater aquifers in the two regions. Climate change provides additional complexity to the understanding and management of hydrological processes as well as on groundwater recharge, discharge, storage and quality in these regions. Hydrological understanding is important in regional integration as major rivers cross national and sub-national boundaries. The papers in this sub-theme therefore should focus on addressing studies and models

that enhance not only our understanding of the water cycle's response to natural



and man-made changes at different scales, but also how these changes can be managed in a sustainable manner and ensure water security within the context of climate change as well as other natural factors which affect the hydrological cycle.

Water and Environment

The natural environment is now well acknowledged as a legitimate and important user of water. It is increasingly realised that greater investment is needed to protect aquatic ecosystems from the negative impact of human developments. The challenge remains to strike the right balance between allocating water for direct human use (agriculture, power generation, domestic purposes and industry) and indirect use (sustenance of ecosystem goods and services) in view of global challenges such as urbanisation and climate change. Water security for downstream uses depend on sufficient flows of acceptable quality from upstream. These interactions frequently cross national boundaries.

The papers in this sub-theme should illustrate recent advances and best practices in environmental impact assessment, determining environmental water requirements, the inclusion of ecosystem goods and services in water resources development and river basin management, wise use of water linked ecosystems and people's livelihoods as well as studies of water quality in the IWRM framework.

Water, Land and Agriculture

Agriculture is the major land use and livelihood strategy as well as the greatest user of water in Eastern and Southern Africa. To meet the demand for food security in Eastern and Southern Africa, agriculture will have to expand and increased water use within

the context of increased competition must be considered. Climate change, the high natural climate variability in the two regions, rapid population growth, and degradation of catchments will further stress the availability of surface and groundwater. Within these constraints, there is a need to improve the productivity of water in agriculture - higher agricultural production with the same amount of water or the same production with less water in both irrigated and dryland settings. The majority of smallholder farmers still rely on rain-fed agriculture with associated high risk due to the erratic nature and variability of the rainfall. Across Southern Africa, the past two rainfall seasons were generally poor, with prolonged dry spells and both floods in different areas resulting in a risk to regional and national food security. Innovative irrigation development and management as well as improved dryland practices are needed to limit this risk.

This sub-theme seeks papers that investigate the positive and negative impacts of agricultural water management practices and policies on water, crop, livestock and land productivity, livelihood security in the context of IWRM.

Water and Society

Water security in any context is affected by a number of a complex of factors that could include hydrological conditions, rapid population growth, urbanisation, increased per-capita water use, pollution of water resources, over-abstraction of groundwater and climate change and variability. This is resulting in available freshwater resources being limited in quantity or quality and its allocation and distribution between and among sectors being uneven and inequitable. This can be a source of



cooperation or of contestation among users. When households experience water insecurity, they either adopt coping (short term) or adaptation (long term) strategies to this phenomenon. The strategies adopted by households, however, depend on the resources that are at their disposal. Moreover, water in/security has gender and social dimensions which need to be unravelled through research. The IWRM approach, is aimed at enhancing water security as well as its development and sustainability through appropriate governance structures, coordinated implementation and involvement of all users, policy makers, planners and women as well as tackling the issue of resource access and benefit sharing. Countries in Eastern and Southern Africa are engaging in long term planning for water security so that their populations are not water insecure now and in the future. Currently a number of countries which include Botswana, Mozambique, Namibia, South Africa and Zimbabwe are experiencing water insecurity as a significant number of their populations go for prolonged periods of time without any water supply despite having access to improved water sources. Quantitative measures of water security are often called for and provide an additional research theme. The Southern African region also has a number of transboundary watercourses whose management should involve all the riparian states and to ensure allocation of the freshwater in an equitable manner. The SADC protocol on shared water resources is a major step in the recognition of the principle of equity and its integration into regional development. This sub-theme calls for papers which address human development, gender issues and social and political aspects of water resources governance and management.

Sustainable Water Supply and Sanitation

Water is a scarce resource in almost all the Eastern and Southern African countries making water supply and sanitation challenging. Most of the countries in the two regions lag behind in the provision of adequate water supply and sanitation services to their people. Statistically, countries such as Botswana, South Africa and Zimbabwe are quoted as have high percentages of their population having access to clean water supply. However, studies have shown that though households have access to improved water sources, these go for prolonged periods of time without any water supply services being provided. Africa in general and Eastern and Southern Africa in particular are grappling with impacts of urbanisation and the mushrooming of peri-urban areas, most of which do lack adequate water supply and sanitation. Urbanisation is also putting pressure on existing water supply and sanitation systems which were constructed for a certain maximum population which has now been exceeded. Globally water-borne and related diseases kill an estimated 5 million people annually- mostly children. Recently, the situation has been worsened by climate change related impacts like floods especially in areas with poor sanitation. At the start of the water supply and sanitation decade in 1981, an estimated 1 billion people lacked access to safe water while 2.2 billion lacked access to adequate sanitation and despite the intention of the Millennium Development Goals, a lack of sustainable approaches to the provision of water and sanitation has resulted in decreased coverage in the population with access to safe water and adequate sanitation in the region, thus, highlighting the necessity for a revolution in



the development and supply of appropriate and sustainable water and sanitation systems. This sub-theme should contain papers addressing sustainable water supply and sanitation development, technological advances in water reuse and recycling, water utility management and linkages to public health livelihoods and climate change impacts.

Water Resources and Infrastructure Management

For water security to be enhanced and sustained there is need for appropriate governance arrangements and qualified human resources to manage both surface and groundwater resources. There is also a need for suitable and reliable water infrastructure that will ensure that both Eastern and Southern Africa have optimal resource reticulation and distribution networks for domestic and productive purposes even during periods of drought. The SADC countries are currently putting emphasis on infrastructure as this is seen as an enabler of water security, sustainable development and regional integration. Thus, infrastructure development and management is the focal theme for the coming years in the SADC region as it has been established that development in general is closely associated with the status of the region's infrastructure. Water infrastructure is not an exception to the aforementioned observation especially in a water stressed region like SADC where water losses through inefficient infrastructure remains a challenge for optimal resources utilisation. Progress in developing and implementing Integrated Water Resources Management and water efficiency plans have so far been varied across countries in the Southern and East African regions. The theme will demonstrate practical experiences in the development and the management of water

infrastructure, the implementation of IWRM planning and application of technologies, modelling, simulations and forecasting tools for effective water management at sub-national, national and transboundary levels. Papers in this sub-theme should include innovations demonstrated by best practises, experiences in water resources planning and management, infrastructure designs, optimisation of distribution networks for reliable and sustainable supply and river basin management at different institutional and spatial scales in the context of rapid change and development.

French and Portuguese Sessions

The 17th Symposium is inviting abstracts for all the above subthemes from French and Portuguese speaking nationals. There will be separate sessions to be conducted in these languages.

Abstracts

Authors are being invited to submit their abstracts for presentation at the symposium for oral, poster or special session presentations. Abstracts should be:

- A maximum of 350 words.
- The format for all text should be font size 12, Times New Roman and single-spaced.
- The title should be no more than 16 words in title case.
- Author's names should be written in such a way that the initials appear first followed by the last name.
- The authors names should indicate one corresponding author* (with



an asterisk) and the email of the corresponding author.

- The affiliations of authors should be shown through letter superscripts (such as a, b, c).
- Five keywords should be included in alphabetical order.
- The abstract on the full paper should include a clear statement of the theoretical issue to be addressed, the research methodology to be presented, and a concise summary of the findings/conclusion.
- Work must be unpublished at time of presentation.
- Maximum of 3 submissions per author, either as single author or joint co-author are allowed.

Submission of Abstracts and Papers

All abstracts will be handled and reviewed electronically via the conference's EasyChair submission <https://easychair.org/conferences/?conf=symp17>. Note that you will need to set up an Easy Chair account (if you do not already have one) before you login for your submission. Several roles have been set on the platform for the 17th WaterNet/WAFSA/GWP Symposium, kindly register as an author, all other roles will be done through invitation. When completing the submission form on EasyChair, you will see a space which asks for an abstract to be typed in. This is not the place for your full abstract! In this field, please enter a short statement (no more than 50 words) summarizing your paper. Further down the page you will upload your full abstract as an attachment (as a pdf., doc or .docx). Make sure your attachment is fully anonymised, i.e. no names or affiliations or other identifying information about authors should be included in the document itself, in the filename, or in the document

properties (properties are accessible via the File menu in MS Word). Before uploading, please ensure that all special characters display properly. You should receive confirmation of submission of your abstract from Easy Chair immediately after submission by email; if you have not, please bear in mind that any emails received might be found in your spam folder.

The submission form in EasyChair also asks you:

- Your theme, your preferred presentation type/paper or a poster (note that the final decision will be taken by the programme committee)
- Whether you are under 35 years old
- Any keywords that do not appear in the topics list that may facilitate the review process

Selection Criteria

All abstracts submitted for oral/poster presentation will undergo a peer review process and the results will be communicated to the corresponding author. By accepting an invitation to present a paper, the author or at least one co-author commits to attending the conference.

Special Sessions

All organisations interested in convening special sessions should submit their proposals on the digital platform as well. Please note that you will require to show the relevance of the workshop to the symposium and the expected number of participants. The proposals need to be motivating, and will be allocated on a first come/first served basis. Each special session will be allocated approximately two hours. However, if more time is required the



organisers should state this in the proposal. The proposal should state the materials and equipment that will be required.

PLEASE NOTE: Abstracts for special sessions should adhere to the deadlines and will be peer reviewed like all others.

Elservier Journal of Physics and Chemistry of the Earth (JPCE)

After the symposium authors will have an opportunity to submit their papers for review and publication in a special edition of the Journal of Physics and Chemistry of the Earth. It is a journal published by the Elsevier and the normal peer review process will apply. Guidelines for submitting a paper to this journal are available at:

<http://www.elsevier.com/journals/physics-and-chemistry-of-the-earth/1474-7065/guide-for-authors>

Submissions will be online via: Elsevier Editorial System (EES), <http://ees.elsevier.com/jpce>. More details on submission will be announced at the symposium.

Deadlines

Deadline for submission of abstracts	16 May 2016
Notification acceptance of abstracts	15 July 2016
Deadline of submission of full papers	16 September 2016
Deadline for early registration	2 September 2016

Registration fees

Early bird registration Payable before 4 September 2016	USD 310	Late registration Payable after 21 October 2016	USD 500
Student registration	USD 270	Local exhibitors	USD 500
Local student registration	USD 250	Special sessions	USD 1,000
Normal registration Payable before 21 October 2016	USD 400	International exhibitors Payable by before 21 October 2016	USD 1,000



Payment details

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Kindly request for an invoice from, WaternetSymposium17@ori.ub.bw, Tel: +267 681 7224, Fax: +267 6861835 or generate an individual invoice from <http://www.waternetonline.org/annual-symposium/registration>

Registration

Online registration can be done on

<http://www.waternetonline.org/annual-symposium/registration>

For Further Information

Details on the Symposium will be uploaded and updated at the websites indicated as they become available.

<http://www.waternetonline.org>

<http://www.ub.bw/>

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