

# Catalysing Urban Water Transitions



## Synthesis Report from 2013 IWA Development Congress & Exhibition



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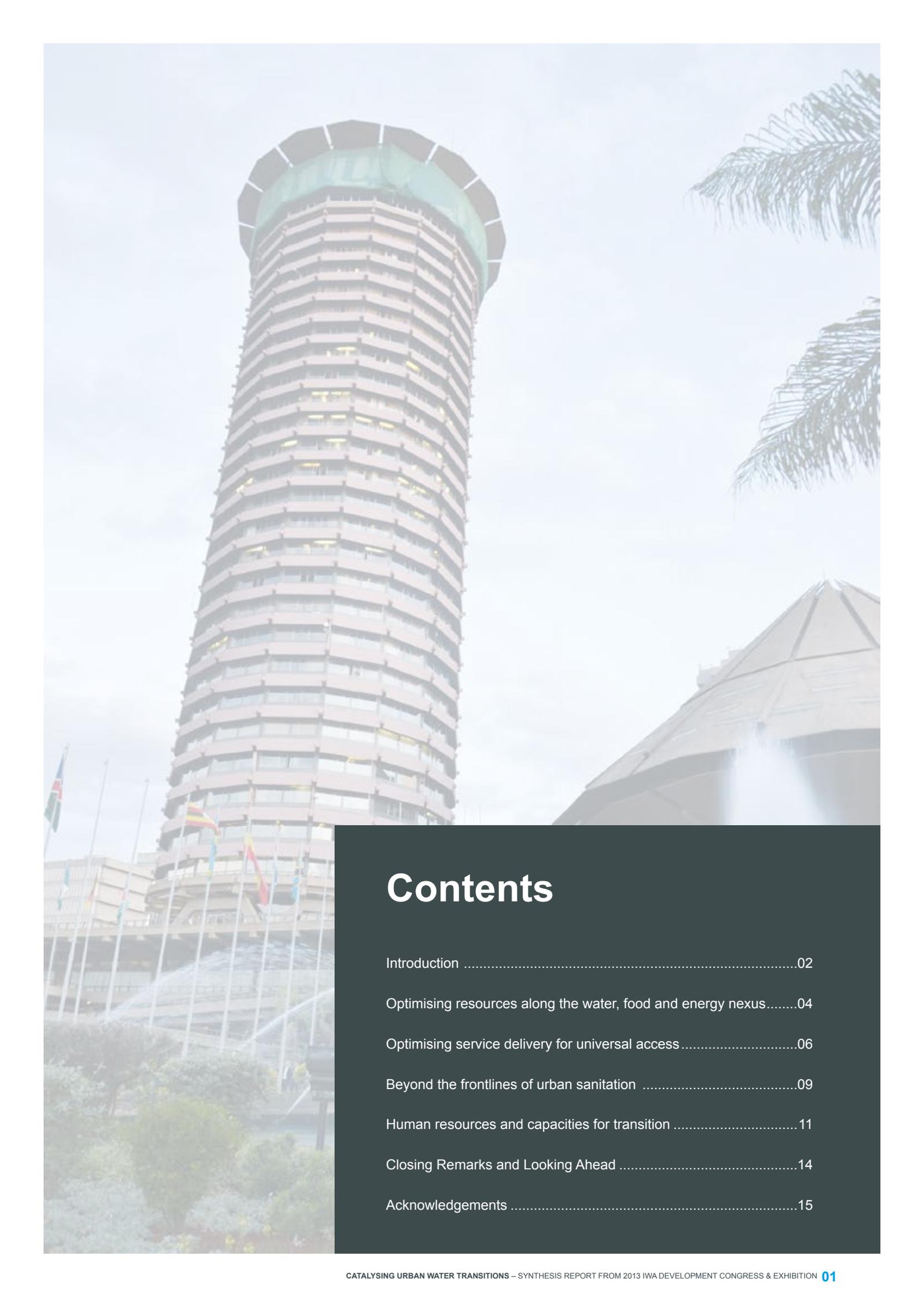
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# Introduction

Over 1000 water professionals from 74 countries, 16 strategic partners, over 400 presentations and 57 exhibitors made the third IWA Development Congress & Exhibition in Nairobi, Kenya an exhilarating and rewarding week. Organised in October 2013, this biennial event brought together water and sanitation professionals to discuss and bring fresh ideas to manage water resources, water supply and sanitation services in low and middle income countries.

The overarching theme of the Congress was: '*Catalysing Urban Water Transitions*'; which clearly resonates with two important perspectives: one, almost all urban population growth in the next 30 years will occur in cities of developing countries; and two, in order to manage the water cycle within this changing context, we need to transition to new ways of managing our resources and delivering services.

The reality of the scale of this urbanisation was brought home by The Governor of Nairobi, Dr. Evans Kidero who addressed delegates during the opening session: "...by 2050 the population of Nairobi will have grown by nearly four-fold to 14 million. We will only see exacerbation of the current problems of water availability and sanitation management". As the host country, Kenyan water professionals and partner organisations provided a number

of examples where good progress has been made in the recent decade, much of this driven by the desire to meet MDG target 7. Reflecting on some of the critical success factors and continuing bottlenecks in this context, was a prevailing theme throughout the Congress. The Chairman of the Congress co-organisers, the Water Service Providers Association of Kenya (WASPA), Mr. Nyundo Katemboh urged the delegates to "look beyond the MDGs and move towards the universal goal of access to safe water and basic sanitation for all". This was echoed by the Honorable Prof. Judi Wakhungu, Cabinet Secretary for Environment Water and Natural Resources who focused on the socio-economic consequences of not addressing the water cycle challenges of tomorrow, particularly highlighting the burden on women and girls. Underpinning this, commented Prof. Wakhungu is the need for good governance, with strong regulation.





These opening remarks set the tone for the week ahead and galvanised delegates around core themes. The technical programme for the Congress was organised into four thematic areas, each of which included technical sessions, consisting of peer-reviewed papers and workshops, co-convened with our strategic partners. What follows is a snapshot of the discourse and key findings emerging from four days of presentation, debate and collaborative thinking; which all took place within a sociable, professional and rewarding week in Nairobi.

I would like to take this opportunity to thank the Congress co-organisers, sponsors, strategic partners, exhibitors and most of all; the delegates, who turned out in larger than expected numbers, kept energy levels high and discussion rich throughout the week. I hope you find this report a valuable resource and point of reference for your ongoing work.

**Dr Ger Bergkamp,**  
**Executive Director, International Water Association**

# Optimising resources along the water, food and energy nexus

The need to optimise resource allocation and recovery is pressing in many cities, which are more and more water constrained and compete for water with surrounding agriculture producers, energy providers, and environmental benefits. Global trends related to increasing population and the decrease in natural resources, and volatility brought about by climate change only adds to the challenge.

- Water withdrawals will decrease in OECD countries by 12% but increase by 80% in both Brazil, Russia, India, Indonesia, China, South Africa (BRIICS) and the developing world, translating into an increase in total global demand by 55%.
- The OECD believes water demands for irrigation will decrease 14% globally, currently at 67% in 2000 and will be down to 37% in 2050.
- There are significant increases in domestic water demands for the BRIICS and developing world, +260% and +150% respectively, increases from 10% to 14% of total global withdrawals.
- There is also an enormous increase in manufacturing's demands on water resources, approximately +406% globally, resulting in a change from 7% of total global demand to 22% of the total global demand.
- Furthermore, there is a huge increase in electricity's demands on water resources, +370% in both BRIICS and developing world.

The nexus provides us with the unique opportunity to explore cross-sectoral dialogue on new solutions outside of the “water box”. As Pol Adarve, Strategic Director with Abengoa states: “The technology is there, the solutions are there, all we need to do is communicate properly to make the solutions come to be.” Although solutions might be available, technical expertise and capacity is needed for implementation. The private sector can be a resource to fill gaps in expertise; however it is important for the government to retain risks. This type of collaboration can set the scene for partnerships between private, public, and institutional departments to develop and share data and knowledge on developing practical demonstrations of technology and infrastructure which can ensure that the benefits of water resources can be shared across sectors.

## Managing Information for Changing Water Availability

Building resilience in the water sector includes identifying alternative water sources to reduce competition and secure water for water supply, agricultural and energy productions, as well as industry. In the case of Nairobi, there is a push to move to develop a new network model which will increase water efficiency and tap into alternative supplies to enable better drought management.

Julius Wellens-Mensa from the World Meteorological Organization (WMO) describes how “droughts and floods are happening with increasing frequency, and we need to learn how to manage these to have a net positive gain”. Responding to water related shocks requires functioning networks and databases, professional capacity to manage and interpret climate information, and communicating the outputs to a variety of end users. Information in order to manage water sources is essential, and there is a need to encourage agreement between institutions to facilitate better sharing of information and a deeper level of collaboration that results in better climate data and climate services for the end consumer.





Decision support systems (DSS) can deliver this function and provide key information on optimising resources in basins for the water, energy, food sectors and beyond. DSS can be used for proper resource planning, harmonising policy frameworks and enabling transboundary cooperation and integration. A DSS can offer a platform for sharing data and information, and allows for the selection of specific data for end-users. For example, the Lake Victoria Basin Water Resource Information System accommodates spatial-temporal and variable multidisciplinary data to be used in future planning, management and learning. In the development of all DSS it is important there is strong capacity building so relevant information can continue to be generated to guide decisions.

### Building Resilience to Climate Impacts

Groundwater is an important buffer as climate changes affects water availability. The African continent has used only 5% of its available groundwater resources; so there is a huge potential, but as the resources are exploited, there is a need for more attention on groundwater governance. This comes with a high degree of complexity as groundwater from one management area can end up recharging groundwater in another management area (overlap). In Northern Kenya, the situation is even more complex with the recent discovery of substantial underground aquifers in conjunction with large oil reserves, and in an area that can be known for lack of food. This has resulted in Kenya coming face-to-face with the water-energy-food nexus. Recommendations include enhancing vertical and horizontal linkages to allow information flow between stakeholders, engaging research institutions such as universities, developing new methods for financing, and establishing groundwater monitoring networks and databases.

In areas where climate change is resulting in more frequent flooding, improved stormwater management is part of building resilience in urban areas. It is recommended that there be complementary approaches of both traditional solutions and those that draw on alternative or compensatory techniques.

### Water Quality for Different Uses

Part of the challenge for optimising water resources across the nexus is how to handle competing needs and identify alternative water sources while maintaining quality. In regards to quality, UNEP is establishing International Water Quality Guidelines on Water Quality for Ecosystems. The Guidelines need to be applicable to different parts of the flow chain - upstream/downstream and transboundary waters - as well as in context of different levels of capacity. The focus is on practicality and ability to apply guidelines to fit both developed and developing countries (different levels of

infrastructures development and promote different focus and usage of guidelines). This includes development of supporting documents to the guidelines which means a protocol for supporting guidelines, guidelines for monitoring and reporting.

A Compendium of Water Quality Guidelines is also being developed to provide a state-of-the-art overview of water quality guidelines worldwide, enriching the debate regarding multidisciplinary aspects at different geographic scales. The compendium will enable decision makers to determine which water quality is suitable for which use and, ultimately, to promote efficient use of water resources. For example, this can promote reuse of water as a possible alternative water source for various uses.

### Resource Recovery Across the Nexus

The use of wastewater as a resource is being driven by economics, new technology and gradual societal acceptance. Resource recovery can increase efficiency across the water, energy and food nexus. For example, in the agricultural sector, there is a high potential for re-use of urine as a sustainable alternative to commercial fertilizers in agriculture. Urine has potentially low microbial and heavy metal loads and therefore even more eco-friendly than nutrient recovery from wastewater. Extracting phosphate from urine can also save energy in the production of chemical fertilizer. Greywater was recognised as an important resource that is currently undervalued. Hina Derabe Maobe from Hokkaido University concludes that “with water scarcity in Africa, greywater provides an opportunity to recover treated water, nitrogen and phosphorus for the growth and survival of plants.” However, awareness-raising to promote the social acceptability of wastewater reuse remains important for widescale uptake.

Energy savings is one benefit from extracting resources from wastewater, but there is also energy recovery. There are several steps for planning improved energy efficiency and recovery. This includes an inventory of potential applicable emerging and proven technologies for energy production/reduction are useful to assess what can be applied in each context. The next steps include design that account for extreme situations, and continuous monitoring to know where energy is being consumed.

### The Nexus in Industry

As Glen Daigger, IWA President states: “Water lubricates the economy”. In the case of mining, which is one of the most water intensive industries, business growth relies on having adequate quality and quantity of water. If not managed well, there can be increasing conflict for water resources in basins where mining is present, so there is a need for further collaboration between the water and mining sector to ensure the availability of reliable and good water quality. IWA can play a role in analysing potential possibilities of extending the focus to non-core business opportunities in water sector and the role mining can play. Another area of collaboration is to identify who are the policy makers in the water and mining sector and develop a forum to share discussions and understand the value of building partnerships to secure water across the nexus.

# Optimising service delivery for universal access

The 2012 report from the Joint Monitoring Programme (JMP) announced that the global water target for MDG Target 7c had been met in 2010. However, it came with two caveats: one: there remain great disparities within and between regions; and, two: it is likely that the number of people using safe water supplies has been over-estimated. Whilst this success was celebrated, it also gave a sharper focus for the need to enhance service levels – making sure people with improved access to water have safe, reliable supplies – and created greater momentum to ensure the more aspirational target of universal access for all is part of any potential water Sustainable Development Goal (SDG). This theme therefore considers the pivotal role of water utilities as service providers and the policy, technology and partnerships that enable them to perform better and serve more people.

## The Human Right to Water and Sanitation

The Human Right to Water and Sanitation (HRWS) has given new impetus to the aspiration of achieving universal access to water and sanitation services. However, the HRWS alone will not solve the water and sanitation crisis. The HRWS provides a clear set of principles and goals to guide policy development; it does not define a specific policy or framework for implementation. Catherine Mwangi, Executive Director for the Kenya Water For Health Organization makes the point: “Without the legal framework the right to water and sanitation would only be seen as activism...there needs to be practical application...advocacy programmes that will help to interpret the legal issues to citizens which enables the

stakeholders to have an understanding of the human right to water and sanitation and ensures participation. Within an institutional setting, it is important to clarify roles and responsibilities”; Gerard Payen, President of AquaFED, emphasises the importance of roles and responsibilities: “The right will only be effective if the different institutions (central government, local authorities, ministries, service providers) know their roles”. Within this context, the role of service providers, specifically in translating the HRWS into operational terms is critical; IWA Senior Advisor Robert Bos comments: “there are many misconceptions and misunderstandings related to what the HRWS means in practice, we need to raise awareness amongst practitioners and provide guidance; and this is exactly why IWA is developing a HRWS manual for practitioners.”





The issue of progressive realisation of the human right is often emphasised – the notion that universal access may not be achieved over night, but rather is worked towards over a period of time. This is illustrated by comments from Neil Macleod, Head of Water & Sanitation Services, eThekweni Municipality, who states that although the human right was embedded within the South African constitution in 1994, it was only in 2000 that this was translated into action, and even today universal access is not realised. Furthermore, Neil adds: "...policy does not always bring actions. Policies have financial consequences that are usually a limiting factor. If government introduces a policy it must be able to ensure adequate finance for its implementation". Neil concludes: "...the right to water and sanitation requires a combination of innovations in technology, policy and finance, to become a reality".

### Smart Technology Options

Examples of technological innovations supporting the HRWS include pre-paid meters, which have been trialed and / or implemented in a growing number of countries and also so called 'smart systems' which utilise the extensive ownership and capabilities of mobile phones. One such example are smart handpumps, where data is transmitted from handpumps over a mobile phone network. Robert Hope from Oxford University reports on a recent trial of more than 100 data transmitters across multiple sites in Kenya: "we were able to demonstrate that real-time, accurate information on handpump usage can boost maintenance performance, inform planning and investment decisions, and drive more transparent and accountable

governance". Emily Kumpel, a researcher at the Aquaya Institute, comments on how a smart grid sensor system has been used in Hubli, India by both workers and customers: "Using mobile phone technology, residents in areas of intermittent water supply...are able to know the water supply schedule with increased certainty and they can go about their daily activities and create ample time for water collection accordingly. The human- powered "smart-grid" sensor system also provides instant feedback to the utility engineers who are able to check on the supply designated times, optimise storage in the supply tanks and locate leakages for prompt repairs to reduce wastage."

### Financially Viable Utilities

Continuing on the theme of water losses, or Non-Revenue Water (NRW), Robert Gakubia, CEO of the Water Services Regulatory Board of Kenya, comments that the current levels, particularly in parts of Africa are not acceptable: "Looking at water utilities as a business, what other business would be okay with not knowing if upwards of 50% of their product is delivered to the customer or not? We need to change this mindset..." Non-Revenue Water (NRW), which is often used as an indicator for utility efficiency and performance, has attracted much attention from donors and development banks. The Infrastructure Consortium for Africa (ICA) is exploring mechanisms to attract funding from the private sector to tackle NRW. One approach they are exploring is for a performance based delegated management arrangement, which rewards a contractor based on their performance; for example the more NRW is reduced the greater the financial remuneration.

The need to couple such interventions with capacity development is important for sustainability, something which is highlighted in Malawi by Vitens-Evides International (VEI), where they are seeing NRW levels falling over a four year period with a Performance Based Contract (PBC) between VEI and Lilongwe and Blantyre Water Board. However, key lessons have been learnt, according to Siemens Veenstra, Director for Capacity Development Water Operators for VEI: “we need to ensure that as well as aiming for quick wins that there is also a focus on capacity development to sustain achievements in the long term. Furthermore, it is critical that the institutional setting with an operator can value and drive performance improvement”.

Such approaches are helping water services to become more efficient, which in turn contributes to improving the financial viability of a utility. This is crucial for increasing access to finance for utilities that need to expand services, upgrade old infrastructure or otherwise require capital investment, as any financier - be it from the public sector, development banks or the commercial market – needs to have confidence in the entity it is investing in or lending to. Eric Adams of the SUWASA programme reports on progress being made in Kenya in regards to increasing access to finance by utilities from commercial banks: “We’ve broken the glass ceiling where initially banks shied away from investments in the water sector because they thought it was too risky, now that this solution seems viable and attractive financially we are starting to see more interest from the mainstream banks.”

### Performance Assessment

What many banks will want is transparency; not just in accounting, but also in performance and service levels. And herein lies a problem for many utilities in low and middle income countries; Meera Mehta, Professor at CEPT University in India comments: “Little is known about the quality, level and financial sustainability of service and only limited information on access of urban poor households to water and sanitation”. This has led to a focus on performance assessment for service providers within an expanded context that looks beyond technical performance but also considers financial and sustainability dimensions. A new system, developed by IWA and the Inter-American Development Bank (IDB) called AquaRating, provides water and wastewater utilities with a mechanism to rate their performance, Maria del Rosario Navia, Senior Water and Sanitation Specialist at IDB explains: “AquaRating provides an objective and reliable means to rate utilities performance. It relies on data and information on performance indicators and best practices, but also looks at the reliability of the data and furthermore, all of this information is audited by an independent third party”.

### Cities of the Future

Urban water sector reforms have usually focused exclusively on large scale operators and have ignored the potential offered by local and private water operators.



Are private network water service providers competitors or partners for water utilities? This question is posed by SUWASA Chief of Party Dennis Mwanza: “Private water operators in Mozambique, for example, have filled a large service gap and have worked diligently and consistently for a generation to respond to increased consumer demand. However, there are no licensing frameworks to support the local private sector, resulting in inconsistencies in services”. Finding solutions, often related to governance and regulation that can enable legitimate and equitable partnerships between governments (state and local), utilities and small scale independent providers can ultimately lead to improved and more sustainable service levels.

Whilst this may go some way to meeting existing demand, the sector is becoming increasingly aware of future needs; with population growth, rapid urbanisation and the impacts of climate change we are shifting attention to cities of the future and how water, waste and nutrients flows in and out of them. This point is made by IWA’s former Executive Director Paul Reiter who states: “This growth is especially critical in small disorganised ‘emerging’ cities in Low and Middle Income Countries since they are outside modern economic development pathways. The models developed for large cities cannot be applied to secondary towns since scaling down is not practical. We need new models of development specifically tailored for secondary cities.” Dinesh Mehta, Professor at CEPT University adds: “The way in which new and emerging cities are planned now is post-settlement. So we are faced with building infrastructure for essential services, like water and sanitation, in response to populations moving into urban areas and urban areas expanding, always trying to catch-up”. Asked if there is a technology ‘silver-bullet’ to deal with these circumstances, Chris Buckley, Professor at University of KwaZulu-Natal responds: “No; circumstances will dictate solutions such as geography, climate, population density, income etc. We need to think about alternatives to existing management approaches that embrace concepts such as reuse and treating sanitation as a business”.

# Beyond the frontlines of urban sanitation

With access to sanitation trailing far behind global targets, we urgently need to break new ground in the provision of sanitation solutions. This is coupled with a great opportunity to re-think sanitation management within the broader context of urban metabolism, where resources are recovered and reused. Policies that are both consumer-centric, focusing on the needs of households; but also incentivise service providers, whether public or private, community-based or city-wide are essential so as to enable financially viable operations. There is an urgent need to take some of the tried and tested technologies, community engagement approaches and entrepreneurial acumen to the next level and significantly scale-up services across cities.

## From “Improved Access” to Total Sanitation

Improved access to toilets is critical but will not solve the sanitation crisis alone. Meera Mehta from CEPT University in India, stresses that what is required is a more comprehensive approach which considers that sanitation is not just a toilet but a system and wider recognition of the interdependency of appropriate technologies and the social context in which they operate are critical towards achieving sustainability. Stefan Reuter, Director of the German NGO BORDA emphasises that “scaling up is more than replicating a single project” and

Sophie Tremolet leading on a project funded by the European Investment Bank (EIB), KfW Banking Group and the French Development Agency (AFD) provides recommendations that sanitation strategies for implementation at scale need to be based on a detailed diagnostic of the existing situation and a combination of investments in sewerage and non-network systems. She stresses that, at the implementation stage, identification of suitable partners based on a thorough institutional assessment and political support is critical. Recommendations are also made for the involvement of



multiple funding partners and innovative performance-based financing with staged investments based on milestone achievements, which is a topic of increasing interest to IWA through the activities of IWA's Performance-based Task Group.

Peter Hawkins, Country Manager from the Water and Sanitation Program (WSP) in Mozambique says that greater attention is needed to focus on improving faecal sludge management (FSM) and to "make the invisible FSM visible" especially to policy makers who still prioritise water-based sanitation systems rather than concentrating on on-site sanitation which currently serve the majority of urban dwellers throughout the world. He emphasises that the critical issues to ensure successful implementation of FSM strategies include the need for validated business models and the development of regulatory frameworks and effective management arrangements for sustainable operation and maintenance.

### Using Risk as the Basis to Inform Policy and Prioritize Interventions

Manuel Alvarinho, President of the Mozambican water regulator (CRA) reports on an Urban Sanitation Charter being promoted in Mozambique. He explains how the Charter stresses the importance of prioritise sanitation services towards poor communities that are most exposed to sanitation related health hazards which are exacerbated socio-economic factors. At the operational end of the sanitation spectrum, IWA along with the World Health Organisation (WHO) and the Water Supply and Sanitation Collaborative Council (WSSCC) are working together on a new approach towards managing risks across the entire sanitation supply chain, so called Sanitation Safety Plans (SSP). SSPs provide a systematic approach to identifying sanitation-related health risks in order to guide the development of risk reduction strategies. Jonathan Parkinson, Programme Manager of IWAs Urban Sanitation Initiative comments: "this systematic assessment enables a more objective assessment of risk and can help to identify those communities that are most vulnerable and are also those that are being denied their Right to sanitation".

### Planning Tools for City-Wide Service Delivery

Most developing countries lack adequate planning systems to address the scale and complexities of urban sanitation. Jo Smet from IRC in the Netherlands describes how the WASH Technology Applicability Framework (WASHTech) can be applied to supports the assessment, monitoring and evaluation of urban WASH technologies. Jonathan Parkinson refers to the IWA Sanitation 21 planning framework which gives guidance on planning processes; providing information on specific actions for city planners and local authorities in the preparation of city sanitation plans. Günter Langergraber, Senior Scientist at BOKU University, Austria makes the point that planning tools should not be used in isolation or substitutes for rational decisions and the sanitation planning process needs to be linked with other aspects of sustainable city development. An integrated perspective is required in which sanitation is seen to cut across various aspects of environmental management such as those related to

solid waste and drainage which are managed by different institutions. Adding to this, Markus Starkl of Boku University stresses the need for greater coordination between municipal departments combined with a policy framework to allow for public-private partnerships to develop and for municipalities and commercial enterprises to work hand-in-hand to improve sanitation.

### Ensuring Sustainable Sanitation Services

The focus on improved management is crucial because the reasons for failure is often related to the inadequacies of local management arrangements. Christophe le Jalle from PS-Eau comments: "small systems does not mean small management. What is required is a strong institutional framework, defined lines of accountability and technical support for local operators". He emphasises the need for concerted capacity building efforts targeted on institutions working at the local level working in collaboration with government agencies. But probably the most important consideration is the need for capacity building requiring institutional support and business development marketing to stimulate involvement for the private sector which already has lots of solutions that need to be tapped. The operator responsible for system management needs to be held accountable by a defined regulatory framework which requires a clear defined set of standards to adhere to.

### Capacity Building through Dissemination and Knowledge Sharing

Pascaline N'Dungu, Urban Specialist from the World Bank, stresses the need for greater information, in the form of case studies and monitoring systems, on the operational performance of wastewater treatment systems. Such information will strengthen the understanding of how these systems operate in practice, particularly in relation to their ability to achieve water quality standards under different operational regimes. The development of a set of standards was considered to be a key area for the IWA to focus on as part of the Urban Sanitation Initiative and IWA will continue to play a key role in sharing experiences in achieving improved sanitation at different scales- starting at small scale and expanding to large scale – and working with partner organisation to strengthen the enabling environment, promote collaboration and building capacity within key stakeholders operating at the city level to achieve longer-term sustainability.



# Human resources and capacities for transition

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Investments for developing water supply and sanitation services are often singularly targeted towards infrastructure without enough attention to the capacity needs of water professionals that design, build, operate and maintain them. A shortage of skilled staff is a chronic problem in most low and middle income countries, which significantly undermines progress towards development goals and universal access to services. Our understanding of capacity gaps is rudimentary with many countries having no data on existing human resource capacity or needs, and weak or completely lacking strategies to address capacity development in the WASH sector. However, our application of capacity development approaches is becoming more holistic, encompassing individual, organisational and institutional perspectives; and, we are starting to have a better understanding of the relationship between capacity development and performance improvement. Application of these tools and approaches within a better informed sector, with human resource gaps and skills data, can support a more strategic approach to capacity development that attracts the investment it requires and has greater impact. This theme explored some of the bottlenecks and enablers to improving capacity development efforts.

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## Institutional Capacity

Sam Kayagga, Senior Lecturer at WEDC, comments that our understanding of institutional capacity has evolved over the past two decades: “Pre 1990’s, the main approach for capacity development was individual skills development, mainly through training. Over the years, this has become more holistic, considering absorption capacity of institutions to implement capacity building projects and overall organisation capacity. Where we are now provides a more multi-dimensional perspective that considers the individual, organisational and systems level.” This has been captured within a new tool being developed by the World Bank: the Water Utility Maturity Model (WUM), which evaluates the institutional capacity of urban water utilities and has been piloted in two utilities in South Asia. Kayaga states that the tool is still a work in progress and key to its more widespread application is understanding the barriers and enablers between different levels of maturity.

A similar tool has been developed by Suez Environment, as Claude Jamati, Vice-President of the African Water Association (AfWA), describes experiences in Algiers working with local teams as part of a management contract: “We wanted to develop services sustainably, and our approach included having a vision to bring

services up to international standards within a 5 year timeframe, including the realisation of 24/7 water supply, and appropriation of knowledge by local actors, which practically translated to technology transfer to approximately 5800 employees. In undertaking this, empowerment of management and identification and nurturing of employee talent was critical. We developed very practical tools – ‘Water International Knowledge Transfer Initiative (WIKTI)’ and ‘Optimising Personal Talents (OPT)’ to help with this. WIKTI in particular is important in assessing the level of effectiveness and maturity of skills within the company.”



## Sector-Wide Human Resources and Capacity Development

Whilst tools have been developed at an institutional level, it is at the macro, sector-wide level where there is a knowledge gap. Uta Wehn de Montalvo, Senior Lecturer, UNESCO-IHE comments that although knowledge and capacity development interventions are increasingly recognised as critical to improving water supply and sanitation services, the difficulty is in assessing their effectiveness. There is a need to develop more practical and meaningful indicators for capacity development so we can better track interventions and allocate resources more effectively.

In recent years, IWA has developed and deployed a methodology to assess human resource capacity gaps at a country level. Kirsten de Vette, Programme Officer for IWA comments that: “evidence suggests that across the 15 countries where we have undertaken the assessment, a shortage in personnel and specific skills sets, for example sanitary engineers, are significantly hindering progress towards MDG targets and universal access. One of the intrinsic problems of the ‘sector’ is that it is not very well defined; as water and sanitation services depend on civil engineers, local authority staff, public health specialists etc. it is difficult to characterize the workforce of the sector in a clear and consistent manner”.

What is clear however is the impetus and momentum gained from government support for capacity building initiatives. Mitsuro Uemura, expert with the Japan International Cooperation Agency (JICA) highlights the need to secure adequate budget for capacity development

activities. In Sudan, almost all states in secure a capacity development budget and this is because of strong government commitment and initiatives. JICA only provides management and training.

## Addressing Inequalities

Challenges in peri-urban and rural areas are often associated with a lack of appropriately trained personnel, this is particularly the case for systems which are operated and maintained by communities and/or volunteers where individuals operating and maintaining systems may be ‘semi-skilled’ or ‘non-skilled’. Guillermo Saavedra, President of Federación Nacional de Cooperativas de Servicios Sanitarios (FESAN) in Chile describes the creation of Community Learning Centres as one way to support capacity development at the community level: “The Centres (CLCs) act as a hub for the integration of rural WATSAN operators for management improvement and technical skills development in green wastewater treatment. With funding from the Chilean government and the Inter-American Development Bank, we have developed 7 CLCs across the country”. These learning centres have accelerated technology transfer amongst individuals and created an environment of continuous learning and support.

At a decision making level it is important to equip people with simple and practical tools to support cost effective interventions. Günter Langergraber comments on the development of a planning tool to support water supply and sanitation systems at the community level: “Within the CLARA project (Capacity-Linked water supply and sanitation improvement for Africa’s peri-urban and Rural Areas) we are developing a planning tool that





aims to encourage technological and non-technological improvements of low-cost water supply and sanitation systems.” In applying this tool in South Africa, Dhesigen Naidoo, Chief Executive officer of the Water Research Commission comments: “The tool is ambitious, but will give good first order base to inform decisions on system options”.

Inequalities also exist when considering female participation in decision making and day-to-day operations of water and sanitation systems: “Gender has to go beyond paper in policies. The gender issue must regain the momentum it had picked in the 90’s and it should be given a new lease of life” comments Dhesigen Naidoo. “There is a need to ‘walk the talk’ and urgently address this crosscutting issue that is everywhere and yet nowhere. Challenges of the economic, cultural and political environments should also be properly addressed in gender mainstreaming. We are deriving huge dis-benefits by ignoring the gender issue comments”. In response to this, IWA commences a new project in 2014 looking at female equality and empowerment for improved water supply services.

### Peer-to-Peer Learning

Twinning between water utilities has long been used as a mechanism to support capacity development. The latest incarnation of this mechanism, Water Operator Partnerships (WOPs), aims to pair mentor and recipient utilities for peer-to-peer learning. Of all the regions, it is perhaps Asia that has the most extensive experience; Gyongshim An, Senior Urban Development Specialist

for the Asian Development Bank (ADB), describes ADBs support for WOPs: “We have supported approximately 50 WOPs in the last few years, either completed, on-going or in the pipeline. ADB provides financial support for each partnership up to 50K USD and looks for matching funds where available. What we have learnt is that both recipient and mentor need to feel they would benefit, creating a win-win partnership and within this context, both parties need to focus on managing tangible and realistic outcomes.”

Efforts in Africa, led by the Global Water Operators Partnership (GWOPA), AfWA and IWA hope to emulate this. With funding from USAID, African Development Bank and more recently OFID to support utilities in the region, there is a great opportunity for scaling-up WOPs for Africa utilities. However, Anne Bousquet, programmes officer for GWOPA notes the need for a greater number of mentors in the region to meet anticipated demand.

One notable success story for WOPs in Africa has been seen in Nakuru in Kenya, where Vitens-Evides International have paired with the local service provider NAWASSCO to reduce NRW levels. Reint-Janbe Blois, Resident Project Manager VEI, explains: “In a short period of time (6 months) we saw an initial reduction in water losses from 50% to 20% and then down to just over 10% after 12 months. Through working together, we focused on testing and replacing faulty meters, and other ‘low-hanging fruits’. The local staff appreciated the on-the-job training approach which enabled them to accelerate the translation of theory into practice”.

# Closing Remarks and Looking Ahead



Our colleagues working in developing countries face challenges unlike those in the developed countries. They face them with determination, commitment, creativity, and courage. Courage because it would be easy just to give up, blaming the barriers clearly present in the environment in which they work. But they do not. We that work in safer and more secure environments need to look at the example provided by these talented and courageous professionals. I have to say that we can learn a lot from their spirit and example – for their determination to do what is right even if it is not required and is, in fact, opposed by the system

It is obvious that the Association is positioned to make a unique contribution to meeting the water needs in developing countries. Our focus on water professionals and the delivery of solutions at scale is that unique position which is so necessary, but is not filled by other events. More importantly, it is clear that we are at an inflection point in the development of the Association as we are on track to being equally relevant in the developed and developing worlds.

The IWA Development Congress was conceived as a vehicle to further the Associations' work in low and middle income countries and provide a regular check-point for water professionals to regroup, gauge progress and point the way forward to innovative solutions to our water and sanitation challenges in urban settings. Serving water professionals working in developing countries, this event is becoming the pre-eminent event focusing on the development and delivery of water and sanitation solutions in the developing countries.

While truly an international event, the presence and contributions of our African colleagues was a clear and important element in the success of the Congress. And on this point, we head off to the next Development Congress & Exhibition in 2015; an important year in development circles as we transition to a post MDG world to Sustainable Development Goals, which should make for a defining year for the water and sanitation sector.

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