



GOVERNMENT OF KENYA  
(MINISTRY OF WATER AND IRRIGATION)



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WATER SERVICES TRUST FUND



THE COUNCIL OF GOVERNORS



2016

**KENYA WATER WEEK**

Water Sector Business & Innovation Conference & Exhibition

From Aid to Trade

# CONFERENCE REPORT



November 20<sup>th</sup> - 25<sup>th</sup>, 2016

Kenyatta International Convention Centre (KICC)

From Aid to Trade: Enhancing Business Partnerships and Innovation for Sustainable water and sanitation Provision and irrigation in Africa

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# 2016 KENYA WATER WEEK (KEWAWK) REPORT

*From Aid to Trade: Enhancing Business Partnerships & Innovation for Sustainable Water and Sanitation provision and Irrigation in Africa*

**Kenyatta International Convention Centre**

*20th - 25th November 2016, Nairobi, Kenya*





## Organized by:

- The Ministry of Water and Irrigation
- The Council of Governors
- Water Services Trust Fund
- Embassy of Finland
- Embassy of Denmark
- Kenya Water and Sanitation Civil Society Network
- Kenya Market Trust
- Water Resources Management Authority
- Kenya Water Institute

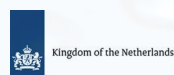
## Through:

1. The National Steering Committee: Chair, Principal Secretary, Ministry of Water and Irrigation; Secretary, Chief Executive Officer, Water Services Trust Fund
2. The Organizing Secretariat chaired by the Water Services Trust Fund with Water Resources Management Authority offering Secretarial services

This Report was prepared by the Organizing Secretariat,  
2016 Kenya Water Week

Website: [www.kenyawaterweek.org](http://www.kenyawaterweek.org)

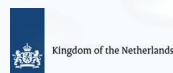
## NOVEMBER 2016





## TABLE OF CONTENTS

<b>ABBREVIATIONS:</b> .....	<b>8</b>
<b>FOREWORD</b> .....	<b>9</b>
<b>INTRODUCTION</b> .....	<b>10</b>
<i>Key components of 2016 Kenya Water Week</i> .....	10
<i>Objectives of 2016 Kenya Water Week</i> .....	11
<b>KEY RECOMMENDATIONS</b> .....	<b>11</b>
<b>KEY REMARKS FROM THE KENYA GOVERNMENT</b> .....	<b>12</b>
<b>KEY HIGHLIGHTS FROM HIGH LEVEL PANEL DISCUSSIONS</b> .....	<b>15</b>
<b>SUB-THEME ONE GOVERNANCE</b> .....	<b>22</b>
Enhancing the achievement of vision 2030 Water Sector objectives through good governance and increased investments .....	22
<i>Water Resources Management</i> .....	22
<i>Water for economic and social development</i> .....	23
<i>Water Sector policy, Financing and Coordination</i> .....	23
<i>Research, Capacity Building and Communication</i> .....	25
<i>Exploring non-conventional water sources for irrigation and Achieving universal access in water services by 2030 in Kenya</i> .....	27
<b>SUB-THEME TWO SERVICE DELIVERY</b> .....	<b>30</b>
Enhancing Sustainable Water and Sanitation Service Provision in Developing Countries .....	30
<i>Tomorrow's Partnerships in Water Resources Today</i> .....	30
<i>Enhancing Business Partnerships in Water Resources Management</i> .....	31
<i>Water Quality and Pollution Control- Abstract</i> .....	32





*Citizen Involvement in Water Resources Management through WRUAs - Abstract* ..... 33

*Towards meeting Sustainable Development Goals (SDGs) and Water for Human Development, Peace and Dignity* ..... 33

*Arising issues from the Panel Discussion*..... 34

*Water campaign advocacy, Service provision to the underserved, Policy & Legislations, Water credit and Sustainable partnerships for SDGs* ..... 36

*Building the case for sanitation Business & Ensuring access to adequate and safely managed sanitation approaches, policies and strategies* ..... 38

*Reinforcing Gender equity in Water and Sanitation delivery & Investing in Hygiene and Menstrual Health Management* ..... 39

**SUB-THEME THREE: BUSINESS** ..... 41

    Business and Partnership Opportunities & Enabling Business Environment... 41

*Matching Business Challenges with Technological Solutions & innovation in water service provision in the informal settlements* .... 41

*Investment opportunities in the Kenyan Water Sector and Public Private Partnerships (PPP) for Sustainable Development*..... 42

*Tendering and Procurement regulations, Business set-up & Policies, Legislation and Institutional in Kenya*..... 44

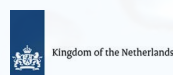
*Water Sector Business Models (SDMs): International Best Practices*.... 45

**SUB-THEME FOUR: INNOVATION**..... 47

    Research Industry Innovation Nexus ..... 47

*Addressing Water Sector Challenges through appropriate Technologies for Water and Sanitation Services* ..... 47

*Enhancing Linkages between Research & Industry and Recognizing: The Contributions of Research and Innovation in WSS* ... 48





*Application of Information Technology & Advancing Clean and Green Technology in WSS & Resources Management* ..... 49

**SUB-THEME FIVE:IRRIGATION** ..... 51

Opportunities for enhancing Water Storage, Irrigation and Land Reclamation ..... 51

*Improving Irrigation Water use efficiency in large irrigation schemes & Irrigation and Land Reclamation as business* ..... 51

*Climate smart irrigation & Reclamation technologies and increased recycling and re-use of municipal waste water for irrigation demands* ..... 52

*Opportunities for investing in irrigation and exploring non-conventional Water sources for irrigation in Kenya*..... 53

**GALA AWARDS DINNER**..... 56

Presentation of the Conference Outcomes ..... 60

**CLOSING SESSION** ..... 60

Closing remarks ..... 60

**SIDE EVENTS AND EXHIBITIONS** ..... 61

**ANNEXES:** ..... 64

*List of National Steering Committee (Institutions)* ..... 64

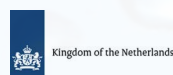
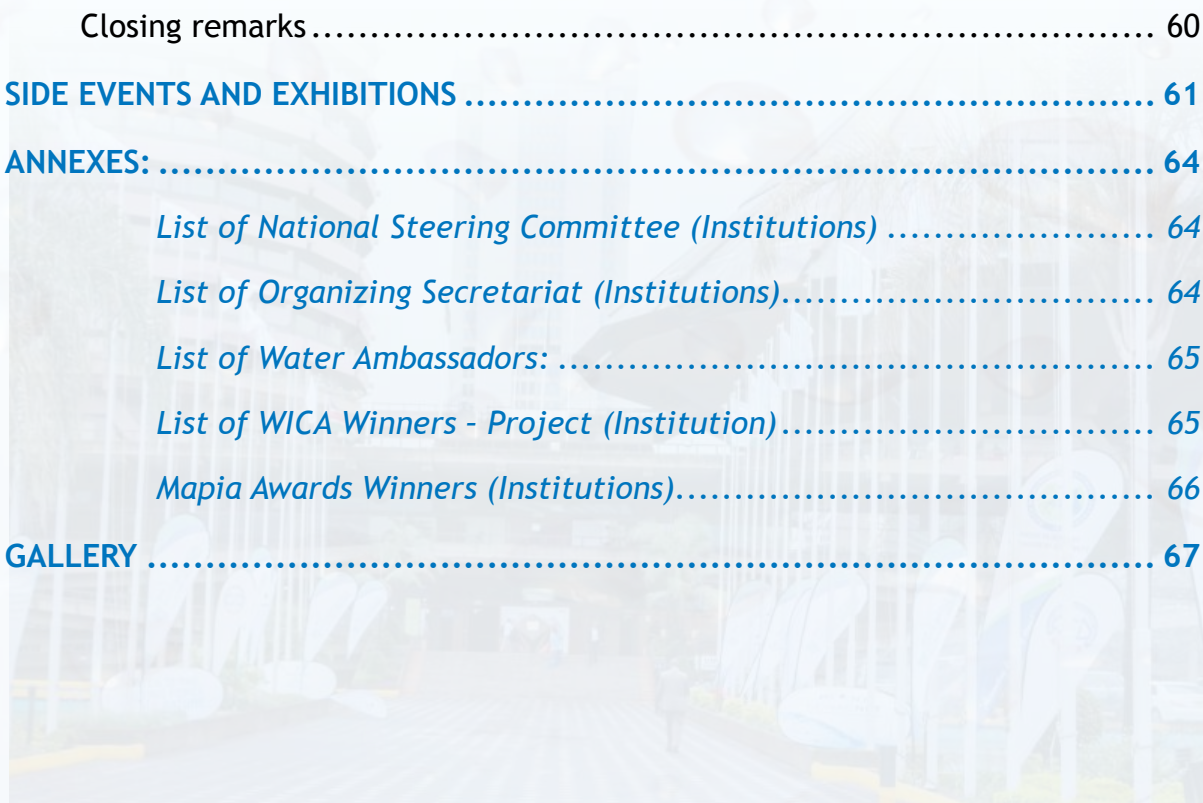
*List of Organizing Secretariat (Institutions)*..... 64

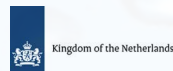
*List of Water Ambassadors:* ..... 65

*List of WICA Winners - Project (Institution)*..... 65

*Mapia Awards Winners (Institutions)*..... 66

**GALLERY** ..... 67

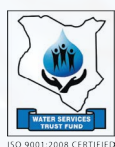






**ABBREVIATIONS:**

ASAL	Arid and Semi-Arid Lands
CEC	County Executive Committee
CIDP	County Integrated Development Plans
COG	Council of Governors
CS	Cabinet Secretary
ESP	Economic Stimulus Programme
ICT	Information and Communication Technology
IFI	International Finance Institution
IWA	International Water Association
IWRM	Integrated Water Resources Management
KEWASNET	Kenya Water and Sanitation Civil Society Network
KEWAWK	Kenya Water Week
KEWI	Kenya Water Institute
KICC	Kenyatta International Convention Centre
KMT	Kenya Markets Trust
MaPIA	Maji Performance Innovation Awards
MHM	Menstrual Hygiene Management
MOH	Ministry of Health
MWI	Ministry of Water and Irrigation
NIB	National Irrigation Board
NWCPC	National Water Conservation and Pipeline Corporation
PPP	Public Private Partnerships
PS	Principal Secretary
SACC	Southern Africa Development Community
SDG	Sustainable Development Goals
UN	United Nations
WaSIA	Water Sector Innovation Awards
WICA	Water Services Trust Fund Innovation Challenge
WB	World Bank
WRMA	Water Resources Management Authority
WRUA	Water Resources Users Associations
WSTF	Water Services Trust Fund
WSS	Water Supply and Sanitation







**FOREWORD**



*Ismail Fahmy M. Shaiye, Chairman, Kenya Water Week Secretariat & CEO, Water Services Trust Fund*

On behalf of the entire Kenya Water Week (KEWAWK) Organizing Secretariat as well as the Water Services Trust Fund fraternity, take this opportunity to appreciate all delegates and participants at the 2016 Kenya Water Week, the first of its kind in Kenya and the region. The Conference aimed to provide a networking opportunity for key public and private water sector players in order to enhance business and innovation while matching sector challenges to solutions.

As delegates, exhibitors and all participants witnessed, this objective was met through numerous interactive and networking sessions, show case exhibitions throughout the week, and the inspirational innovations from Kenya's academic and research institutions, culminating in the Gala Night Award ceremony presided over by Kenya's Deputy President.

Deliberations on the shift from Aid to Trade were focused and participants agreed that

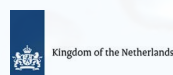
new and sustainable ways of financing must be developed and implemented in the African water and sanitation sector in order to ensure sustainable service delivery. Financing needs to move from Aid to trade and business models, while recognizing the need to ensure the poor, vulnerable and marginalised are not left behind in service provision.

For Africa to develop, local solutions must be found to match local challenges through innovation and sustainable business and service delivery models.

I wish to extend special appreciation to the Embassy of Finland who were party to the origin of the Kenya Water Week, and who were the greatest sponsors of the event. Special thanks also to the Kenya Markets Trust, KEWASNET, Royal Danish Embassy, Embassy of Sweden, Water Resources Management Authority, Kenya Water Institute, International Water Association and other Partners who have provided unrelenting support throughout the planning of the 2016 Kenya Water Week.

None of this would have been possible without the support of Kenya's Ministry of Water and Irrigation and the Council of Governors.

I take this opportunity to appreciate all our speakers, moderators, conveners, exhibitors, participants, service providers, guests, and anyone else who contributed in a big or small way to the success of the 2016 Kenya Water Week (KEWAWK).





## INTRODUCTION

In recognition of the global shift from Aid to Trade, sustainable financing and development the Government of Kenya, through the Ministry of Water & Irrigation, the Council of Governors, and the Water Services Trust Fund (WSTF), and in collaboration with the Embassy of Finland, Kenya Water and Sanitation Civil Society Network (KEWASNET), Water Resources Management Authority (WRMA), Kenya Water Institute (KEWI), Kenya Markets Trust (KMT), International Water Association (IWA) among other stakeholders, hosted the first ever Kenya Water Week from the 20th to the 25th of November 2016, at the Kenya International Convention Centre (KICC), Nairobi, Kenya.

The Conference brought together key national and international leaders, stakeholders and experts in the water sector for a global dialogue on sustainable financing and service delivery to the water sector through applicable business models and partnerships, innovation, policy development and implementation. The Forum provided a rich platform for business networking and showcasing innovation in the water sector with a view to matching challenges to solutions. This was made possible through the Water Sector Innovation Awards (WaSIA), exhibitions, presentations and business to business meetings among others.

Participants included local and

international Government Institutions, Development Partners, Water Utilities, Academic and Research Institutions, Private Sector Institutions, Non-Governmental Organizations among others.

### Key components of 2016 Kenya Water Week

1. Kenya Water Sector Performance Reporting
2. Business and Innovation Conference and Exhibitions
3. Water Sector Innovation Awards 2016 (WaSIA 2016)

The components were addressed through five (5) key sub-themes as follows:

**Sub-theme 1:** Enhancing the Achievement of Vision 2030 Water and Sanitation Sector Objectives through Good Governance and Increased Investments.

**Sub-theme 2:** Enhancing Sustainable Water and Sanitation Services Provision & Irrigation in Developing Countries.

**Sub-theme 3:** Business and Partnership Opportunities & Enabling Business Environment.

**Sub-theme 4:** Research-Industry-Innovation Nexus.

**Sub-theme 5:** Opportunities in Water Storage, Irrigation, Drainage and Land Reclamation Sub-Sector.



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### Objectives of 2016 Kenya Water Week

1. To share sector performance and consult stakeholders.
2. To explore business opportunities and trends in the Kenya Water Sector.
3. To provide forum for exchange of ideas and technologies between Kenyan Private Sector and foreign companies with a view to establishing long-term business partnerships in the water and sanitation sector.
4. To showcase recent innovations, technologies and developments in the water sector for efficient safe water and sanitation services delivery.
5. To explore alternative financing models and Public Private Partnerships (PPPs) for water and sanitation services providers.
6. To explore alternative financing models and PPPs for water service providers.

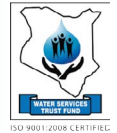
Innovation and knowledge development was a key focus of the conference. Key Kenyan Research and Academic institutions with research and development centers were invited to compete in the innovation challenge awards. Winners of the competition not only received recognition and cash awards but also got opportunities for further incubation. In addition various water sector institutions in Kenya were recognized for performance and innovation towards 2030 goals.

### KEY RECOMMENDATIONS

*The Conference key recommendations covered three (3) cross-sector areas including Governance, Management and Partnerships, Mobilizing financial resources and Capacity building and knowledge sharing as follows:*

1. Need for Government to take the lead role in spearheading reforms, conservation and Water Management.
2. Need to increase funding for water sector development and develop new sustainable financial mechanisms to reduce overdependence on donor funds.
3. Strengthening of Public-Private Partnerships and increasing linkages between various local and international stakeholders.
4. Need for more engagement between the stakeholders.
5. Enhanced Capacity building especially for players at the grass root level and the Water Services Providers.
6. To raise the profile of sanitation in the Kenya Water Week, and to reach out to more participants especially from other Sub-Saharan African countries in the next annual event.

Participants emphasized the need for both political goodwill and integrated public participation and awareness, in order to meet the goal of water and sanitation security for the poor in rural and urban areas across the globe.



KEY REMARKS FROM THE KENYA GOVERNMENT



Remarks from the Deputy President H.E. Hon. William Ruto:

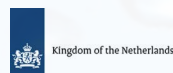
The Deputy President reiterated the commitment of the National Government to ensure that all Kenyans from all walks of life have access to clean and safe drinking water, safe sanitation services and that agricultural production is doubled through various efforts like expanded irrigation schemes, loan schemes to farmers, supporting scientific innovation and research, and concerted environmental conservation.



Remarks from the Kenyan Cabinet Secretary (CS), Ministry of Water and Irrigation Hon. Eugene Wamalwa,

The Cabinet Secretary, Ministry of Water and Irrigation in his opening speech noted the following:

1. Need for a global alliance that will take necessary action in order to achieve sustainable development.
2. Need for local and international partnerships.
3. Inadequate water quality and quantity continues to impede the achievement of Sustainable Development Goals (SDGs) as well as Kenya’s vision 2030 goals, and is a cause for conflict.
4. Need to implement the conference resolutions.





*Remarks from the Principal Secretary, State Department of Water, Ministry of Water and Irrigation, Prof. Fred Segor*

The Kenya Water Week is a key platform to help us identify and implement models that will help us fulfill constitutional rights by accelerating access to water and sanitation for our citizens.

Efficient water management is key to fighting poverty, and requires good governance, stake-holder participation and attention to local situations, gender roles, land tenure, and unsustainable consumption patterns.

The discussions of the Kenya Water Week belong to all of us through knowledge and technological transfer, business partnerships, policy formulation and advocacy among others.



*Remarks from the Principal Secretary, State Department of Irrigation, Ministry of Water and Irrigation, Eng. Patric Mwangi*

The Principal Secretary (PS) for irrigation Eng. Mwangi Nduati asserted that irrigation means increased land productivity for social development. He emphasized that rain-fed agriculture is not only unreliable but also inefficient hence the need for sustainable irrigation venture. He noted that 85,000 ha of land are currently under irrigation in Kenya and that there is need for further expansion to ensure adequate production for both local consumption and export. An irrigation policy is underway to help hasten these programs.

Some of the greatest challenges facing Irrigation in Kenya and Africa include water scarcity and inadequate budgetary allocation. The PS concluded by calling for the construction of more water harvesting and storage infrastructure in order to achieve vision 2030 goals.



*Remarks from Hon. Muskari Kombo, Chairman of the Board of Trustees, Water Services Trust Fund:*

*Water is important in all sectors of social and economic development, poverty eradication and cultural diversity.*



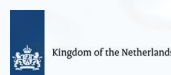
*Remarks from H.E. Hon. Benjamin Cheboi, Governor, Baringo County:*

*It is imperative to involve all the stakeholders in making decisions regarding water need and especially those at the grass root levels*



*Remarks from Hon. Dr. Amina Abdalla, the Chairperson, Kenya Parliamentary Water and Environmental Committee:*

*Water is a strategic resource and issues of resource management and poverty crisis must be jointly addressed for effectiveness.*





## KEY HIGHLIGHTS FROM HIGH LEVEL PANEL DISCUSSIONS



This section is dedicated to speeches from high ranking dignitaries both local and international as well as keynote addresses held during plenary sessions. It also incorporates a summary of interactive dialogues, opinions and suggestions by participants.

The Kenyan Cabinet Secretary (CS) for Water and Irrigation Hon. Eugene Wamalwa appreciated the role of Key stakeholders in the development and management of water in Kenya.

He called for active participation and contribution by all delegates to address all the challenges facing the water sector currently and in posterity by creating potential opportunities and solutions.

He noted that the water sector in Kenya had made grand steps especially in water services provision and infrastructure development. At the same time he acknowledged that there is still a lot of ground to be covered particularly in developing water and sanitation financing mechanisms for the underserved regions in the country.

*The CS proposed the following:*

1. Formulation of trans-boundary water policy to govern internationally shared water resources such as the Mara River, Sio-Malakisi, Lake Turkana, River Omo etc.
2. Reclamation of ASAL areas for agricultural production and other economic pursuits.
3. Pursuing a rights based approach to water and sanitation provision services.
4. Prioritization of Water Resources Management and development.
5. Financial support in order to achieve the vision 2030 water and sanitation goals.



H.E Frans Makken, Ambassador of the Kingdom of the Netherlands to Kenya

H.E Frans Makken, noted that water is life and without which we can't survive. He urged all the major stakeholders to promote capacity building as a way of ensuring sustainability of water and sanitation services both at local and regional level.

The Ambassador stated that the Kingdom of the Netherlands will continue to support Kenya to develop its water and sanitation infrastructure in all the Counties.



The Ambassador noted that no country can claim to be developed if it can't provide safe and clean water to its citizens because water is key to food security. The Netherlands is just a quarter ( $\frac{1}{4}$ ) the size of Kenya yet it is the second major exporter of food in the world after the United States, he noted.

Amb. Makken highlighted the following as some of the major projects to be undertaken by his Government in Kenya:

1. Iten Water Supply at a cost of Kshs. 1.8b
2. Vihiga Water Project (to be launched) costing Kshs. 1.7b
3. Kajiado Water Supply (to be launched) costing Kshs. 1.4b
4. Mavoko Water Supply (to be launched) at 2.6b

The Ambassador pointed out that to achieve any success in water and sanitation provision there must be a paradigm shift from traditional to modern methods of Water management, storage and distribution.

Prof. Anne Tbaijuka, the UN-HABITAT Water and Sanitation East African Ambassador hailed the forum as the best platform to start the way forward to addressing water and sanitation challenges not only in East Africa but the rest of the continent. She called for a critical review of public funding and assessment of market distortions.

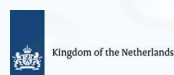


*Prof. Anne Tbaijuka,*

She emphasized on the role of women and the need for regional cooperation to achieve access to safe water and sanitation, and decried the indignation suffered by women and children as a result of poor water and sanitation services. The Ambassador challenged the responsible government institutions to demonstrate absolute seriousness in tackling challenges such as contaminated water, poor sewerage management and insufficient water provision.

*The UN representative recommended the following:*

- Full implementation of the 2002 Johannesburg WASH summit in order to realize goal no. six (6) of the Millennium Development Goals (MDGs) by the year 2030.
- Comprehensive behavior change through education, knowledge sharing, attitude and responsible manners to achieve the Open







Defecation Free (ODF) by 2020 and towards realization of human rights in WASH.

- Integrated planning for investment, collaboration, coordination, and monitoring and evaluation of the water and sanitation development activities.
- The need for greater innovation and financing especially in the urban areas so as to avoid an impending sanitation disaster especially in the sprawling slums.



*Mr. Markus Tuukkanen,*

Mr. Markus Tuukkanen, Managing Director, Finnish Water Forum called for investment in the available green and clean technologies in Water Supply and Sanitation. He noted that high costs are a major hindrance to the installation and adoption of new technologies in the water and sanitation sector. He therefore recommended the adoption of highly efficient, less costly and simple technologies for sustainable development.

*Mr. Tuukkanen highlighted the following major water concerns and challenges for*

*Africa and the need for international solidarity and necessary action as follows:*

1. Institutionalizing intergovernmental policy dialogue.
2. Increased financing.
3. Enhanced capacity building.
4. Technology transfer.
5. Enhanced governance framework.
6. Strengthening the role of women.



*Mr. Chris Heymans,*

Mr. Chris Heymans, Senior Urban Water and Sanitation Specialist, World Bank (WB), highlighted the success of Australia in water and sanitation provision to its citizens through special attention to this sensitive and important sector.

He challenged Kenya and other African Governments to follow the example of these world best practices in order to address water and sanitation challenges. Mr. Heymans decried the use of unsavory and demeaning terms to describe sewerage issues hence creating a generally reproachable perception towards those involved in service provision in this sector. He therefore



called for attitude and behavior change in order to overcome this stigma. This can be achieved through awareness creation and public training, he noted.



*H.E. Prof. Kivutha Kibwana,  
Governor, Makueni County*

The Makueni County Governor, H.E. Prof. Kivutha Kibwana on his part pointed out that many Kenyans suffer from serious water scarcity and urged the County leadership to significantly increase budget allocation to the water agenda.

The Governor noted however that many County Governors are addressing the problem through drilling of more boreholes, installation of water pipes, rehabilitation of water pans, dams etc. and that they have County Integrated Development Plans (CIDPs) ready for implementation.

The Governor called for concerted effort and partnership between the National and County Governments to continually provide water for domestic use and irrigation in order to increase food production, alleviate hunger and relief food dependency.

Dr. Rajendra Singh, water Nobel laureate from Rajistan, India gave an analogy of

Syria and River Euphrates. He said that the presence of huge rivers in a country does not necessarily guarantee safe and clean water provision, neither does staying in the desert mean insufficient water provision.

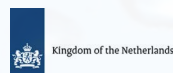
Giving his own experience of growing up in a desert without water, he called for extensive desert and land reclamation in order to provide food security. He further called for the communal ownership of water resources as opposed to the state control to ensure successful water conservation and protection of catchment areas.



*Dr. Rajendra Singh*

Dr. Singh urged for controlled exploitation of ground water, elimination of pollution problems and recharge of water aquifers for future use.

Acknowledging the spirit of respectful dialogue, Dr. Singh noted that water is crucial for peace, human rights, and poverty alleviation and urged donor partners to meet their commitments. He highlighted actions, including a code of conduct, a multi stakeholder assessment of private partnerships, an emphasis on gender, and a prominent role of water for all in the Sustainable Development Goals (SDG) agenda.









## SUB-THEME ONE GOVERNANCE



*Enhancing the achievement of vision 2030 Water Sector objectives through good governance and increased investments*

Discussions under this theme aimed to review progress in the Kenya Water Sector, deliberate on key performance challenges and emerging issues and to identify sector priority areas with an aim to support and fast-track these priorities towards achieving Vision 2030 objectives and Constitutional obligations. The Kenya Water Sector Review Report captures the proceedings and outcomes under this theme.

### **Key Highlights:**

#### **Water Resources Management**

- Maximum co-operation between the County and National governments is needed to ensure that trans-boundary conflicts associated with

water challenges in Kenya are comprehensively addressed for peaceful co-existence and sharing of available water resources.

- Need for capacity building, participatory decision making, incorporation of local knowledge and creation of an enabling environment for Water Resources Management.
- To ensure proper water management for the agricultural sector which uses large quantities of water.
- There is need for appropriate water pricing.
- Unlocking the economic good of water through commercialization and business practices should be a joint effort between the National and County governments.





**Water for economic and social development**

- Water for social development entails ensuring availability of water for all for personal health, hygiene and consumption.

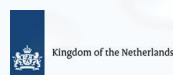


- Providing water and sanitation infrastructure to the urban poor poses unique challenges.
- Need to develop national and basin level cross-sector debates informed by both expert knowledge and grass root cultural action.
- Need to prioritize basic and ecosystem needs through collecting and disseminating data.
- Emphasis on the value of inclusiveness through shared vision, fairness, equal importance of process and conduct, and instruments to support the process, drawing from a case study of Southern Africa Development Community (SADC).

- The issue of inter alia was raised, looking into whether the poor are both willing and able to pay for water services, the complexities in valuing water, the relevance of trade pacts to water, the risks and challenges of water privatization, the penultimate cost of non-provision of clean water and the underwhelming recognition of successful public sector stories.
- There is need to assess the private sector's performance and encourage Public-Private Partnerships in the water sector in order to achieve vision 2030 goals.
- Importance of transparency, regional co-operation, knowledge transfer and pollution prevention in the management of trans-boundary waters was emphasized upon.

**Water Sector policy, Financing and Coordination**

It was noted that there are several framework conditions for attracting the private sector finances, including public acceptance and legal redress; adequate





preparation for both County & National governments, and utilities for negotiations & changing roles; conducting of full option assessments; mobilization of domestic sources of finance; and the usefulness of these reforms in enhancing the performance of public utilities. Policy effectiveness and sustainable financing and coordination of structures for the sector to achieve universal access to water and sanitation by 2030 was one of the main objectives for this session.

*Some of the key highlights from this session:*

- The County Executive Committee member for Water in Kiambu County, Hon. Esther Njuguna, described Kenya's experience with privatization. She stated that in low income countries, finances for water management must come primarily from the National government. Subsidies, restructuring and commercialization, strengthening financial management, enhancing local regulatory capacities and preventing water resource wastage are essential to achieving water and sanitation goals.
- A case study was presented on rural water supply and sanitation in Kenya and India and compared options for financing mechanisms, structuring devolution and identified emerging priorities. Informed choices for the rural sector, community-based management and cost recovery were presented as key to water supply.
- Benefits of Private sector investment including increased affordability, quality, quantity and environmental sustainability of water services were highlighted.
- It was noted that attractive private investment, transparent regulatory capacities, adequate tariff levels, investment convertibility and political stability were some of the options to be considered.
- Dr. Kipkorir Sigi, CEC Bomet County described the range of options for structuring private sector participation: Tariff increase without service improvement is not politically viable, and involvement of International Financing Institutions (IFIs),





government preparation both at the National and County level, and time-bound subsidies are important to water companies. There is need to progress gradually from management contracts to concessions, rather than divesting heavily.

- Donors should invest in infrastructure and water use efficiency, mobilize local resources, and promote participatory decision making. Financial planning should be incorporated in goal setting.
- International agreements for water are largely non-existent and there is therefore need for the enactment of regional cooperation frameworks in order to achieve the SDGs. Broad investment in water and sanitation utility reform and resource management can improve water services for the poor.
- Participants discussed the framework conditions for attracting the private sector finances, including public acceptance and legal redress; adequate preparation of both County and National governments, and utilities for negotiations and changing roles; conducting of full option assessments; mobilization of domestic sources of finance; and the usefulness of these reforms in enhancing the performance of public utilities.

- The delegates also debated the ability and willingness of the urban and rural poor to pay for water and sanitation services, recovery of full cost as opposed to operational and maintenance cost, and alleviating donor and IFI conditionality favoring privatization. The delegates identified as needs: stakeholder participation, subsidies and cross-financing the poor, domestic partnerships, and regulatory stability.
- Recommendations included launching a multi-stakeholder empirical assessment for the discussed issues, sharing lessons learned and considering downstream consequences during water project development.

### *Research, Capacity Building and Communication*

- Mr. Heymans of the World Bank presented on the overarching priorities of a vision document from the 2nd world water forum, which focused on raising public awareness especially in rural communities, building capacity for negotiation and conflict resolution, and exploring new media to increase accessibility to information. He concluded by calling for new leadership with fairness, ethics and willingness to learn unlearn and relearn.



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- Roles of Resource Centers in water education were described. It was noted that there is a gap in adaptive capacity, from well-known challenges to well-defined solutions and stressed the need for RCs to be able to build their own capacity.
- There is need for human value-based approach to water education, as this is a cost-effective and proven approach that creates a lasting impact through character development. Education should both provide education and enact behavioral transformation.
- Keynote speaker Frans Makken, Dutch Ambassador to Kenya stressed on the importance of collecting data to obtain information, create knowledge and attain wisdom for forecasting future challenges, planning and resolving conflicts. Describing water as an interdisciplinary challenge, he called for global cooperation in sharing knowledge, data and resources. He explained how countries overcame the obstacles of disparate cultures, attitudes and expectations through mutual understanding, tolerance, compromise and consensus building.
- Gad Moses, specialist in irrigation from Israel demonstrated how a variety of low-to-high tech innovative, water re-use technologies can be deployed to deal with sanitation challenges. He noted that small-scale, low-tech projects often outperform large-scale waste water treatment plants.
- A case study on was presented on community-based rainwater harvesting in Bangladesh, concluding that interpersonal communication was the most effective means of generating awareness.
- Marco Schouten CEO Vitens, Netherlands gave an update of global and regional climate variability, and illustrated potential strategies for flood





protection and management. He underscored the need to improve flood and drought forecasting through a broad range of time horizons, to enhance the ability to prepare for extreme events. In his presentation, he stressed on the need to consider the full spectrum of climate events, instead of merely focusing on extreme events. He recommended adopting win-win strategies, improving mechanisms for decision making under uncertainty, and building partnerships and strengthening links between water management and climate communities.

- The participants emphasized on the enhancement of institutional transparency and information exchange. They noted that good governance, participatory processes, and a consideration of the human-side of institutions, exemplified by fair treatment and empowerment, were necessary for creating effective institutions.
- During discussion, delegates suggested creating incentives for government-industry partnerships and promoting entrepreneurship to facilitate technology transfer. They also agreed that targets should consider consumption and land use patterns, ecological processes and water-use efficiency.

- Discussions also raised the issue of applying the precautionary principle to, and integrating sustainable development with risk management. Delegates also stressed on the need to protect ecosystem to prevent floods, and for both levels of governments to address risks facing informal and unplanned settlements.

### *Exploring non-conventional water sources for irrigation and Achieving universal access in water services by 2030 in Kenya*

- Eng. Charles Kosgei from National Water Conservation and Pipeline Corporation (NWPC) Kenya, in his opening remarks said that Kenya has 7 public irrigation schemes under the management of County Governments. He proposed that the schemes should remain as clusters to act as county and national food baskets. He further noted that the national government through Economic Stimulus Program (ESP) has established 20 irrigation schemes across the whole country most of which are found in ASAL regions. In line with achieving vision 2030 goals 15 more schemes have been established in semi-arid regions under what is known as Expanded National Irrigation Programme.
- Construction of more dams across



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the country to supply more water both for domestic and irrigation purposes was proposed. It was noted that by 2030 33% of Kenya's land will be completely degraded if proper measures are not put in place to protect it. Capturing of rain run-off to store more water for irrigation during dry seasons will ease the situation. Private landowners who own 50% of free-hold land in Kenya should be involved in land rehabilitation efforts.

- Public resources belong to all and that everyone is entitled to proper water and sanitation services. In order to achieve these objectives, timely implementation of projects

is crucial to reduce costs, delays and frustration for the would-be beneficiaries. Weak legislations and inefficient institutions were named as major threats to the realization of vision 2030 goals.

- The participants suggested that it is important that irrigation and land reclamation sub-sectors are allocated sufficient budget to achieve 2030 objectives.
- The delegates also suggested that PPPs should play a major role in management of irrigation schemes as this will improve capital investment and ensure structured mechanisms of reporting and accountability.





2016 KENYA WATER WEEK PRESS CONFERENCE







## SUB-THEME TWO SERVICE DELIVERY



### *Enhancing Sustainable Water and Sanitation Service Provision in Developing Countries*

Water and sanitation service provision is still a major challenge in the world and especially in Sub-Sahara Africa in spite of the major steps undertaken in innovation and research to solve this crisis. This session sought to explore how emerging approaches in the water service provision including; PPPs, development of new sustainable investment models, prioritization of national water scarcity in the sustainable planning, the adoption of a more holistic water safety plans as well as sector reforms can improve access to water and sanitation for adoption and scaling up in developing countries.

#### **Key Highlights:**

#### *Tomorrow's Partnerships in Water Resources Today*

This session focused on partnerships

and synergies that exists and which have successfully been implemented in undertaking water resources activities.

The speaker acknowledged the potential partnership areas as finance, research, capacity building, and knowledge sharing. He noted that most people have developed a care-free attitude towards Water Resources Management. He called for the development of new partnerships and the strengthening of the existing ones in order to put a concerted effort in Water Resources Management.

The need for partnership in tackling water scarcity, pollution and deforestation challenges was emphasized. Joint partnerships will serve to ensure that continuous and ever increasing demand for water is addressed, water storage capacity is improved, water quality and quantity is assured for all, and that water catchment protection is guaranteed.

Low public awareness, poor





enforcement of laws and regulations, and inferior investment in the water sector as some of challenges facing possible partnerships. Joint public-private partnerships are essential and practical in the in the following areas; catchment conservation, water resource monitoring, water storage, water resource management, pollution and flood control and institutional management.

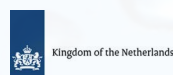
**Enhancing Business Partnerships in Water Resources Management**

It was recognized that under the Constitution of Kenya (2010) water resources are a national asset, to be managed by the National Government. On behalf of the Government of Kenya, WRMA is the lead agency charged with responsibility of regulating and

managing water resources in Kenya. The Constitution has elevated water resources into a human rights issue. As the water resources come from the catchment areas, the national and county governments must work together, with other stakeholders, to ensure equitable allocation and use of the water resources needed for economic development and environmental sustainability.

Accordingly, WRMA called for partnerships in the following areas:

- Catchment Conservation initiatives.
- Water Resources Monitoring.
- Water Storage development.
- Water Resources Data management.
- Water Quality and Pollution control.
- Flood management.





- Institutional strengthening.
- Capacity building of WRUAs and livelihood enhancement.

### *Water Quality and Pollution Control-Abstract*

In this presentation, it was noted that, water is a basic human right according to the Constitution of Kenya 2010, which establishes this right to “reasonable standards of sanitation” and “clean safe water in adequate quantities” (Art 43).

WRMA is mandated to regulate and protect water resources from adverse impacts; manage and protect water catchments. WRMA has been able to achieve its mandate as the lead agency in regulating and managing water resources nationally through working closely with various stakeholder

groups including Water Resource Users Associations (WRUAs), Private Sector, County Governments, NGOs, Academia and Public Sector Institutions.

It was noted that Water pollution was on the rise in Kenya’s water bodies, one such example was the increased pollution of the Athi River. In order to reverse the worrisome declining trend in the quality of the waters of Athi River, WRMA launched the “Athi River Restoration Program” with the Goal of protecting water resources from adverse impacts. This Program and other water quality and pollution control program aim to:

- Ensure adequate water quality and quantity for basic human needs and ecological functions.







- Protect the water resources against pollution.
- Collaborate with stakeholders on sanitation and solid waste management.
- Enhance water protection capacity.

### **Citizen Involvement in Water Resources Management through WRUAs - Abstract**

*This presentation expounded on the areas enumerated below:*

- Integrated Water Resource Management (IWRM).
- Stakeholder participation through Water Resource Users Associations.
- Benefits of Water Resources Management through WRUAs.
- WRUAs as legal entities.
- Roles and Objectives of WRUAs.
- Raising of funds by WRUAs.

### **Towards meeting Sustainable Development Goals (SDGs) and Water for Human Development, Peace and Dignity ...**

This session sought to engage participants in discussing practical experiences in the utilization of water resources through approaches that incorporate activities intended to help societies meet their daily subsistence needs. It also discussed various sustainable approaches applicable to improve financing for water resources management and its

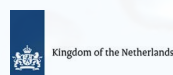
adaptability and possible scaling up in the developing countries.

### **Key Highlights:**

In her opening speech, the speaker recognized the role played by Water Resources Management Authority (WRMA) in ensuring that Water Resource Users Associations (WRUAs) get the necessary technical support to implement the Integrated Water Resource Management (IWRM) activities which promote sustainability, conservation and protection of water catchment areas. In order to attain these goals, the speaker asserted that the various stakeholders must ensure sustainability of WRUAs, encourage diversification of activities among WRUAs members, empower and improve their standards of living.

This calls for capacity building of water service providers, alternative sources of funding besides the usual development partners, and training of WRUAs on various issues such as governance, accountability and transparency.

Kenya Programs Director, Kenya Rapid Program, gave an overview of NGO perspective on key issues like financial and physical assets that directly touch on the livelihoods of WRUAs. She pointed out the need to convince WRUA members to adopt new and friendlier methods of agriculture and a culture that conserve and protect the water catchment areas. This can be attained by giving the WRUAs





members technical, financial and social support for conservation activities.

Some of the measures deployed by WRUAs and their partners to promote conservation and protection of Mara-Serengeti water catchment include: massive investment in agro forestry, improvement in resistant seed and crop varieties, use of energy saving methods.

***The participants recommended the following solutions:***

- Provision of alternative and sustainable livelihoods for WRUAs.
- Capacity building for all the stakeholders and especially those at the grass root level.
- Collaboration of all the stakeholders to achieve the SDGs.

***Arising issues from the Panel Discussion***

***The following issues were noted:***

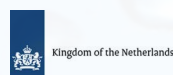
- WRUAs are a good concept. However, there is need to redefine them and their mode of operation.
- There is need for institutionalized training of WRUAs based on their needs.

- Water Resource Management activities performed by WRUAs have to be linked to water services (e.g. funding only WRUAs involved a project which contributes to the water services provision rather than wholesome funding).
- WRUAs funding requires multi-faceted approach.
- Training partnership is not an option but a necessity especially for the WRUAs.
- Centre for Training and Integrated Research in ASAL Development (CETRAD) offers mainly technical training (Geographic Information System {GIS} and water governance).
- Has a dedicated budget and curriculum for training of WRUAs.
- WRUAs have diverse training needs which are specific to individual WRUAs. Furthermore, they are at different levels necessitating targeted training approach.
- GIZ focuses on building partnerships in Water Resources Management.





- Interaction in water stewardship e.g. Naivasha -12 WRUAs facilitated in different ways.
- There is need for a facilitator in partnerships for sustainability of the projects.
- Basin forums for WRUAs are important for effectiveness of WRUAs.
- Partnerships are guided by global aspects.
- There must be an agenda to be addressed in the partnerships.
- Beneficiary of the partnerships should be looked at wholesome.
- Incentives should be provided by WRMA to attract the partners (e.g. data and information).
- There could be need for having open policy on data sharing.
- Poverty can only be reduced by bringing all partners.
- Addressing the issues of catchment management requires coordination.
- Monitoring systems should be in place to have benchmarks, indicators etc.
- There is need to redefine WRUAs for example sometimes their plans are different from what the counties do. Perhaps Counties should have a hand in monitoring them.
- Private sector should be incorporated in WRUA activities so that they can contribute effectively to their operations and implementation of their plans.
- It is important that WRUA operations are structured.
- Governance of WRUAs must be strengthened to avoid duplications in projects and proper management.
- For best experience of water resource management results, WRUAs are the best to experience approach
- The private sector has a role to play in WRUA programs.
- Lessons from Water Act 2002 have been included in Water Act 2016 with counties being recognized in WRUA activities.





- To what extent should WRUAs work technically?
- With limited budget for WRMA, more partnerships are necessary for effective Water Resources Management.
- One of the delegates noted the continued funding of ecosystem services by IFAD in collaboration with other partners. The participants suggested that the National government should take the lead role in policy formulation and efficient legal frameworks. They also agreed that the private sector should invest in research and knowledge in order to develop innovative technological solutions for the water and sanitation sectors. Finally, the delegates noted that development partners should provide a pivotal role in funding Water Resource Management projects while involving the locals fully in participatory processes.



*Water campaign advocacy, Service provision to the underserved, Policy & Legislations, Water credit and Sustainable partnerships for SDGs*

The aim of this forum was to discuss some of the collaborative efforts in addressing sanitation challenges, addressing human

rights to basic water and sanitation provision, policies and strategies for the achievement of basic water and sanitation provision, and partnerships and relationships as a basis for success.



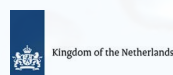
- The following topics were discussed; Sector/Policy Strategy, Institutional arrangement, sector financing, Monitoring, planning and evaluation, and capacity development. It was noted that the MOH is working closely with the MWI and other ministries in order to achieve the SDGs. MOH has formulated various health policies in support of water and sanitation provision and that they are working closely with the county governments to ensure successful implementation of the same.
- The Environmental and Natural Resources expert from the Embassy of Finland to Kenya set the objectives of working closely with the underserved as; finding the most effective way of serving this group in rural and urban areas, knowing more about this group and the role of different stakeholders in assisting and financing projects for the underserved.



- Some of the challenges hindering the attainment of these goals include perceived corruption, insufficient funds and lack of proper coordination among the major stakeholders, poor human resource management and biting poverty. To overcome these challenges there is need for collaboration between the two levels of Government in water and sanitation service delivery, development and validation of CIDP for sustainable collaboration by the County Governments, addressing the threats of climate change for now and posterity, and capacity building for the underserved.
- The need for alliances in the water and sanitation sectors in order to achieve SDGs was emphasized. Sector players must show commitment, share information, pull resources together and show strong leadership in these fields. This requires elaborate consultation, well-coordinated

partnership structure and strong vision.

- WSTF representative cited the processes of commercial financing in the water sector, how it operates, how Aid on Delivery works, and some case studies of commercial financing in Africa. He highlighted some of the challenges faced as: inaccessible credit facilities, insufficient lender knowledge, poor utility financial records, and lack of risk taking among potential beneficiaries. He called for the extension of these financial programs to reach all the potential beneficiaries.
- The delegates called for sharing information on the success and failures of such programs, behavior change advocacy, sustainable collaboration between the stakeholders in order to achieve the SDGs and involving the underserved in different development projects to achieve vision 2030 goals.





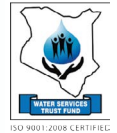
### *Building the case for sanitation Business & Ensuring access to adequate and safely managed sanitation approaches, policies and strategies*

The forum aimed at discussing sanitation as a market for private businesses and how the private sector can invest in solutions through different innovative mechanisms. Another objective was to share practical cases of tried and tested approaches, policies and strategies gearing to ensure the provision of sanitation as a basic right for all.

- Dr. Kepha Ombacho from MOH noted the tremendous improvement that the sanitation sector had undergone to achieve some of its goals. He gave the case study of Kibra slums in Nairobi where 80% of residents could access piped water, safe latrines and had sewer lines built in most areas by 2015. He however stated that about 5.6 million Kenyans still lacked proper sanitation facilities. He stated the National government commitment to providing proper sanitation to all Kenyans by 2030 through expeditious policy formulation. Dr. Ombacho urged the County

Governments' courts to do their part in ensuring that these policies are fully implemented. In order to achieve these goals the government has a policy draft KESSF 2016 that aims to; strengthen Emergency Health and Safety governance and management, plan for CBD, promote hygiene and sanitation marketing approaches, and identify cost-effective and sustainable sanitation and hygiene technologies. These measures will serve to: initiate new and effective sanitation approaches, increase awareness of risk factors associated with poor sanitation, invest in new sanitation solutions, and to create a new market for private sector players in the sanitation business. All these will lead to job creation, upgrade of sanitation and hygiene facilities, and creation of a favorable investment climate in Kenya. In conclusion, Dr. Ombacho urged all to view sanitation challenges as a big business opportunity and to embrace new and safe ways of sanitation and hygiene services.





fuel and cement manufacture to prevent environmental and forest degradation.

**Reinforcing Gender equity in Water and Sanitation delivery & Investing in Hygiene and Menstrual Health Management**

This session dealt with the 3 key Menstrual Hygiene Management (MHM) approaches namely; breaking the silence, hygienic management of menstruation and proper disposal of menstrual products. It also discussed the need to openly tell the gender story and what needs to change laying emphasis on leadership, mentorship, service provision challenges and solutions.

- Mr. Lars Bredal, Deputy Head of Mission, Danish Embassy in Kenya, noted that nearly less than 2% of the national budget of developing countries is allocated to sanitation. He also added that open defecation is a sign of poverty that must be tackled with seriousness if the vision 2030 goals on sanitation and hygiene are to be achieved. He suggested the use of human waste as organic fertilizer after treatment.
- The participants suggested proper border control mechanisms to prevent the spread of communicable diseases across country borders. They also urged for the training of public sanitation and water providers in order to further control some of these social diseases. The delegates also suggested the use of human waste as bio-

*The session had 3 presentations;*

1. Why menstrual hygiene management?
2. Challenges facing the deaf in MHM?
3. Role of various stakeholders in MHM and reinforcing gender equity in water and sanitation delivery.

**Key Highlights:**

- Christine Mvurya, Kwale County First Lady, opened the discussion by stressing the need for proper MHM as; opening a platform for debating the issues of other inequalities. It was noted that MHM is directly linked to SDGs achievement, and the fact that most girls, especially in rural areas





still lack access to proper MHM. She noted the need for education and awareness, policy and legal framework, revision of product costs etc. She stressed that these efforts are undermined by poor capacity building approaches, financial constraints, fragmented M&E framework.

- Patricia Mulongo from Deaf Aid on her part highlighted the challenges facing the deaf with regards to MHM. Some of the problems facing the deaf include unhealthy disposal of sanitary towels, poorly organized training manuals and communication breakdown for the deaf. She emphasized the need for responsible media coverage especially adverts and billboards that tend to mislead the deaf, capacity building and training on sanitation and funding for the deaf.
- Participants were taken through a presentation on the role of MoH in MHM and gender mainstreaming through policy formulation, coordination of MHM issues through training workshops, improving



standards of sanitary towels, and developing recyclable sanitary pads. The speaker noted the commitment of the Government of Kenya (GoK) in supporting various women projects in order to achieve the SDGs. These efforts include; war against Female Genital Mutilation (FGM), provision of cheap interest loans and training them on saving mechanisms.

- One participant noted that women are the actual champions of MHM as men are only involved in the final stages of sanitary waste disposal. She urged that men be trained as Trainers of Trainers (ToTs) so that gender mainstreaming and advocacy issues are not left for only women.
- The delegates also agreed on the need to increase the waste disposal incinerators not only in public hospitals but also in residential urban areas and villages. They further suggested the need to empower women to create a level playing field for both genders in various spheres of development in order to achieve the SDGs.







**SUB-THEME THREE: BUSINESS**



*Business and Partnership Opportunities & Enabling Business Environment*

Sustainable business operates within a political, social and economic context and is subject to regulatory and institutional constraints. Without addressing issues related to the overall business environment, productive business opportunities that will guarantee the achievement of the SDGs are significantly threatened.

This subject therefore aims to establish links between the water sector challenges with matching solutions at industrial level, the various partnership opportunities, and incentives for formal businesses in developing countries.

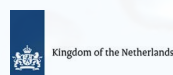
*Matching Business Challenges with Technological Solutions & innovation in water service provision in the informal settlements*

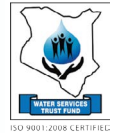
This forum discussed varied

collaborations between relevant water sector stakeholders in matching business challenges with innovative technical solutions already developed or that are being developed for adoption and implementation in the foreseeable future in Africa and globally. It also focused on how to promote water and sanitation business incubation in Kenya and how to enable both the growth and transformation of new business ideas and encourage knowledge development.

**Key highlights:**

- There will never be enough charity to sustain the water and sanitation services in the country. Local stakeholders should show leadership and be in the front row in combating these challenges in the water and sanitation business. It is of great essence to enhance financial inclusion as part of key areas that require technological innovations. Sanitation business has been ignored at the expense of the more popular water business.





Strong and active participation from the microfinance sector are necessary to help alleviate these shortcomings.



- Representative from the Kenya Women Microfinance Bank (KWFT) highlighted the major successes of the organization in solving the water and sanitation challenges. She noted that wealth creation and especially for women and youth, who are the main economic drivers, is very important. To this end her organization has provided loans for water harvesting and purification. Some of the challenges they face range from high costs, lack of safe drinking water, and poor sanitation etc.
- Equity bank gave dwindling donor funds, reduced ownership of donor funded projects and inadequate resource allocation to WASH as some of the reasons why the bank came up with loans as a response to the emerging financial barriers. The bank has launched the 'Jamii Safi' (clean family/community) loan, an initiative that seeks to promote

better hygiene and sanitation for all.

- The Ecumenical Church Loan Fund (ECLOF) highlighted efficient service delivery, economies of scale and product diversification as some of the reasons for the need for partnerships. It was noted that for partnerships to stand, there must be credibility, reliability and honesty among the various stakeholders.
- The participants called for low interest loans, credible capacity building and training, and sustainability of water and sanitation projects for the attainment of vision 2030 water and sanitation sector goals.

### *Investment opportunities in the Kenyan Water Sector and Public Private Partnerships (PPP) for Sustainable Development*

Many developing countries prioritize large budgetary allocations to the water sector each financial year. The irony remains the biting water and





sanitation crisis common in most parts of Africa. Despite the false illusion that water being a social utility hence cannot generate sustainable business profit we have witnessed many water utilities grow from small to big international brands.

This forum explored various business opportunities in Kenyan water sector and how to open doors to a number of investment opportunities through water companies having new ways of water supply, distribution, conservation and waste water treatment through PPPs in order to achieve vision 2030 objectives. The state department is targeting 40,000 hectares annually for expansion of irrigation.

This session had the following presentations;

1. PPPs for Sustainable Development Goals
2. Opportunities for investing in irrigation in Kenya

Some of the key highlights from the session:

- It was stated that Kenya water infrastructure had a financial gap to the tune of 1.3 trillion by 2016. The primary financial resource for the water sector is the water service providers. It was advised that there is need to develop the earmarked water sector projects right from the feasibility to the final stage

for the projects to look attractive to the investors. It was emphasized that PPPs is not a well embraced concept in Kenya. To stimulate need for PPPs there is need to encourage capacity building for the major stakeholders and establish strong stakeholder networking. The government was urged to take the lead role in strengthening the PPPs and to ensure that maximum penalties and better performance incentives for the water and sanitation services offenders and performers respectively based on outcomes. In order to achieve these, it was concluded that there is need for mutual trust and cooperation between the public and private water service providers.

- It was noted that there is low investment in irrigation projects in Africa where there are unexplored opportunities. It was noted that the state department is targeting 40,000 hectares annually for expansion of irrigation. They had no irrigation policy in place to address such challenges but now they have already developed one that was at an advanced stage in cabinet discussion. It was stated that it is difficult small group of farmers into legal business partnership entities and this has been a major impediment to developing large scale irrigation. There is an initiative to encourage them to pool their resources together in order to launch multimillion shilling irrigation projects that will not only





assure them of economy of scale benefits but that will also change their standards of living.

- It was stated that the major challenges facing irrigation were; poor water and related infrastructure, low market for products, ignorance, financial constraints and inefficient Business models. Another delegate noted that some of these problems can be solved by increasing efficiency in the irrigation sector through farmer linkages, encouraging table banking, participatory development for all, harmonization of supply and demand, and functional irrigation policies.

### *Tendering and Procurement regulations, Business set-up & Policies, Legislation and Institutional in Kenya*

This forum focused on legislation, policies, institutional framework and other water related strategies that affect business activities in the water sector in Kenya. It also sought to inform the potential investors of the Kenyan tendering and procurement process and

the public procurement regulations.

The session was moderated by Simon Okoth, Urban Manager, WSTF had 2 presentations;

1. Legal, policy and institutional framework in the Kenya water sector.
2. Conditions of doing business in Kenya- the Bureaucratic process.

### *Key highlights:*

- Dr. Ombacho gave a detailed presentation about the legal and institutional guidelines in Kenya and how they affect the Water sector business. He asserted that the constitution duly mandated the state to take necessary legal procedures, institute new policies to ensure strict adherence to the expected standards in this sector. With the devolved governance system, he added, the County Assemblies have all the authority to legislate policies that will promote better service provision in the water and sanitation sectors. This leaves the national government with the following





duties; training, capacity building, technical assistance and setting of standards through KEBS. He further stated that there other government policies like Sanitation and Water for all (SWA/HLM), GLAAS (Global Analysis and Assessment of Sanitation and Drinking Water) just to mention but a few that helps in proper coordination and guidance of water and sanitation sectors. The government, in collaboration with other key players has responded to water and sanitation challenges through; enacting a new environmental sanitation and hygiene policy, 'Open defecation free' policy roadmap, county sanitation bills, and county micro-plan strategies for water and sanitation domains.

- It was noted that tendering and procurement of goods and services, consultancy and non-consultancy services are guided by strict adherence to Kenya Procurement and Tendering laws as stipulated in the Public Procurement and Asset Disposal Act(2015), operationalized by the Public Procurement Regulation (2006). Procurement challenges include delays, unstructured procurement, and corruption that derail efficient and reliable water and sanitation service provision. The speaker commended the

fact that in some countries like Rwanda, Botswana and Tanzania tendering and procurement processes are efficient due to zero tolerance on corruption. However, with the recent establishment of Huduma initiative, a public service venture that seeks to enhance efficient provision of services in all the Ministries, transparency and accountability is being enhanced in Kenya. This and other commitments like zero tolerance to corruption, better management of tendering process and training of personnel will serve to ensure better service delivery in these areas.

### *Water Sector Business Models (SDMs): International Best Practices*

New and improved water sector business models are fundamental in the running and management of business processes in the water sector by the stakeholders. The ever continuous changes in economy and technology require innovative business models that will ensure that the water and sanitation sectors remain competitive.

This session aimed to identify various partnership models, viable financing models and technological advancements that are both locally and internationally recognized and to create more awareness on the role of business models in scaling up water services technology.



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EMBASSY OF SWEDEN



WRMA



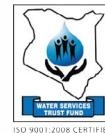
KEWI



EUROPEAN UNION



WASREB



The session had one presentation: Integrating emerging local Water and sanitation practices into the International Best Practices Models.

**Key Highlights:**

- Major strides taken by the Kenya water sector players in order to be regionally and globally competitive include: the involvement of more local and international private partners, attainment of ODF status by most regional governments, almost 100% eradication of poor sanitation diseases like cholera

and diarrhea, invention of new and varied technologies, and structured multi sector cooperation in order to achieve the SDGs by 2030.

- The delegates agreed that for the water and sanitation sectors to achieve global competitiveness, some measures must be undertaken. These include proper market research, inculcating proper training for those involved in the water service provision, and encourage concerted efforts in service delivery.





## SUB-THEME FOUR: INNOVATION



### Research Industry Innovation Nexus

This theme focused on Research and innovation in the Water Supply and Sanitation (WSS) which enhances the use of information technology in the water and sanitation services provision and management, and the promotion and adoption of clean and green technologies. This theme aimed at providing some of the existing approaches for research institutions to forge multiple partnerships with industries and local communities to promote innovation in the water sector.

### *Addressing Water Sector Challenges through appropriate Technologies for Water and Sanitation Services*

In this session it was noted that water security and improved sanitation was a major factor in the following key principals UN SDGs, the Kenyan constitution and vision 2030 objectives. Therefore, provision of appropriate technologies was critical in water supply chains, beginning from water extraction, treatment, and waste disposal up to re-use. In developing countries, both water and sewer water treatment plants have inferior adherence to the required standards, and also low technologies.

This session explored some of the major challenges in the WSS and how research and innovation can provide practical solution.

It further explored innovative systems, technologies and processes for WSS for quality and sustainable water and sanitation services.





### Key highlights:

- It was noted that the key challenges facing the WSS were massive pollution of the environment, water bodies and catchment areas; poorly developed water infrastructure; inadequate sewerage technology etc. In order to rectify this situation the following were suggested; rehabilitation of most sewer systems, implementation of decentralized sewer system solutions in densely populated areas; promotion of concurrent development of water and sanitation facilities/technologies; establishment of household sanitation subsidy mechanisms through the water service providers; promotion of sustainable technologies in poor residencies; and capacity building and training for the key stakeholders. All the above mentioned situations could be realized through efforts like drain repair, CCTV drain survey, drain mapping & tracing, patch repair, odor investigation etc.
- It was noted that in order to achieve all these, there was need to have trained architects, plumbers, engineers and builders to provide quality and long lasting services. It was noted that KEWI had already gone a step further and introduced advanced training for plumbers to meet the SDGs goals.

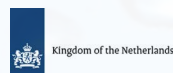


### Enhancing Linkages between Research & Industry and Recognizing: The Contributions of Research and Innovation in WSS

It was noted that the role of scientific research, technology development and innovation is very critical in the WSS development both at local and international level.

This session analyzed and assessed how research has progressively provided the foundation for water sector innovations, new technologies and their resulting effects in this sector. It also provided an opportunity for the participants to visualize constructive linkages between research institutions, local industry and innovators and how to attract industrialists in up-scaling outputs of research.

It was noted that research played a huge role in research as it provided firm foundation for water sector innovations







and new technologies. It was asserted that research analysis was required to decide the type of technology adopted as different types may be pleasant for different community values. One type of technology may be appealing to one group while at the same time totally unacceptable in another. It was recommended that networking and maximum participation of all the stakeholders in service delivery should be implemented.

It was noted that KEBS provided linkages of standards in line with the rest of the scientific and general community. It was noted that KEBS provided a secretariat charged with coordination of government agencies' technical committees, to liaises with other international research agencies to ensure conformity to international standards. It was stated that throughout the country KEBS has 32 research laboratories charged with delivering quality research and innovation.

The delegates noted the missing link between research and policy formulation, and suggested that scientists and policy makers need to work closely in order to achieve tangible results in WSS. They recommended the following; professional sampling of scientific data, research as the key basis for policy formulation, and capacity building and training for scientists and researchers.

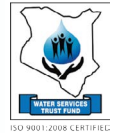
### *Application of Information Technology & Advancing Clean and Green Technology in WSS & Resources Management*

The application of ICT in water services and resource management is crucial in regulating the different water system distribution mechanisms. Also, recently green growth policies and technologies took the leading role as models for sustainable development in Kenya. Green technologies have the potential to positively lower the cost of water thus increasing access to clean and safe

water for the majority of the underserved and non-served.

This forum explored the innovative and optimum utilization of ICT in various domains like hydraulic pressure and flow, water quality, head losses,





water infrastructure management, payment solutions, and the use of various water related ICT tools such as GIS, mobile phones, smart meters etc.

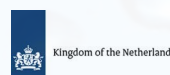
It also discussed the clean and green technologies with their potential application in the WSS with particular emphasis on the water companies.

**Key highlights:**

- A presentation focusing on mobile application software was made. It was noted that the software detects the presence of fluoride in water. Developed in West Africa, The Caddis fly is a simple tool that uses the cell phone as a spectrometer to detect the presence of fluoride or e-coli in water. It incorporates proto-type e-coli test and other Altitude PH sensors. It was noted that this application was used for mapping water points, pipelines

through efficient data collection sensors.

- There was a call for investment on the available green and clean technologies in the WSS. It was noted that high costs are a major hindrance to the installation and adoption of new technologies. It was recommended that adoption of highly efficient, less costly and simple technologies for sustainable development be implemented.
- The delegates decided that; the country should invest and focus on local technologies, water structure design should incorporate technological solution, and strict government policies on non-green technologies.





2016 KENYA WATER WEEK





## SUB-THEME FIVE: IRRIGATION



### *Opportunities for enhancing Water Storage, Irrigation and Land Reclamation*

Kenya is still classified as a water scarce country and yet irrigation is prioritized as a major source of large scale food production as opposed to the rain-fed agriculture. However, there is a significant water loss through the various irrigation methods leading to insufficient amount of water for crops. Agricultural production utilizes approximately 70% of both surface and ground water for irrigation. Efficient use of irrigation water primarily requires equitable water distribution mechanisms.

This session therefore aimed at devising innovative and efficient use of water resources for irrigation while at the same time sustaining and making available water resources to other users.

It also discussed how to assess the existing arrangements and exploring the business opportunities in irrigation and land reclamation as well as transforming irrigation and land reclamation into business to attract private sector investors and enhance sustainability.

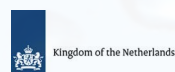
### *Improving Irrigation Water use efficiency in large irrigation schemes & Irrigation and Land Reclamation as business*

Business case irrigation and land

reclamation are more sustainable than land oriented development where the government and investors are the key players. It entails transforming irrigation and land reclamation into viable business to attract private entrepreneurs. This will ensure private sector participation and sustainability of these functions across the country. Irrigation and land reclamation have been viewed as public properties- supply oriented with the government being the key player. There is need to move irrigation and land reclamation from public good to potential commercial business.

### *Key highlights:*

- The benefits of large scale irrigation schemes was presented. A variety of questions were raised in regards to large scale irrigation such as; its benefits, how to rectify water losses, need for efficiency, and lessons learned from the different field experiences. It was noted that the National Irrigation Board (NIB) had established water tariffs, such that the more you use





the more you pay in a bid to curb unnecessary water misuse. It was noted that there are still loopholes in regards to cagey statistical data, blanket penalties for all the irrigation water users in case of misuse by one or few members, few irrigation meters, wasteful irrigation methods, and lack of general strategic objectives for the irrigation schemes.

- It was noted that in order to turn both irrigation and land reclamation into massive businesses in Kenya, all the players in this industry must be involved in deliberate investment in efficient irrigation and land reclamation systems, enhancing research and innovation, and partnering with private sector players and cooperatives for concurrent development of value adding investments.

### *Climate smart irrigation & Reclamation technologies and increased recycling and re-use of municipal waste water for irrigation demands*

Irrigation requires a lot of money and technology if it is to witness any success, this is because it entails development and adoption of efficient and cost-effective technologies while at the same time either upgrading or replacing old and outdated ones. It's also important to note that Kenya is a water scarce region and this has not helped with the irrigation ventures. Therefore, new ways of water resources management like recycling are necessary for the attainment of vision 2030 goals.

This session focused on appraising the

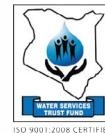
existing technologies and exploring innovative and climate smart irrigation and reclamation technologies for small scale land holders in Arid and Semi - Arid Land regions and at the same time inventing new approaches to waste water recycling for irrigation purposes.

*This forum was moderated by James Yetich and had the following presentations;*

1. Towards climate smart irrigation and reclamation technologies for SDGs
2. Alternative irrigation water-Focus on waste water recycling

### *Key highlights:*

- It was noted that only 5% of ground water is known in Kenya and GIS mapping is not a well embraced technology not only in Kenya but in the whole of the African continent.
- It was noted that there is need for comprehensive ground water assessment and a comprehensive irrigation master plan from the national to the small scale level has to be developed. Centre pivot irrigation system, Naivasha is an example of an untapped potential in Kenya, investing in rainwater harvesting technologies like runoff catchment, roof catchment systems and green & blue water applications.
- It was noted that water contributes 3.5% of damage in paved roads and 80% in unpaved ones. The objectives of Water for Water Resilience Organization include



reduction of road damages by water, land reclamation through road water soil recharge, and reuse of harvested road water from cascading ponds for agriculture.

- Jomo Kenyatta University of Agriculture & Technology called for the incorporation of moisture and soil conservation aspects using diverse knowledge like mulching, drip irrigation to reduce the rate of evapotranspiration.
- The delegates agreed on the following; capacity building and training of farmers on the new technologies, community sensitization programs, social engineering, commitment and passion for new technologies, creation of awareness about water and soil conservation.

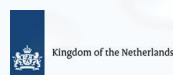
*Opportunities for investing in irrigation and exploring non-conventional Water sources for irrigation in Kenya*

Kenya is a water scarce country with 83% classified as Arid and Semi-Arid Lands.

Its per capita fresh water resources are less than 10% of the average middle income economy. Agriculture, which is dominated by smallholder farmers, is the biggest sector. It accounts for approximately 60% of water use. With 5.5m hectares of arable land, only 17% of the total surface area is suitable for rain fed agriculture and yet only 2.4% of arable land is under irrigation. With the ever rising food demand and growing water risks due to climate change, ensuring agricultural growth is feasible within water constraints has to be a national priority.

Despite the proven return from infield irrigation investment, commercial finance to small holder farmers is limited due to a perception of risk (real and imagined). Irrigation financing also suffers from poor coordination given the need for partnerships/risk sharing amongst lenders, farmers, agro-processors and equipment suppliers.

The session convened agricultural stakeholders to discuss potential collaboration to develop agricultural water solutions. It involved expert led presentations on the challenges of water





and agriculture and panel discussion on opportunities for collaboration.

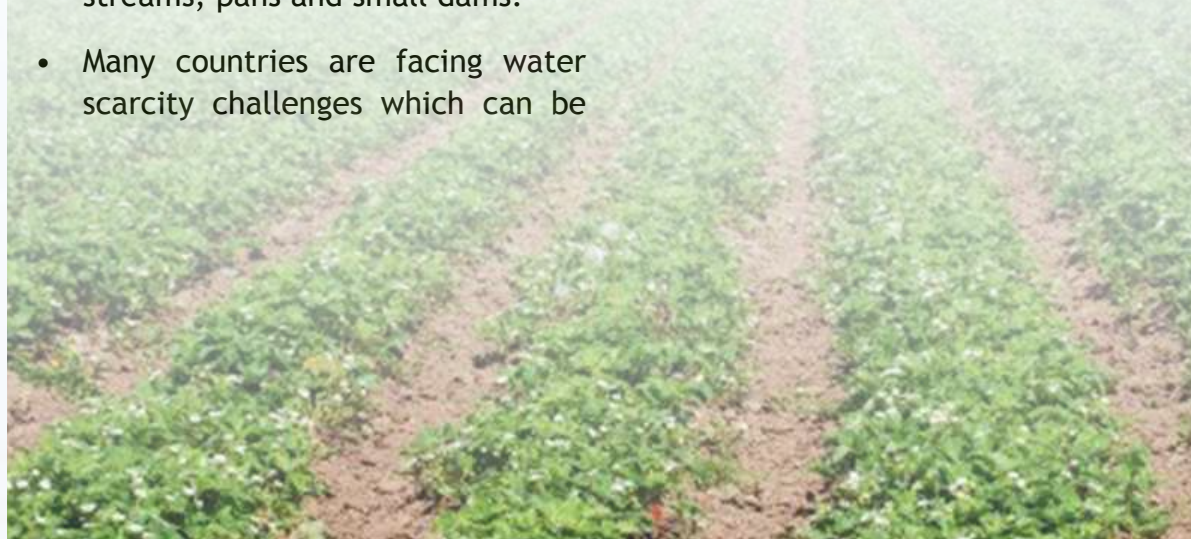
It also assessed the different non-conventional water sources for irrigation and evaluated their relevance and appropriateness for increasing African irrigation potential.

### **Key Highlights:**

*It was noted that:*

- Irrigation accounts for 70% of water consumed in the world. This leaves 30% for other competing needs-domestic, livestock, nature, sanitation and industry among others.
- The African governments under CAADP have prioritized irrigated agricultural systems for food security systems, poverty reduction and increased resilience of small holder farmers.
- Increasing irrigated agriculture will require more water resources other than the conventional water sources such as lakes, rivers, streams, pans and small dams.
- Many countries are facing water scarcity challenges which can be

partially alleviated through the use of non-conventional water resources. Fears and anxieties are increasing due to the heavy abstractions of conventional sources for mainly agricultural activities. Kenya has been extremely dependent on ground water for water supply. The production of groundwater is reliant on the amount of rainfall which is scarce in ASAL areas and that the consumption rates of water resources have exceeded the natural recharge. In order to elevate and improve the quality and quantity of water resources, periodic assessment is essential to overcome the challenges associated with water resources and make use of non-conventional water resources like treated wastewater and desalinated water. This will require a lot of investment, technological innovation, and mutual cooperation between development partners, investors and shareholders in order to achieve the SDGs.





Water Services Trust Fund Exhibition Stand during the Kenya Wa-







## GALA AWARDS DINNER

The Gala Awards Dinner was held on 24th November 2016, organized by the Water Services Trust Fund and Kenya Water and Sanitation Civil Society Network (KWASNET).

In his keynote speech, H.E. William Ruto, the Deputy President of Kenya congratulated the organizers of KEWAWK for the exemplary and world class event. He also awarded several water and sanitation services champions who participated and won in the Water Services Trust Fund Innovation Challenge

(WICA 2016) and Maji Performance Innovation Awards (MaPIA 2016). The Deputy President also feted and awarded the Water Ambassadors appointed by the Cabinet Secretary, Water and Irrigation.

In total over 217 individuals and 40 organizations were feted for their exemplary contributions in water resources management, water and environmental conservation, water technological innovation and empowerment.

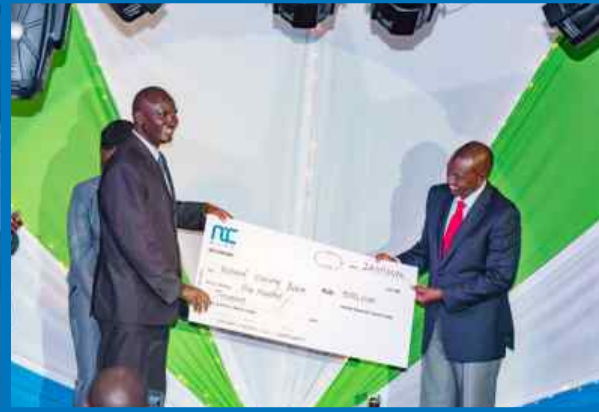
## 2016 WICA/ MAPIA AWARDS DINNER







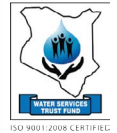
# THE 2016 WICA AWARDS WINNERS WITH KEY VIP GUESTS DURING THE AWARDS CEREMONY





# 2016 KENYA WATER WEEK WATER AMBASSADORS





## CLOSING SESSION

### Presentation of the Conference Outcomes

1. Kenya and Africa are ready for the shift from Aid to Trade in the water and sanitation sector.
2. Water and sanitation can be managed better in Africa.
3. Greater access to water and sanitation provision is a possibility.
4. Climate change can be reversed and its effects reduced and mitigated.

***'Water is life, we must act'.***

### Closing remarks



In his closing statement, the Principal Secretary, State Department of Water Services through a representative, noted that efficient water management is key to fighting poverty, and called for:

1. Good governance;
2. Stake-holder participation; and
3. Attention to local situations, gender roles, land tenure, and unsustainable consumption patterns.





## SIDE EVENTS AND EXHIBITIONS

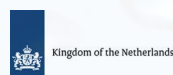
In more than 30 side events and 35 exhibitions, various groups such as the Public sector, private sector, university and research institutions, multi-lateral organizations, and civil society presented their contribution towards improved water and sanitation management.

Side events and Exhibitions were highly frequented by the conference participants, and even high level delegation made use of the chance to exchange views and to have bilateral talks. Generally, it was recognized that the program was very rich and manifold, and that the

Kenya Water Week performance was of very high standard.

The Conference homepage ([www.kenyawaterweek.org](http://www.kenyawaterweek.org)) was a major means for accessibility during the preparation process.

The conference thematic papers and programme were published on the internet. Submissions to the Conference were also published on the homepage and were considered in the thematic preparation.





EXHIBITION ARENA AT KENYA WATER WEEK





# KENYA WATER WEEK WELCOMING COCKTAIL







## ANNEXES:

### *List of National Steering Committee (Institutions)*

1. Ministry of Water & Irrigation	-	Chairing
2. Water Services Trust Fund	-	Secretary
3. Council of Governors	-	Member
4. Water Resources Management Authority	-	Member
5. Kenya Water Institute	-	Member
6. Ministry of Health	-	Member
7. Office of The Attorney General	-	Member
8. Ministry of Foreign Affairs International Trade	-	Member
9. Ministry of Education	-	Member
10. Ministry of Interior Coordination	-	Member
11. Ministry of Tourism	-	Member

### *List of Organizing Secretariat (Institutions)*

1. Water Services Trust Fund	-	Chairing
2. Water Resources Management Authority	-	Secretary
3. Ministry of Water & Irrigation	-	Member
4. Embassy of Finland	-	Member
5. Royal Danish Embassy	-	Member
6. Kenya Water Institute	-	Member
7. German Technical Cooperation	-	Member
8. Kenya Markets Trust	-	Member
9. Kenya Water & Sanitation Civil Society Network	-	Member
10. International Water Association	-	Member
11. Water Services Regulatory Board	-	Member

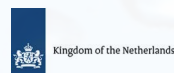


### List of Water Ambassadors:

1. Hon. Amina Abdalla - Chairperson, Water and Environment Parliamentary Committee, spearheaded the legislation of Water Act 2016
2. Hon. Ahmed Abdilahi - Governor, Wajir County, highest budgetary allocation to water in the Counties
3. Hon. Martha Karua - Former Minister, Water and Irrigation - initiated 2002 water reforms
4. Mr. Vimal Shah - Businessman and Bidco CEO, has contributed greatly in improving water access to the vulnerable
5. Mr. Charles Kanyi - Music Artist, Businessman and NACADA Director, reigning Water Ambassador and contribution to youth, social and cultural issues
6. Ms. Grace Wanene - Miss Earth, contribution to conservation issues
7. Ms. Alice Kamunge - Director, Miss Tourism Kenya, contribution to tourism and social-cultural issues
8. Ms. Rabella Wendy Omollo - Miss Tourism, 2016, contribution to tourism and social-cultural issues

### List of WICA Winners - Project (Institution)

1. Robbin Murithi Mutugi - Automatic Drain Cleaner Machine
2. Prof. Michael Gatari - Electro spray Water Desalinator (University of Nairobi)
3. Fadhil Halima - Fadhil Aqua Desalination system (Technical University of Mombasa)
4. Daniel Maitethia - Sensor Based Automatic Irrigation System (Meru University of Science and Technology)
5. Richard Ochieng Arwa - Biofuel from Water Hyacinth
6. Joshua Mukula Kituu - Smart Rainwater Harvesting, Storage System
7. Michael Ondoro - Poisedon Pump System (Technical University of Mombasa)
8. Erick Oloo Omondi - Automation of Water Level Monitoring (JKUAT)
9. Nancy Gakii Gitonga - TAPTECH (NAWASCO (Strathmore University))





### *Mapia Awards Winners (Institutions)*

1. Winner Water Services Providers (Utilities) - Nyeri Water and Sewerage Company
2. Overall Winner Civil Society Organizations (CSO) - Kenya Red Cross
3. Runners Up CSO - Sanaa International
4. Winner Private Sector - Blue Ribbon Company Ltd.
5. Water Resources User Association - Overall Winner - Ngusishi WRUA
6. Runners up Water Resources User Association - Ngare Ndare WRUA

*This Report was prepared by the Organizing Secretariat,  
2016 Kenya Water Week*

Website: [www.kenyawaterweek.org](http://www.kenyawaterweek.org)

Report edited by:  
*Water Services Trust Fund, Seat of the Organizing Secretariat*

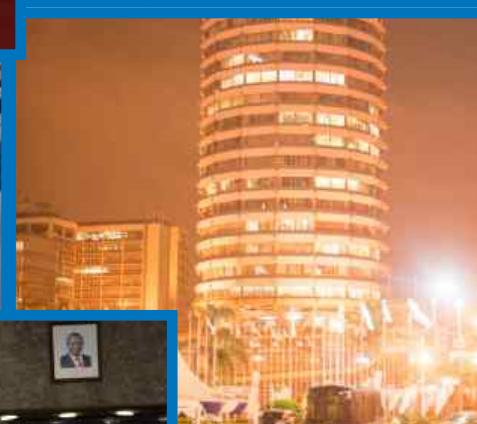
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# GALLERY







GOVERNMENT OF KENYA  
(MINISTRY OF WATER AND IRRIGATION)



# 2016 KENYA WATER WEEK

Water Sector Business &  
Innovation Conference & Exhibition

From Aid to Trade



THE COUNCIL OF GOVERNORS



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[www.kenyawaterweek.org](http://www.kenyawaterweek.org)



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