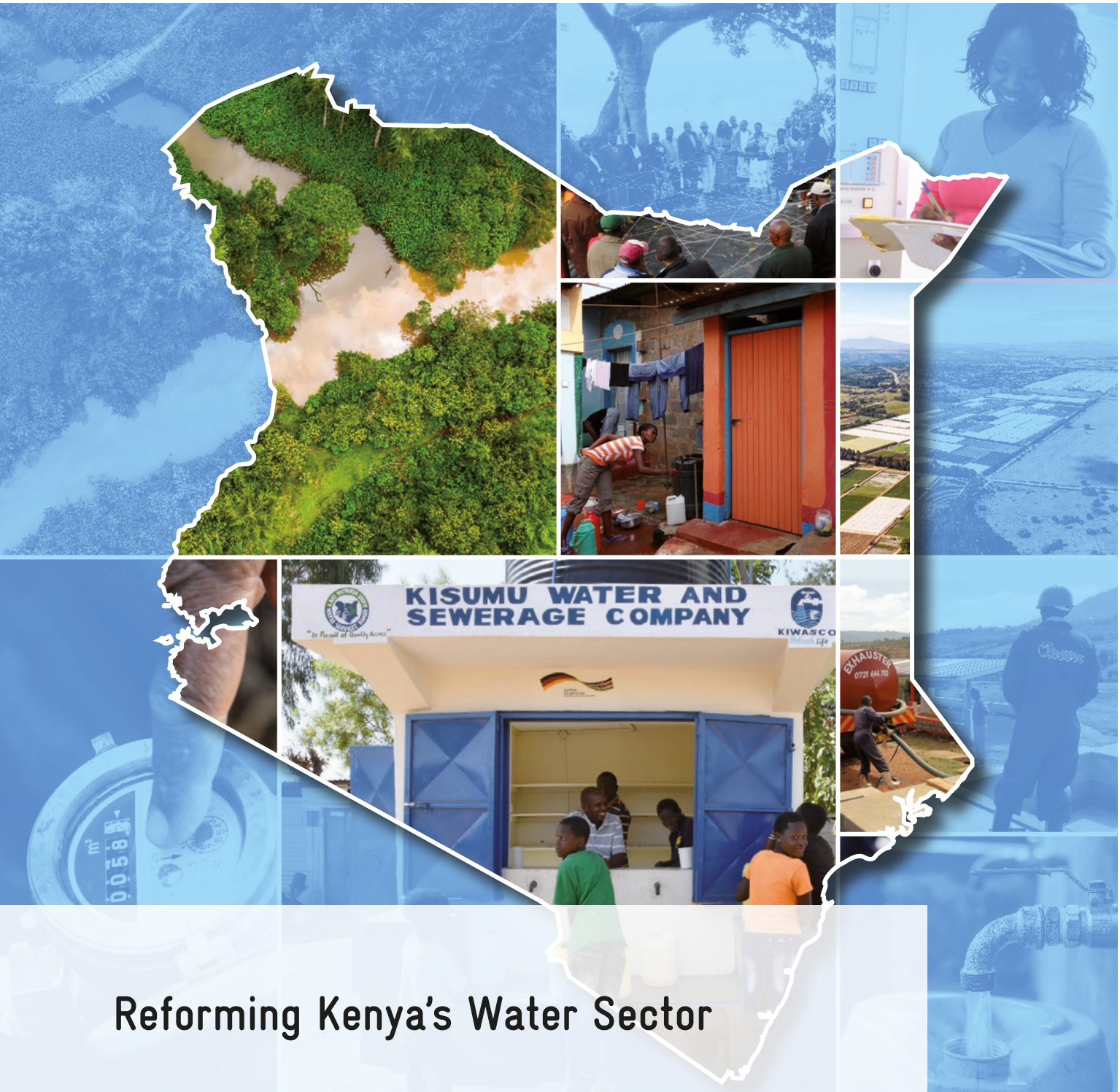

Reforming Kenya's Water Sector

Sharing the experience of GIZ's
Kenyan Water Sector Reform Programme

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Sharing the experience of GIZ's Kenyan Water Sector Reform Programme

Background and rationale – an introduction to this series of papers

Funded and commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ), GIZ has supported the Kenyan water sector reform from its very beginnings. By 2018, water management and service provision were guided by a bespoke, modern sector framework, and the GIZ Water Sector Reform Programme (GIZ-WSRP) was drawn to a close at the end of the year. This offered a basis for sustained improvements in sector performance. This programme drawing to a close offered an opportunity to reflect on a decade and a half of working with Kenyan sector institutions, their staff and stakeholders. The series of papers presented here seeks to document some of the key aspects of the reform from the perspective of its GIZ advisors and to share the lessons we and our partners learnt as widely as possible.

Experience from early German support to Kenyan water providers suggested that advice should follow a comprehensive sector development concept, encompassing water resources management (WRM) as well as water and sanitation development. Success would be most likely with a multi-level and multi-dimensional approach. In line with the German development priorities of the time, GIZ-WSRP initially concentrated its efforts on urban water supply services and WRM. On-site sanitation activities were added at a later stage, yet again focused on urban areas. Prescriptive programme parameters, along with the near-complete absence of comparable external support for the rural water and sanitation sub-sector, help explain the situation that can be found in the Kenyan water sector today: a modern and bespoke legal, policy, regulatory and operational framework has been developed for the urban water supply sector and WRM, and similar efforts are beginning to emerge for urban sanitation. Rural water and sanitation, however, remains largely untouched by the reform and consequently continues to languish behind in almost every respect. Wasreb, the water ser-

Impact of the GIZ Water Sector Reform Programme at a glance:

1) human rights are firmly anchored in fully revised and updated water legislation

2) state of the art sector monitoring and information systems, along with annual sector performance reports, have increased accountability and transparency in the sector

3) concepts for pro-poor water and sanitation services are being implemented at scale by 75 utilities, now serving an additional 2 million people with water and 500,000 with adequate sanitation.

4) regulation with a strong pro-poor focus has played a key role in extending access to regulated services in previously underserved low-income areas

5) active user participation: local Water Action Groups act as vital link between regulator and consumers and Water Resources Users Associations engaged in water allocation planning across the country

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vices regulator, is trying to redress this situation through forthcoming guidelines on rural water and sanitation.

For obvious reasons, the papers can only meaningfully discuss the lessons from GIZ-WSRP's predominantly urban activities and interventions and its engagement in water resources management. Starting with a comprehensive look at the sector reform overall in paper 1, the series consists of ten self-contained papers, which can be read in any order:

- Success and risk factors of water sector reform: lessons from Kenya
- Mainstreaming human rights and poverty orientation in the water sector
- Impact and limitations of water services regulation
- Scaling up pro-poor urban water services
- Implementing basic household sanitation
- Financing urban water and sanitation services and infrastructure development
- Unlocking the value of data for water services and regulation
- Unlocking the value of data for water resources management
- Water allocation planning
- Public participation in water resources management

The information collated draws primarily on the experiences of staff involved, backed with the best available information from the sector, including the many records of work and studies undertaken. In writing each paper, it has been our intention to look back with a measure of self-criticism.

Executive summary

Since the early 2000s, the Kenyan water sector reform has introduced far-reaching changes amidst difficult circumstances: at a time when demand was soaring, chronically underperforming services were being hampered by serious financial constraints and poor governance. Frameworks for effective and equitable water and sanitation provision and water resources management were conspicuously absent. Following the transformation of the institutional landscape, the new implementing institutions and their supporting structures faced the challenge of turning ambitious new sector policies into reality. Practical implementation concepts were needed. The Kenyan partners sought comprehensive, multi-level support to create an enabling sector framework. Helping to tackle the unfolding crises in Kenya's river basins and urban low-income areas became a focus of GIZ's programme activities.

The human rights to water and sanitation had been actively debated in Kenya from the start of the reform. This presented an opening for embedding formalised service provision and poverty orientation in the sector. It also provided an opportunity to focus on effective monitoring and regulatory mechanisms, participative catchment management and pro-poor development of services, which were core strengths of GIZ sector support. Urban low-income areas had been allowed to grow into hotspots of exclusion, yet misguided aspirations for conventional networked services were frustrating the large-scale expansion of safe, low-cost water supply and on-site sanitation. On the resources side, illegal abstraction and polluting discharge were rife, at times leading to violent conflicts between water users. Yet none of the sector authorities had access to reliable information to guide their decision-making.

In recognition of this serious impediment, the partners focused on systematic compilation, digitisation and analysis of data, and GIZ supported an eye-opening collection of detailed information on low-income areas. Bespoke information systems were developed for the Water Services Regulatory Board and the Water Resources Authority, turning the regulators into competent and authoritative sources of critical sector knowledge. Transparency and accountability were significantly enhanced through public reporting on sector performance, as well as the active participation of water resources users associations and water action groups. Both now serve as a local regulatory presence, with the advantage of access to first-hand knowledge and authentic feedback.

This emphasis on capacity development and awareness creation at all levels, which counted sector resilience and financial self-sufficiency amongst its key priorities, has proved highly effective. Socially responsible commercialisation has underpinned efforts to scale up water services in low-income areas. Kenyan utilities have come to implement adapted technologies and business models to reach out to millions of underserved people. Last mile investment funding was provided, on a competitive basis, through a dedicated pro-poor financing mechanism, the Water Sector Trust Fund. In much the same way, Kenya has become a model for positive stakeholder engagement in water resources management.

Whilst charting the progress and impact of the various programme activities, the papers also reflect on obstacles, limitations and unintended consequences. Each identifies challenges that remain for the Kenyan partners to resolve moving forward, as well as a set of key messages for anyone, anywhere, attempting similar water sector reforms. A central message of the series is that lasting change takes time and patience, no matter how progressive the original policies and strategies. Reforms are complex and lengthy processes that thrive on constructive exchange and mutual learning. Once a consensus on fundamental principles has been reached, implementation is easier to accomplish if there are influential reform champions to see the reform through difficult periods. Competent, professional institutions, backed with an arsenal of well-designed tools, have played a central role in countering the ever-present propensity for political interference.

Though great strides have been made to promote equitable resource allocation and sustainable access to services, financing and asset development remain central areas of concern. Despite some notable improvements in cost recovery, the sector has come nowhere near reaching its potential for self-financing. Sanitation continues to lag behind water supply, and rural services have remained deep in the shadow of developments in urban areas. As the sector is progressing through its second wave of reform in the wake of the 2010 Constitution, which enshrines universal rights and devolves services provision and asset development to the 47 counties, it is time to address these shortfalls. Agreeing on a workable mechanism for fund mobilisation, implementation and monitoring of investments is crucial. Ideally, investment planning will be strengthened under the auspices of a professional institution and integrated into the regulatory process. Donors are also called upon to make their contribution to ensuring funding complementarity and mutual accountability for meeting strategic sector objectives.

The papers acknowledge that some initial hopes and expectations had to be adjusted to the political reality. Such frank observations lend further weight to the success stories emerging from the programme: GIZ-WSRP can look back on supporting many flourishing innovations and effective adaptations to the local context. Advisors have played a key role in facilitating fruitful dialogue and institutionalising learning throughout the process of implementing the reform. Through GIZ's networks Kenyan stakeholders were able to draw on existing international experience and approaches to similar challenges. By honouring its commitment to working in partnership with national structures GIZ consistently nurtured a strong sense of local ownership. As a result, the reform has become decidedly Kenyan in character.

Overall, combining GIZ's technical and capacity building experience with the expertise of its financial counterpart KfW, both geared towards sustainable development, has proved a strategic and successful approach. The thematic papers show many synergies GIZ and KFW were able to harness, e.g. through the sequencing of technical assistance (GIZ) and investments (KfW), joint efforts in developing and financing scalable approaches for propoor water supply and sanitation service provision through WSTF and close cooperation in the context of sector coordination and political dialogue. Kenya has embraced modern principles of water management, and strong frameworks exist for WRM and the urban water supply sector. However, high poverty, urbanisation, economic growth and climate change persist and will continue to add pressures on resources and existing infrastructure. Addressing important gaps is next on the agenda to achieve the country's aspirational sector targets. Success will hinge on key stakeholders continuing to drive the reform with the commitment, pragmatism and open-mindedness they have shown to date.

Abbreviations

APS	Abstraction and pollution survey
BMGF	Bill and Melinda Gates Foundation
BMZ	Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (German Federal Ministry for Economic Cooperation and Development)
BoD	Board of Directors
BWRC	Basin Water Resources Committee
CBO	Community-based organisation
CEO	Chief executive officer
CoP	Code of Practice
DTF	Decentralised treatment facility
EU	European Union
FC	Financial cooperation
GIS	Geographic Information System
GIZ	Gesellschaft für Internationale Zusammenarbeit (German International Cooperation)
GIZ-WSRP	GIZ Water Sector Reform Programme
GPS	Global Positioning System
HRWS	Human rights to water and sanitation
IT/ICT	Information technology/information and communications technology
IWRM	Integrated water resources management
JMP	Joint Monitoring Programme (WHO/UNICEF)
KfW	Kreditanstalt für Wiederaufbau Entwicklungsbank (German Development Bank)
LIA	Low-income area
MWS	Ministry of Water and Sanitation (formerly Ministry of Water and Irrigation, MWI)
NGO	Non-governmental organisation
Nyewasco	Nyeri Water and Sewerage Company Limited
O&M	Operations and maintenance
PDB	Permitting Data Base
PPIP	Pro-Poor Implementation Plan for Water and Sanitation
PSP	Private sector participation
QGIS	Quantum Geographic Information System
SCMP	Sub-catchment management plan
SPA	Service provision agreement
SWAp	Sector-wide approach
TA	Technical assistance
TC	Technical cooperation
UBSUP	Up-scaling Basic Sanitation for the Urban Poor
UDDT	Urine-diverting dry toilet
UPC	Urban Projects Concept
WAG	Water Action Group
WAP	Water allocation plan
WARIS	Water Regulatory Information System
WASBIT	Water Services Boards Investment Tool
Wasreb	Water Services Regulatory Body
WIN	Water Integrity Network
WRA	Water Resources Authority (formerly Water Resources Management Authority, WRMA)
WRM	Water resources management
WRUA	Water Resources Users Association
WSB	Water Services Board
WSP	Water Service Provider
WSS	Water supply and sewerage
WSTF	Water Sector Trust Fund (formerly Water Services Trust Fund)
WWDA	Water Works Development Agency
WWF	World Wide Fund for Nature

Success and risk factors of water sector reform: lessons from Kenya

Reforming Kenya's water sector - Paper 1

Background and rationale – an introduction to this series of papers

As the German-Kenyan bilateral GIZ Water Sector Reform Programme (GIZ-WSRP) drew to a close in 2018, this paper was written to document the water sector reform in Kenya from the perspective of its GIZ advisors. Together with the series of topic papers it introduces (listed below), it reflects on key aspects of the reform process as it happened – and will continue to progress beyond the duration of the programme. The information collated draws primarily on the experiences of staff involved, backed with the best available information from the sector, including the many records of work and studies undertaken during the past decade and a half. In preparing the papers, it has been our intention to look back with a measure of self-criticism and share the lessons we and our partners learnt as widely as possible.

Experience from early German support to Kenyan water providers suggested that advice should follow a comprehensive sector development concept, encompassing water resource management (WRM) as well as water and sanitation development, and would best take a multi-level and multi-dimensional approach. In line with the German development priorities of the time, GIZ-WSRP initially concentrated its efforts on urban water supply services and WRM, with on-site sanitation activities being added at a later stage, yet again focused on urban areas. These prescriptive programme parameters, along with the near-complete absence of comparable external support for the rural water and sanitation sub-sector, help explain the situation that can be found in the Kenyan water sector today: a modern and bespoke legal, policy, regulatory and operational framework has been developed for the urban water supply sector and WRM, and similar efforts are beginning to emerge for urban sanitation. Rural water and sanitation, however, remain largely untouched by the reform and consequently continue to languish behind in almost every respect.[1]

For obvious reasons, the papers can only meaningfully discuss the lessons from GIZ-WSRP's predominantly urban activities and interventions, constrained and narrowly conceived as they may seem viewed from the present day. Starting with this more comprehensive look at the sector reform overall, the series consists of ten self-contained papers, which can be read in any order:

1. Success and risk factors of water sector reform: lessons from Kenya
2. Mainstreaming human rights and poverty-orientation in the water sector
3. Impact and limitations of water services regulation
4. Scaling up pro-poor urban water services
5. Implementing basic household sanitation
6. Financing urban water and sanitation services and infrastructure development
7. Unlocking the value of data for water services and regulation

[1] As in many other countries, there were donors engaged in the Kenyan rural water and sanitation sector. Their focus, however, was solely on investments and not the development of a coherent framework for rural services. Today, after more than 15 years of sector reform, the consequences are still felt. The absence of an adequate institutional and legal framework for the rural sub-sector particularly impacts implementation at the regional and local level, a situation which Wasreb, the water services regulator, is trying to redress through forthcoming guidelines on rural water and sanitation.

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8. Unlocking the value of data for water resources management
9. Water allocation planning
10. Public participation in water resources management

A brief history of German-Kenyan Cooperation in the water sector

Agreed under the bilateral German-Kenyan Cooperation and financed by the German Federal Ministry for Economic Cooperation and Development (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, BMZ), the Water Sector Reform Programme formed part of a joint involvement of German Technical and Financial Cooperation (GIZ and KfW, respectively) in the Kenyan water sector and, more recently, the sanitation sector. Linking capacity building experience of the former with the expertise of a development bank, both geared towards sustainable development in the partner countries, has been the strategic and successful approach of German Cooperation.

The GIZ-WSRP, which commenced in 2003, was preceded by a project that supported capacity building for urban water and sewerage provision in the water departments of selected municipalities from 1987 to 2002. After earlier attempts concentrating on training, technology transfer and investments had not produced the desired results, GIZ (then GTZ) provided technical assistance eventually focused on professionalising service delivery through outsourcing water and sanitation functions to autonomous water utilities. Capacity building activities of this early project were backed with German federal government funding for network rehabilitation through KfW. From 1996 onwards, pilot schemes emphasised customer-oriented service, including to the underserved poor. The results were very favourably received by the ministry in Kenya.

Nyeri Water and Sewerage Company Limited (Nyewasco), since then the country's leading utility and part of the German support project at the time, has been hailed as an outstanding example of successful government-donor cooperation,[2] achieving notable performance improvements and, over time, financial self-sustainability. For the sector reform this meant that a proven and accepted concept could be taken forward, laying the ground for large-scale implementation of commercialisation of water services. The support to Nyewasco, established in 1998 and 20 years on still best performer in the sector, documents how international cooperation can achieve sustainable results when cooperation follows the German strategy of development and Technical Assistance (GIZ) is closely interlinked with Financial Cooperation (KfW).

What this early German project had clearly shown was that services fared better when managed by qualified professionals than by the civil service, both at the local and the national level. In due course, the corporatisation of services as piloted in the last phase of the forerunner project became standard for the urban water and sanitation sector in Kenya. Lessons from the project also influenced the design of the sector reform and its framework and helped to shape GIZ support to the sector, especially in the establishment of the new institutions once the new water law had been enacted in 2002. Since then, the ongoing capacity development of institutions and people has been central to GIZ-WRSP.

The Kenyan water sector – key players and institutions

The reforms led to a complete overhaul of the institutional framework and with it the distribution of responsibilities for urban water supply and sewerage (WSS) and water resource management. Early on, the 2002 Water Act clearly separated WSS from WRM and assigned policymaking, regulatory and service delivery functions to different entities under the umbrella ministry (Ministry of Water and Irrigation, MWI, recently renamed Ministry of Water and Sanitation, MWS). A professional Water Resources Authority (WRA) was established to oversee catchment-based management, with participation of water resources users associations (WRUAs) at sub-catchment level.[3] In anticipation of widespread private sector involvement, responsibilities for asset development and operations in water and sewerage service provision were split yet again. The resultant three-tiered hierarchy included regional Water Services Boards (WSBs) as asset holders and developers. Under licence from the Water Services Regulatory Body (Wasreb), WSBs were to contract water supply and sewerage services out to utilities, which were formally known as Water Service Providers (WSPs). To assist with improving access to adequate water services in underserved areas, the 2002 Water Act further created a Water Services Trust Fund (WSTF), which is now known as the Water Sector Trust Fund.

[2] Mwega, F.M. 2009. A case study of aid effectiveness in Kenya. Wolfensohn Center for Development Working Paper 8. Brookings, Washington.

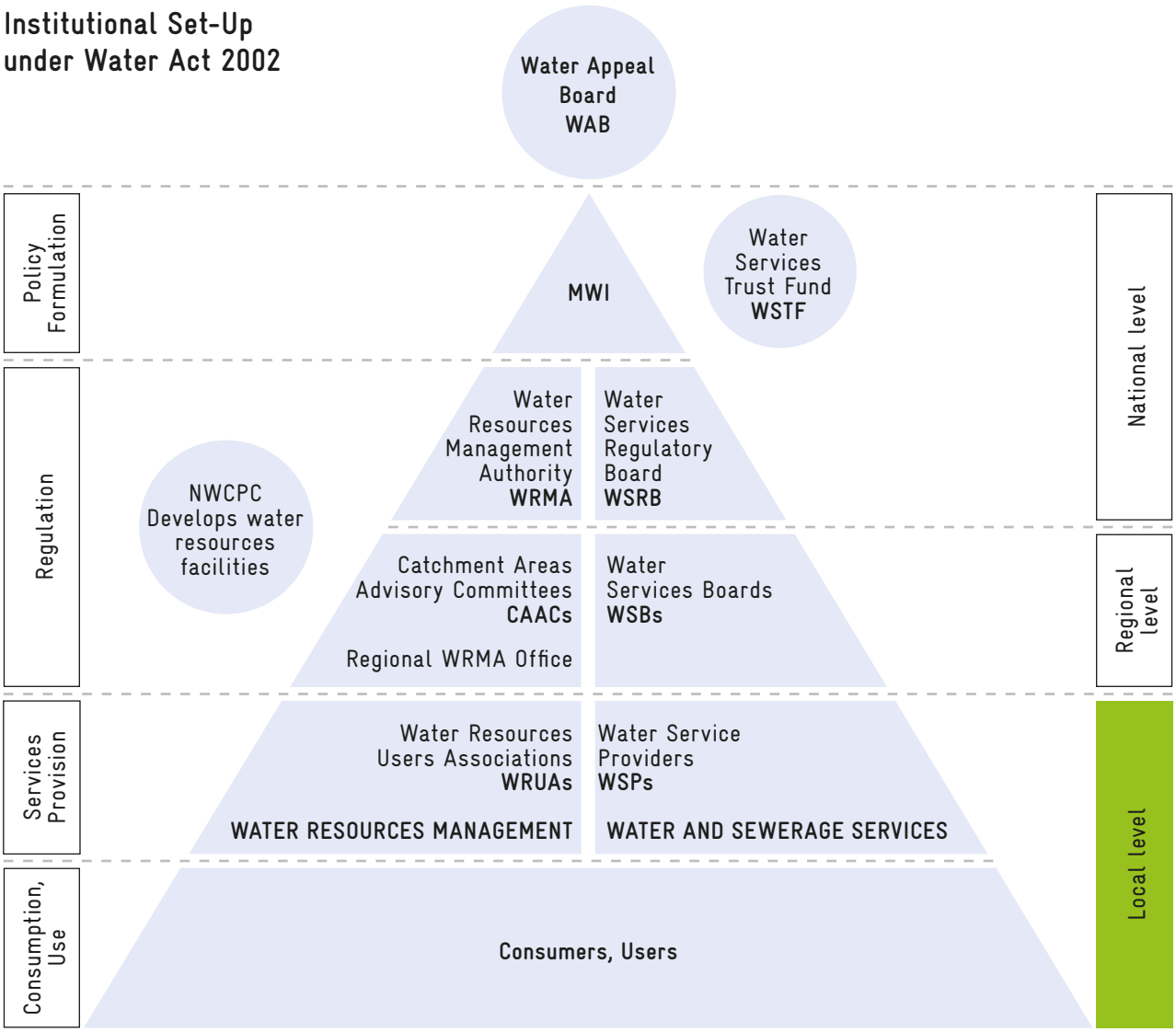
[3] The WRA was initially known as the Water Resources Management Authority (WRMA). There have been several more name changes, many introduced recently. For simplicity, the papers in this series use current names and acronyms for each institution, referring to earlier versions as and when appropriate.

Water sector organisation before the reforms (1952-2002)

Ministry of Health	Ministry of Water Development	Ministry of Local Government
Other services • Development of Health Policy • Curative health services • Primary health care services	**Water Resources Management** • Water Resources Authority* • The Water Apportionment Board • Catchment Boards	**Other services** • Storm water management • Solid waste management • Urban planning • Public health services
Water and Sanitation Services • Environmental public sanitation and hygiene education • Development of National Environmental Sanitation Policy	**Water and Sanitation Services** • National Water Conservation Pipeline Corporation • Provincial and District Water Offices	**Water and Sanitation Services** • Municipal water and sewerage department • Management of public sanitation facilities

* The Water Resources Authority was never operationalised. Cap. 372 of the water law provided for a predecessor agency of the National Water Conservation and Pipeline Corporation (NWCPC), the Mombasa Pipeline Board, which was later created by law.

Institutional Set-Up under Water Act 2002



Source: Water Act 2002

The challenge

Much like any water sector in the world, the Kenyan water sector faced a number of external and internal challenges, some of which profoundly influenced its development. Over the last decades, Kenya has experienced high poverty levels and a proliferation of unplanned settlements, much of which is linked to unprecedented urbanisation, at rates that are not found anywhere else in the world. Riddled with governance deficiencies, notably corruption, its sector institutions are struggling to cope with an increasing demand for raw and drinking water due to a rising middle class and an expansion of economic activities that add to the strain of widespread environmental damage through deforestation, encroachment, uncontrolled water abstraction and pollution, all of which are exacerbated by climate change. At the same time, serious limitations on the government budget constrain the financing of much-needed infrastructure upgrades, extensions and improvements.

Naturally, reorganisation would do little to address external factors, though it would be important to take these into consideration. Significant and severe self-generated problems, however, warranted an overhaul of the sector by means of reform: missing enabling frameworks, underperforming utilities, inadequate investments and poverty orientation, uncontrolled effluent discharge, violent raw water conflicts, insufficient effectiveness of funds, lack of planning, inadequate leadership on the part of the ministry – if not endless, the list of internal failings was certainly long. Pre-reform sector reorganisation was another source of home-made challenges. Decentralisation had led to the establishment of municipal water and sewerage departments and left some systems to be managed by the National Water Conservation and Pipeline Corporation. Not only did this lead to a highly fragmented market with many unviable small-scale utilities, but under their civil servant managers the performance of water and sewerage systems never reached a satisfactory level.

In addition, the dearth of coherent and sector-wide information posed a serious problem. There was little reliable data on which decisions could be based. With such a poor information base the ministry also risked missing opportunities to harness complementarities in roles and objectives of the newly created institutions. Information systems were needed for each of the sector institutions, including the ministry, along with legislation that would introduce information sharing through legally mandated reporting to the public.

In a nutshell, neither the framework for water resource management nor that for water supply and sanitation were adequate to respond effectively to the challenges confronting the sector. Service provision was chronically underperforming, sector oversight and regulation were very weak, whilst the investment gap was growing and available funds were not channelled into the sector as part of a comprehensive investment and financing planning system. The reform needed a vision, a champion, and a plan. The challenge was to find a team with the autonomy and imagination to take this forward.

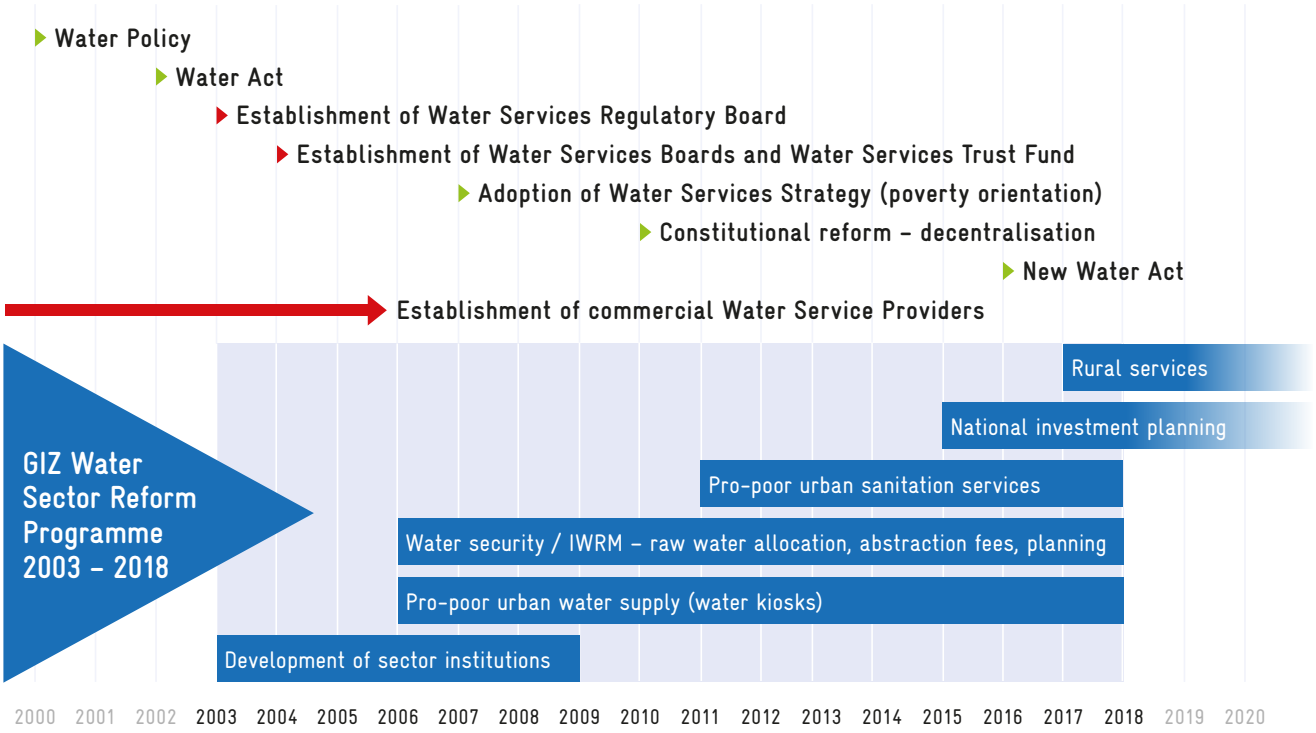
Responses

A new sector orientation and framework design – changing paradigms with reforms

At first, the reform design process was overseen by an inter-ministerial Water Sector Reform Steering Committee. Later, during the implementation phase, this was transformed into the Water Sector Reform Secretariat at the Ministry of Water and Sanitation (then MWI). Because of the fragmented market, the entry point for the ambitious and comprehensive sector reform had to be the design of a new sector framework. Service improvements, and pro-poor service extensions in particular, would first require a strong enabling framework, not another attempt at restructuring utilities. New policies were duly put in place, followed by the requisite legislation, the Water Act of 2002. With this, the Kenyan water sector saw its institutional landscape substantially transformed.

Initially, the GIZ Water Sector Reform Programme concentrated its support on the strategic level, not least to promote a pragmatic approach to addressing the unfolding water crisis in the river basins and urban low-income areas (LIAs) and to maintain the momentum of the reform. New institutions and supporting structures (e.g. WRUAs) and regulated utilities were established throughout the country. The latter were expected to follow a course of 'socially responsible commercialisation'. In preparation for private sector participation (PSP) in urban water and sanitation services, an entirely new set of regional asset holders and developers (WSBs) was put in place. All of these new institutions were separated from the civil service structure. This newly professionalised—corporatised status afforded a certain autonomy, as staff were now recruited from the open labour market, finances managed largely autonomously and decisions taken by an independent Board of Directors.

Reform process in the Kenyan water sector



Legislation directed the new institutions to implement key policy principles for the water sector, such as contributing to poverty alleviation, introducing checks and balances to improve governance, and increasing self-sufficiency and resilience of the sector. In order to carry these forward into their strategies, the German programme advised the sector institutions to draw up implementation papers that aligned with national framework documents.[4] With access to first-hand experience from other countries in the region as well as the direct feedback from its Kenyan utility partners, GIZ instigated realistic implementation concepts, which helped to close the usual gap between lofty framework provisions and the practicalities of their implementation.

As this support to develop strategies for orientation and implementation was provided to all partner institutions, and especially to the Reform Secretariat, it became an effective means to embed key sector principles. Mainstreaming the human rights to water and sanitation soon became recognised as one of the key elements to determine strategies on all levels; here, the Kenyan government's universal service aspirations aligned perfectly with the objectives of German development cooperation. GIZ was in favour of reinforcing regarding allocation of raw water and the formalisation of services for all, regardless of income level of a consumer or status of a water user. It was high time to abolish the existing inequitable two-class systems, and international recognition of human rights opened an avenue to ensure it would happen.

Recognising the lack of detailed and accurate information as a serious impediment, GIZ supported the systematic compilation and analysis of data through bespoke information systems.[5] All supported institutions (MWS, Wasreb, WRA, WSTF, selected WSBs and utilities) developed information systems as sources for annual reporting to the public. In addition, the 'MajiData' database held the information collected through in-depth surveys carried out in the country's nearly 2,000 urban LIAs. Having such comprehensive information available gave another boost to the reform. The Director of the Reform Secretariat, together with the CEOs of Wasreb and later on the WSTF, became a champion of marrying the concepts of socially responsible commercialisation, scaling up services in low-income areas and basket-funding for last mile investment: in Kenya, utilities were going to implement adapted, low-cost, and most importantly sustainable technologies and business models to reach out to the millions of underserved people living in urban pov-

[4] For example: Ministry of Water and Irrigation. 2007. The Pro-Poor Implementation Plan for Water Supply and Sanitation (PPIP – WSS).

[5] Papers No. 7 and 8 in this series, titled 'unlocking the value of data' discusses the problem of information and data management in the context of GIZ support to the Kenyan water sector reform.

erty, bringing safe and affordable services with funding provided through the WSTF.[6]

Reform, with its daunting connotations of restructure and reorganisation, has become Kenyan in character: the new sector institutions benefited from a wealth of experience and networking opportunities available through GIZ – its long-term presence in Tanzania, Zambia and Burkina Faso in particular provided a critical entry point for facilitating fruitful exchange. Throughout the reform process, GIZ has nurtured a strong sense of local ownership. Rather than signing off ready-made, bought-in concepts, national institutions were encouraged to explore ideas and plan strategically, making use of opportunities to review, reflect and innovate existing policies, processes and systems.[7] Confident partner institutions and a Technical Cooperation which understood its role as advisors who would become readily involved in design and implementation but refrain from taking the place of national partner personnel were the recipe for sustainable progress.

As for the many and difficult problems the reform set out to tackle, it has led to several welcome paradigm changes in the sector. Many practical solutions to the formidable challenge of achieving universal service as well as protection and development of water resources have been adapted to the Kenyan context. After much initial scepticism and reluctance, and with the strong backing of the mainstreaming of human rights to water and sanitation, low-cost technology with shared facilities (water kiosks and toilets) is now officially accepted. There is no question that the poor living in LIAs should benefit from formalised services that comply with the same minimum requirements as those that other income groups can already enjoy. Across the sector, it is acknowledged that the sector has to become more resilient and gradually start catering to itself, making best use of available means. Raw water pricing has become perfectly normal, as has condemnation of handouts by politicians or full-mouthed pre-election promises of free water or lump sums for the poor. Finally, the days of the sector being abused as a cash cow for plugging financial holes in other sectors are numbered as ring-fencing of revenue is progressing.

Regulatory regimes for water resource management and water and sanitation as key drivers of reform implementation

Special attention was given to the development of a regulatory regime for water and sanitation service provision and of participation, planning and standard setting in WRM. The intention was to enhance the resilience of both sub-sectors by moving towards cost coverage through consumer payments and raw water pricing and to strengthen the autonomy of the newly established sector institutions. Regulation of WRM and urban water supply and sanitation, fields in which GIZ was developing considerable expertise worldwide, tied in neatly with the Kenyan reformers' aspirations and GIZ's own conviction that sustainable reform needed to be driven by national key players.

Feedback from service providers offered useful insights that fed into the development and refinement of the various regulatory tools that were needed to drive performance improvement and to scale up service provision in low-income areas. Similarly, water resources users associations had input into strategies to reach the goals of safeguarding water resources and protecting the environment. Benchmarking showed companies where their weaknesses lay, prompting them to seek advice from better-performing peers. Encouraging and facilitating such peer-to-peer exchange at all levels played an important role in GIZ's support to the water sector reform.

Based on the premise that only financially sustainable utilities can serve the poor, the hugely successful concept of socially responsible commercialisation was woven into the close cooperation with the nascent Wasreb.[8] The regulator was ideally placed to challenge operators as well as asset developers, and to an extent policymakers, to adopt the principles of pro-poor, customer-centred, sustainable water services.[9] Promotion of good governance was central to GIZ's support in the very dynamic environment of both sub-sectors. For some institutions, namely the WSTF, Wasreb and the WRA, advice focused on the efficient use of funds for investments and poverty orientation. South-South knowledge exchange, again brokered by GIZ, offered new perspectives and insights and encouraged officials to experiment with unconventional

[6] The process of developing this pro-poor scaling up approach and how it worked in practice is described in paper No. 4 of this series. See also GIZ, 2015. 'Closing the Last Mile for Millions—Sharing the Experience on Scaling Up Access to Safe Drinking Water and Adequate Sanitation to the Urban Poor.' GIZ, Bonn.

[7] This is captured in a 2015 case study report on scaling up water supply services in Kenya: 'As an outcome of this cooperation process, proponents of the scaling-up process developed a shared vision of their organizations as professional entities committed to the delivery of pro-poor services. This cooperation was often more important than mere technical advice.' GIZ, 2015. Using the Water Kiosk to Increase Access to Water for the Urban Poor in Kenya. Global Delivery Initiative Case Study. GIZ, Bonn.

[8] See Wasreb, 2007. Socially responsible commercialisation. Water Services Regulatory Board. Nairobi.

[9] The 'story of regulation' is set out in paper No. 3 in this series, which also takes a critical look at the limits to what regulation can realistically be expected to achieve in GIZ partner countries.

approaches to problems that were shared across the region.

Strengthening leadership and ownership – the Paris / Accra / Busan Agenda

Designing and implementing a sector-wide approach (SWAp) was high on the agenda in the first years, not least to strengthen sector leadership. Advisors worked closely with the ministry's reform unit, helping to draft presentations and policy papers on various aspects of reform implementation and its envisaged outcomes. Discussions with key decision-makers within the new institutions soon widened to include NGOs and utilities to form national 'strategic dialogues'. Organised by the sector institutions, chaired by the ministry and facilitated by GIZ, these regular meetings took place over several years and played no small part in shaping and securing commitment to the reform agenda. GIZ also assisted the ministry in organising annual water sector conferences to promote the sector and the challenges it was facing. Donor meetings became a later, and arguably more useful, discussion forum that brought together policymakers and financial cooperation representatives, with the occasional participation of the ministry or partner institutions and technical advisors as required. Throughout, GIZ kept in close contact with KfW in order to provide feedback and recommendations.

While water sector reform was attracting considerable interest within academic circles and the development community, each touting their own version of 'best practice', GIZ honoured its commitment to working in partnership with national structures and keeping the inputs of external consultants to a minimum.

Progress

By 2005, all new sector institutions had been established, and within two years, detailed actions had been agreed for them and their partners. As implementation of the reform progressed, it became increasingly clear that initial expectations had been very high – perhaps exceedingly so, given the number of unknowns. A sense of pragmatism soon set in as stakeholders dealt with unexpected, additional layers of complexity in pursuit of the reform objectives.

Improving information and its use to enhance transparency (reporting to the public)

A key focus at the start was the establishment of information systems to monitor and review progress. The latter have become crucial to a better understanding of sector problems and helped critical aspects of the sector reform gain greater prominence. From the early stages of the reform, better data helped shape the framework documents and informed the sub-sector strategies. First strategy papers emerged in 2007, when strategic goals and actions were set out under the overarching aim of 'ensuring sustainable access to safe water and basic sanitation to

Lack of water, sanitation and solid waste services in low-income areas often leads to desperately unhygienic situations (left). Utility-operated water kiosks that offer affordable access to safe drinking water in low-income areas were introduced as part of the reform (right).

Photos: GIZ-WSRP

all Kenyans'[10] as well as safeguarding the country's water resources and protecting the environment.

With better information at their fingertips, the responsible institutions have been much better positioned to establish strategies and plan, monitor and allocate resources for sector improvement. Wasreb and WRA in particular have developed unrivalled insight and excellent data handling capabilities and have undoubtedly become the most reliable sources of sector information today. The new enabling framework and improved information thus paved the way for progress in regulation, service provision and river basin management (though to a lesser extent in asset development), as well as overall coordination and leadership – which have all proved to be crucial factors for sector development.

Regulation as driver for progress in utility performance and raw water management

As for the success of the various implementation concepts GIZ helped to develop and refine, the results speak for themselves: Wasreb's Impact Reports on water and sanitation services show marked improvements in utility performance, and the numbers of users of newly-installed pro-poor services are steadily rising. For many years now, all utilities have been in a position to report according to the required standards, the tariff adjustment process has been professionalised, and recovery of operations and maintenance (O&M) costs is averaging around 100%. Consumers have access to standardised complaints systems, and improvements in indicators such as billing and collection rates or metering have been sustained at remarkable levels. Some, notably Nyeri water company, have risen to the league of best performers in Africa. In many towns, progressive tariff structures have replaced flat water rates, reducing consumer-side wastage as measured by a reduction in the specific consumption. Although poor governance remains a key bottleneck in the sector, Wasreb has made considerable progress in monitoring and enforcing better governance in recent years.

Annual performance reports on water resource management show similar progress: compliance with abstraction licences, allocation of water for the environment and domestic use, user participation, awareness of pollution control, hydrological monitoring, especially water flows, and early warning for flood events have all seen notable improvement. Catchment management is now systematically practised, with water resources users associations active in most critical sub-catchments. The population has noticed the results of equitable allocation of raw water through reduction of conflicts and the monitoring system is indicating that over-abstraction of water resources is decreasing. The introduction of raw water pricing has had a positive effect on self-financing of the sector, and available water resources are being used more efficiently. The reforms have also improved the standing of the sector in the eyes of the private sector, which today is taking a more active role in water resource management under the watch of a professional regulator.

An enabling framework for pro-poor actions and participation

The 2002 legal framework, while neither explicitly pro-poor nor sufficiently precise on fund mobilisation, sanitation and rural services, gave surprisingly clear directions for reforms in WRM and urban water and sewerage, introducing modern principles of water management such as user participation, and providing scope for pro-poor interpretation of legal mandates. Capable regulation, assisted and guided by this enabling sector framework, has been instrumental in each and everyone of the sector achievements.

Limitations and remaining challenges

Early reform efforts concentrated mainly on the development of a new framework and regulation as well as operational aspects of improving utility performance and catchment management planning. Technical advice on financial matters focused first and foremost on cost recovery of service provision and raw water pricing, leaving fund mobilisation to donors. This impaired the development of information systems for monitoring of investments, where attempts made with selected WSBs had limited success. The institutional framework with eight WSBs – but no professional umbrella organisation that would coordinate their activities at the national level – constituted another formidable obstacle to improving fund mobilisation and aid effectiveness.

Changes brought by the new constitution in 2010 forced a rethink of the reform. The main concern was to safeguard earlier achievements and guide the next stage of the reform to build on its successes. Having reversed the decades-long negative trend in access to water and sanita-

[10] National Water Services Strategy 2007–2015.

Photo: GIZ-WSRP

Kenya's water sector has developed a strong culture of peer learning amongst utilities, which should be nurtured.

tion and put on hold the degradation of water resources, the Kenyan water sector reform has been an outstanding example of change for the better. However, with urbanisation continuing unabated and climate change adding new pressures, the sector is still a long way off from meeting rising demand and securing the country's water resources into the future. So far, the reform has not succeeded in stopping undue political interference. To meet these challenges, Kenya needs to take the reform to the next level and accelerate the reform effort. Some of the critical gaps that demand attention are set out below.

The twin challenges of decentralisation and devolution

As mentioned before, decentralisation had brought about a proliferation of small-scale, unviable water utilities. While clustering to improve economies of scale was deemed a suitable way forward, many obstacles were encountered in practice. Well-performing utilities resisted calls for taking weaker ones on board, municipalities fearing their influence fading and utility board members not wanting to lose their jobs. Initially asked by the ministry to spearhead the push for a concentration process in the sector, GIZ soon stood accused of promoting 'the agenda of development partners' by supporting clustering. Only once devolution transferred service provision responsibilities to counties (with the new constitution) did clustering regain momentum. The new owners viewed the precarious financial situation of some of their utilities with increasing concern, and governors sought the regulator's advice. GIZ is again offering support on clustering, this time via Wasreb.

Constitutional reform certainly brought additional challenges for the sector. With the responsibility for water and sanitation now resting with counties, Water Service Boards, which had neither existed nor had an equivalent prior to the sector reform, became largely obsolete. A lot of effort, including time and financial costs linked to the transfer of personnel and assets had practically gone to waste. A greater worry is that agreeing on a future mechanism for fund mobilisation and implementation of investments will become a complex undertaking. As the new constitution had devolved a significant share of sector responsibilities to county governments, it became necessary to reorganise the coordination of further reform efforts. Not only does it now require two levels of government to come to an understanding with regard to which structures and procedures are best suited for the development of the sector; With new policy- and decision-makers on board, many of whom have a limited understanding of the water sector, it soon became evident that this harmonisation would take time and had to overcome political interests (e.g. holding tariffs low), which spilled into the sector afresh.[11]

The gaps in design and implementation of the reform

One of the key weaknesses of the first 'reformed' (i.e. 2002) Kenyan water sector legislation – other than the neglect of sanitation and rural areas – was the absence of provisions for coordinating much-needed investments at the national level. Funding mobilisation and allocation, undue political interference and governance failings at all levels remain thorny questions. The ever-growing investment gap, the placement of political appointees within institutions and utility boards as well as the persistently high level of non-revenue water are indications of the limited progress in these areas. The negative trend in access

[11] There is forever a temptation for new Governors to interfere in the management of 'their' water companies, and taking an unwelcome interest in daily operations, hiring and firing management staff, etc.

to utility services (in terms of population share) may have been reversed, but reducing the absolute numbers of underserved people and edging towards the ultimate goal of universal service is an ongoing struggle. Completing the necessary set of workable strategies and implementation plans to guide the implementing institutions remains a work in progress, but is urgently necessary in order to restrict interpretation, and hence scope for misinterpretation, by sector institutions and decision-makers.

Insufficient focus on investment and donor coordination

Though otherwise well-designed and comprehensive, both in terms of its focus areas and the chosen multi-level approach, the GIZ Water Sector Reform Programme left the critical question of investment to be resolved through the 'usual channels', i.e. the financial cooperation. Fully committed to developing strategies, workable implementation concepts and information systems, advisors tacitly assumed that investment would logically follow improved practice and demonstrated results. There was a need to put in place a clear framework for developing infrastructure and enhancing fund mobilisation. However, neither was systematically targeted by the GIZ WSRP advisory services because asset development and financing were considered to be the domain of the financial cooperation (banks). From the Kenyan side, expectations for greater access to market-based finance had been high during the initial stages of the reform process, though it eventually became clear that this would not materialise.

In order to foster leadership of the ministry and improve coordination in the sector, donors had been keen to support a SWAp. The regular SWAp meetings had a marked impact on stakeholder relations and, to a certain extent, aligning actions under the new framework. These positive results were complemented with an annual water sector conference, which helped to publicise water issues and brought them to the forefront of government attention at the highest levels. Unfortunately, the SWAp meetings degenerated into a 'talking shop' and were no replacement for focused round-table discussions with financial cooperation partners. Once again, expectations were disappointed, this time because fundraising lagged behind and crucial tools such as investment and financing plans were missing, and funding decisions were taken outside of the regulatory process. The SWAp also lacked an element of mutual accountability between donors and partner institutions. In consequence, the overall level of funding remained too low and aid effectiveness of first mile investments did not improve. An exception were the WSTF-supported last mile investments for the poor in urban low-income areas, where the cooperation between GIZ and KfW secured an outstanding success.[12]

The failure to align investment, and development assistance in particular, to sector outcomes is one suspected reason for the ministry not being able to harness the full potential of the reform. Its officials stood by as the investment gap was taking on worrying proportions. Effective fund mobilisation mechanisms and tools were absent. The majority of other sector functions had been delegated and professionalised, yet first mile investments remained curiously haphazard, with no development planning linked to sector outcomes. This is a pressing matter of concern, not only to avoid overlaps and ensure complementarity of funding allocations, but also in view of the increasing need for external financing.[13] Realising the implication of this omission, GIZ lobbied for provisions in the new (2016) water act for bottom-up investment planning and sector financing plans, which have been taken on board. What remains unaddressed in the new legislation is the

Successful reform implementation relies on highly skilled water professionals.

Photo: GIZ-WSRP

[12] Although the reform managed to increase funds for investments to a level which covered around a third of the required amount, it fell far short of meeting all sector needs (more details can be found in paper No. 6).

[13] An effective coordination mechanism would also ensure the accountability of donors, ministry and other sector players (regulation and service provision) – this organised accountability is currently missing. See paper No. 6 in this series, which looks into finance and infrastructure development-related challenges.

need for a professional structure at the national level to coordinate fund mobilisation between the ministry, counties and treasury, to organise round tables with the financial cooperation, to set standards for planning and investments as well as monitor sector development with respect to infrastructure and its use. These arrangements have yet to be elaborated, but a greater focus on financing and fund mobilisation can be expected in the future. The Water Works Development Agency or Agencies foreseen in the Water Act 2016 could be well-positioned to fulfil this task, but political interests and lobbying by the existing WSBs might continue to hinder necessary progress.

Lack of coordination, the absence of adequate finance and investment planning and poor definition of specific sector priorities are exacerbated by the decreasing interest development partners are taking in the principles stipulated in the Paris Declaration and Accra Agenda. Regrettably, it seems that a number of sector stakeholders are driven more by projects, financial volumes and the various fashions of the day (e.g. 'innovative financing', 'blended financing') than actual development results. Too many projects operate in isolation, and it is rare to find a discernible link with their contribution towards achieving universal access. Against their professed commitment to strengthening ownership and use of partner systems, some development partners seem more interested in proclaiming themselves the spearhead of innovation rather than aligning their efforts with sector priorities. While the above-mentioned financing gap is critical, it would be unfortunate to repeat the mistake of raising unrealistic expectations in the vein of earlier PSP hopes. It would also be ill-advised to take on increased debt levels without tying these closely to a corresponding increase in service coverage.

There is a manifest danger that the current discussion and approach to financing might lead to misadventure. The Kenyan government would do well to define clear priorities for investment and establish a suitable investment framework for the country and then to carefully assess before rushing to utilise potential options for blended finance. Similarly, donors should recognise that ultimately, successful reform hinges on Kenyan sector institutions eventually being able to fully shoulder their responsibilities. Supporting them in reaching this goal may be the harder approach to providing development assistance, but if sustainable results are to follow, it is the only way.

Reining in vested interests and undue political interference

Poor governance remains a key concern at all levels in the sector. The common practice of placing political appointees in the sector institutions right down to the utilities will continue to hinder progress, a dilemma illustrated by the survival of WSBs. Quite apart from the fact that there was no advantage to separating asset holding from operational functions in a purely public sector set-up, the regionalisation of WSBs has been problematic from the start. The unexpected addition of an eighth Board to the original seven in 2008 may serve as an illustration of the political machinations WSBs stand accused of. So far, attempts to remove the arguably redundant Boards in accordance with the revised legal provisions have been fiercely resisted, highlighting their alleged importance as political assets. The present hesitation to abandon WSBs complicates the process of establishing the urgently needed coordinating structure at the national level. It appears to be impossible to dissolve these Boards, which however stand in the way of a more effective, leaner and less costly sector structure.

The fact that ineffective Boards of Directors and management of utilities and other sector institutions can remain in place despite prolonged underperformance is another indication that political power can overrule efficiency in the sector. This is of particular concern in the case of utilities whose poor record has been publicly exposed by the regulator. There is also no mechanism for linking good governance (and regulation) with investment, which would ensure that qualified members sit on a board. A link between investments and utility performance and good governance would also help regulation. Here, the ministry and donors have a shared responsibility, as their backing would assist the regulator and the regulated utilities in reaching the 150% O&M cost coverage target, ring-fencing funds planned for investments, and rooting out corruption, to name but a few crucial tasks.[14] There are capable staff committed to the fight against corruption in all sector institutions, who need and deserve the unwavering support of the ministry, regulators and development partners.

The temptation for politicians to make use of the water sector for their own interests will never quite go away – not at the national level, in Kenya's counties, or indeed around the globe. It is therefore important to strengthen Wasreb, the association of the water service providers and

[14] For the forces obstructing the regulators' work, see paper No. 3 in this series.

Photo: GIZ-WSRP, Jesper Anhede

Reforms have improved water security for industry and agriculture.

the water resources users associations as mitigating forces. Paired with the power of money for investments (if spent wisely in the interests of sustainable development), they can be effective agents in the campaign for universal access to water and sanitation and the protection of water resources and the environment for future generations.

Maintaining focus and carrying reforms to the next level

With the rotation and the retirement of personnel in the sector, knowledge about the design and implementation of various aspects of the reform is getting lost. At the same time, new staff are entering the sector, bringing new energy and expertise but also a danger that institutions take on a new focus that is more geared towards the interests of their new board members and management.[15] In addition, there is always the risk that high-performing sector institutions push for more dominance and become 'little republics'. This leaves a role for the ministry to keep the sector going forward without straying from agreed principles, re-orienting institutions towards their assigned objectives if necessary. GIZ has been conscious of these risks and remains concerned about the potential threat to years of hard-won progress.

Regarding key performance indicators, including access in LIAs and cost recovery, Wasreb's recent reports suggest that after having made significant progress during the early stages of reform, the drive for performance improvements might be losing momentum. Access to water in urban areas is stagnating at around 55%, and O&M cost recovery remains far from the fully cost-reflective 150% suggested and needed. With regard to the latter, it looks as if sector stakeholders were satisfied too early, once the average had reached 100%. Further gains in access rates are compromised by an increasing tendency to ignore or replace low-cost technologies and the misguided perception that the sector could afford to immediately provide the unserved with house connections. Hence, a 'renaissance' of the principles and pro-poor approach has to become the new movement in the sector; they have to be placed at the centre of sector development again and information systems should be streamlined accordingly, e.g. to require and facilitate reporting on individual LIAs where progress is inadequate or non-existent.

Resilience of the sector has to be further strengthened by first enhancing the autonomy of capable boards and management of sector institutions, second by making the voice of water users and consumers (represented through WRUAs and 'water action groups' in the services sector) better heard and third by expanding the enforcement options of the regulatory regimes. In addition, the frameworks for sanitation and for rural services in water and sanitation have to be developed.

Insights and recommendations

There are certain key points to consider when attempting a water sector reform:

1. Reforms require an early consensus on fundamental sector principles, such as formalisation of service provision and poverty orientation. Once agreed, these principles will serve as clear guidance for all actors and stakeholders to minimise the potential for conflicts of interests

[15] The drive of the WSTF to compete with WSBs by venturing into first mile investments, blurring its pro-poor focus by allowing calls for investment proposals with no low-cost technology and its perception included in the strategic plan that it is in competition with the regulator, has to be questioned.

arising during the course of the reform, which inevitably will be a complex and lengthy process.

2. Successful reform needs a champion with the clear mandate as well as the necessary autonomy to oversee the design and subsequent implementation of the reform. The latter is not completed once a new institutional structure and strategic guidance is in place. An empowered champion plays a key role in ensuring that agreed sector principles are carried through the various stages and phases, so this influential presence should be assured over a 10 to 20-year horizon.

3. It is vital to consider carefully which sector functions should be assigned to autonomous institutions. Independent regulation and commercialised service providers have become accepted features of many water sector reforms. There is empirical evidence to suggest that, in the interest of competent and sustainable decision-making, sector investment and financial planning should also be delegated to a professional institution rather than left to ministries and local public administrations.

4. Separation of functions and delegation of service delivery will only result in positive change if accompanied by a change in attitude towards professional, private sector-like management with clear reporting lines. This does not only apply to operations and management, but should encompass asset development, where the responsible institutions in Kenya continue to evade direct public accountability.

5. When establishing new sector institutions, it is important to bear in mind that subsequent revisions are near impossible to achieve. Once created, any attempts to redesign an institutional landscape by abolishing superfluous organisations, no matter how bloated and inefficient, will be fiercely resisted for political reasons.

6. Reform design should not be dominated by current fashions (e.g. PSP or blended financing), though pragmatism and open-mindedness should prevail: it should leave room for adaptions and constructive innovation.

7. Successful reform implementation needs to cover all key areas: policy and strategy, regulation, operations, asset development and financing. Principles and institutions are only the start; each requires a minimum set of instruments to negotiate the complexity of the situation. Examples include information systems and reporting mechanisms, investment planning and financing models that promote access.

8. Long-term Technical Cooperation can make an important contribution by introducing actors and stakeholders to existing international experience and approaches, which can be adapted to the local context. Technical Cooperation also plays a key role in supporting constructive exchanges, facilitating dialogue and institutionalising learning throughout the process of implementing the reform.

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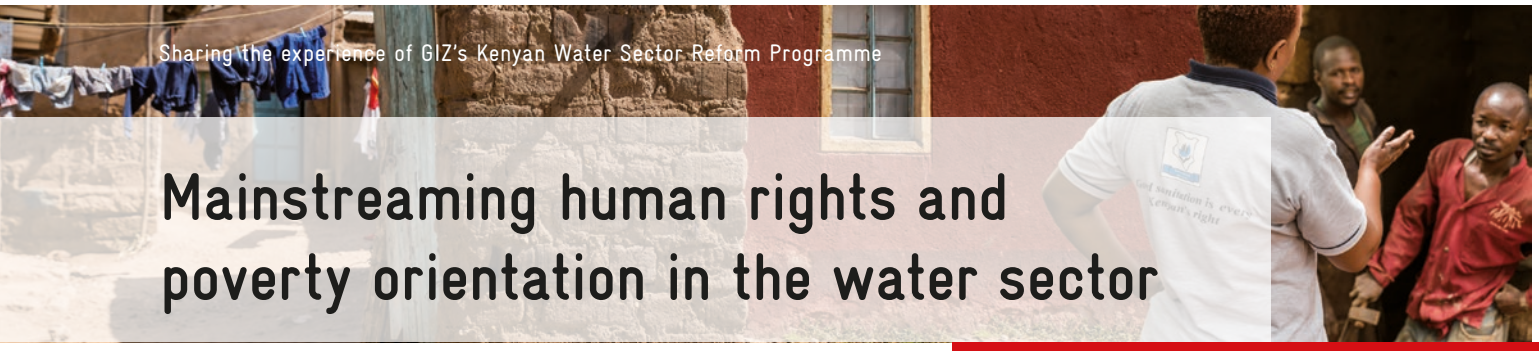

Mainstreaming human rights and poverty orientation in the water sector

Reforming Kenya's water sector - Paper 2

The challenge

In 2005, when much of the rest of the world was still debating the merits and drawbacks of formally recognising the human rights to water and sanitation (HRWS), Kenyans agreed that 'every person has the right to water in adequate quantities and of reasonable quality' and 'a reasonable standard of sanitation', and that these rights should be protected by law.[1] Following an earlier unsuccessful constitutional review, this draft wording reappeared in strengthened form in the 2010 Constitution. A new Bill of Rights enshrined rights to water, sanitation and a clean environment,[2] offering hope to millions of – often poor – residents across the country without access to formal services.

But how exactly would people's legal rights that now existed on paper be translated into real taps and toilets as well as into equitable access to raw water and preservation of an unpolluted environment? Who would ensure their rightful demands were going to be met? Integrating the rather abstract human rights concept into the design of the water sector reform was a challenge right from the start; translating it into a tangible implementation approach would be another.

In Kenya, as elsewhere, urbanisation, economic growth and intensifying water scarcity had turned urban low-income areas (LIAs) into hotspots of exclusion dominated by informal service provision, which often violates every aspect of the HRWS. The number of people depending on unsafe and exorbitantly expensive water sources was still on the rise. With the originally envisaged privatisation of services dead in the water, the discussion of poverty orientation was perhaps less fraught with controversy in Kenya than in other contexts. The pressing challenge for the water sector became making the move from signalling clear political intent to concrete action that would transform the lives of the underserved.

Responses

Within GIZ, initially at the programme level, there was as much scepticism about the practical consequences of a human rights-centred approach to water and sanitation as within the wider development community. However, the HRWS debate was propelling awareness of the unfolding crisis to new heights and it aligned perfectly with the

The Human Rights to Water and Sanitation:

The right to water entitles everyone to have access to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use.
The right to sanitation entitles everyone to have physical and affordable access to sanitation, in all spheres of life, that is safe, hygienic, secure, and socially and culturally acceptable and that provides privacy and ensures dignity.

[1] As quoted in articles 65 and 66 of the proposed new constitution of Kenya, gazetted 22 August 2005.

[2] Constitution of Kenya: Art. 43(1) guarantees every person the right 'to reasonable standards of sanitation' (b) and clean and safe water in adequate quantities (d); sanitation rights being reinforced through provisions in Art. 42, which protects the right to a 'clean and healthy environment'. Art. 56 offers special dispensation for marginalised groups and minorities.

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Photo: GIZ-WSRP

objectives of German Development Cooperation, which focused on meeting the needs of the poor.[3] GIZ advisors thus started to treat it as an opening for embedding formalisation of service provision and, in a wider context, the notion of pro-poor service provision in the sector - a simple rethink that would later be thought of as a critical turning point. A careful analysis of the post-reform legal and institutional framework revealed many elements of the sector reform that were consistent with human rights principles and played into the hands of pro-poor oriented implementation. The rule of law had already been considerably strengthened, and GIZ advisory services needed to focus on enforcement and participation mechanisms, which were as yet underdeveloped. Effective oversight, monitoring and regulation would be central to anchoring human rights principles in the sector, and this was where one of GIZ's advisory strengths lay.

The HRWS and the Rule of Law

The human right to water relies to a large extent on the provision and sustainable management of infrastructure. A human rights violation is therefore directly related to infrastructure, making it difficult for individual claims to be brought to court. However, there is a resultant obligation for the State to provide a legal framework and enforcement mechanisms that work towards guaranteeing the HRWS. Only an effective rule of law can sanction activities that impede and interfere with the implementation of the right, such as non-payment of water bills on the part of public institutions, illegal connections and illegal water abstraction.

Its framework review informed the national water services and water resources management strategies and impacted on the sector institutions, which were still in the midst of institution building. As political perceptions were shifting and poverty orientation was becoming more prominent, GIZ was keen to use this momentum to back the agreed-upon strategic goals with workable implementation concepts. The regulators for water services and resources management, the Water Services Regulatory Board (Wasreb) and the Water Resources Authority (WRA) became key partners in these efforts, followed by the Water Sector Trust Fund (WSTF).[4] Formalising service provision with meaningful participation and complaints mechanisms was an important first step; raising the profile of on-site sanitation and shared facilities to reach and protect the poor[5] became another. On the resources side, identifying and prosecuting polluters of raw water and illegal abstractors became a focus: GIZ offered training for WRA staff to ensure compliance with water regulations and, if necessary, take offenders to court.

The specifics of the various activities that supported regulation, legal enforcement, communication and public reporting, involving NGOs, scaling up of pro-poor water services, adequate basic sanitation or user and consumer participation in raw water use and water and sanitation service provision can be found in the respective papers in this series. Concerning access to water and sanitation, GIZ interventions and support aimed at securing the different aspects of the HRWS included the following:

[3] For some practitioners, framing the debate in rights-based language can be contentious, even unhelpful. GIZ was able to channel a potentially politically charged notion (water and sanitation as a right) into clear actions that would address an undisputable, and undisputed, need.

[4] Originally known as the 'Water Services Trust Fund', the WSTF had been established as a basket fund for infrastructure investments and soon developed into a pro-poor financing mechanism to support investments in underserved areas. WRA had been established as the 'Water Resources Management Authority' (WRMA) and changed its name in 2016.

[5] Professionalising service provision had been anchored in the 2002 Water Act. Regulation, through the licensing process, was then used to include low-income areas in formal service areas. It was, however, still common to equate sanitation with 'sewerage', which is not (yet) a practical and affordable option for households below a certain income threshold.

Availability	• technical and managerial solutions to scale up water supply and sanitation services including a kiosk design that ensures adequate hygiene, continuity of service (via overhead tank) and minimum consumption by restricting the number of users counted as served • procedures for financing of pro-poor services through WSTF • regulatory standards
Accessibility	• facilities were built on public ground (allowing unrestricted access) and in an area chosen with the community to make sure it was secure (avoiding dark places, busy roads, etc.) • standards apply to kiosk design to facilitate water fetching (e.g. ergonomic)
Quality	• extending utility services into LIAs and connecting water kiosks to the network ensured that kiosk customers receive water of controlled quality
Acceptability	• pilot studies matched possible low-cost options with needs and preferences of targeted users • demand-driven roll-out
Affordability	• scaling up concept built on affordable, low-cost technologies • tariff structure chosen to suit pro-poor objectives: introduced increasing block tariffs and social tariff at kiosks
Sustainability	• utility ownership of kiosks and contracting out to local operators ensured that kiosks would not wind down for economic reasons – there is cross-subsidisation between wealthier utility customers and the poor
Non-discrimination	• low-income areas specifically included in service areas • kiosks are empowering as anyone can gain access, irrespective of gender, background, etc. • non-discrimination was also helped by no longer having to participate in operation (as before, in community-operated systems – having a professional service provider avoids the muddle of community services)
Accountability	• utility benchmarking goes beyond classical performance indicators: governance and pro-poor indicators introduced by Wasreb
Participation	• Water Action Groups (WAGs) introduced, now highly regarded – helping the regulator understand what is going on and at the same time provide feedback to/ sensitise consumers; empowered by regulator (hold ID cards) • WSTF-funded projects require open meetings, accessible to all, to choose siting of facilities etc.

Human Rights criteria and their practical adoption in Kenya

GIZ cooperated with Transparency International, the organisations supporting each other to promote good governance in the water sector. Clear regulatory guidelines for tariff setting, active WAGs and well-received annual performance reports on the regulated utilities (Wasreb's 'Impact Reports') are examples which have promoted and facilitated transparent processes, effective participation and accountability. At the strategic level, GIZ supported the development of an outline of how human rights were going to be put into practice, which was fed back to the UN Special Rapporteur. The Kenyan National Commission for Human Rights[6] sought GIZ's views on its own work.

Progress

For consumers, and most importantly the poor, the tangible benefits of mainstreaming human rights have been manifold. Service expansion and performance improve-

[6] KNCHR, 2011. Enhancing the realization of your rights – Annual Report for the 2009/2010 Financial Year.

ment have become a national priority, with the regulator actively promoting socially responsible commercialisation of utilities and the WSTF facilitating pro-poor service extensions. Acceptance of appropriate low-cost solutions including shared facilities that protect the dignity of the most vulnerable is rising steadily. Professionalisation of service provision is increasingly sidelining the highly damaging cartels that previously dominated unsafe and expensive informal water supply. Water consumers now have access to user-friendly complaints mechanisms and, more importantly, have been given a voice via mandatory pre-implementation consultations and local Water Action Groups.

WAGs provide feedback to the regulator, undertake community sensitisation and act as an effective communications channel and grassroots enforcement arm: there have been several well-publicised instances of intervention by WAGs, aided by Wasreb and the media, compelling utilities to connect LIAs to municipal drinking water supplies after years of neglect.[7] The number of Water Action Groups increased from four (GIZ-sponsored pilot projects) to 17 in 2015. The regulator's target for 2018 is to increase this number to 30, with a view of extending the concept to all counties such that consumers can lay better claim to their rights and Wasreb is better informed about the situation on the ground.

Utilities in turn now have leverage to ensure rules are followed, even by government institutions that have been notorious non-payers in the past. The case of Eldoret police, whose illegal connection was exposed by Eldoret Water and Sanitation Company, aptly illustrates that under the new regime not even public officials are above the law and can be pursued without fear of repercussions.[8] As for the regulator, Wasreb stands firm on respect for the rule of law, asserting its authority where transgressions occur.[9] The recent revision of the water law in the wake of the new constitution has been used to strengthen regulatory enforcement powers.

Similarly, WRA stands firm when dealing with big water users, who must now comply with the applicable water resources management regulations and can no longer expect leniency. High-profile examples of insisting on abstraction payments include Kenya Electricity Generating Company PLC and Krystalline Salt Ltd.,[10] which the regulator WRA took all the way to the High Court to force compliance. With GIZ assistance, 19 prosecutors have been trained by the Kenyan Institute of Law to support WRA enforcement activities.[11] The water resources sector has embraced public participation, and 680 water resources users associations (WRUAs) with members representing the varied stakeholder interests in their sub-catchments are now active in large parts of the country.

There is no doubt that reforms have made the sector overall more resilient against 'counterproductive practices', such as the misuse of power on the part of authorities and large companies that threatens the public interest, even if corruption continues to be a recurrent theme.[12] While firm commitments to poverty orientation are in place, the objective of financial sustainability has prevailed against unrealistic and unhelpful political promises (e.g. for free water) – proving that technocrats can successfully enforce reform principles. Similarly, when county representatives claimed their newly-acquired water companies' moveable assets, offices, vehicles, even bank accounts, upon devolution, managers were able to seek the regulator's help to avoid expropriation and undue interference.

Limitations and remaining challenges

Number of people without access to HRWS-compliant services still on the rise

Despite sweeping changes and many successful developments in the urban water sector linked to the reforms, the number of people who do not have access to regulated utility services is still rising. Utilities, supported by an overall more pro-poor sector, have become better at serving the poor, but access in urban areas has now been stagnating at a mere 55% for three consecutive years. Infrastructure is lagging behind the 'software' aspects of pro-poor services, hampered by the lack of an appropriate institutional framework and workable tools for asset development, and suboptimal aid efficiency. It would now

[7] For example, Nairobi Water Action Group got Nairobi Water and Sewerage Company to connect Ngando and Marigoini LIAs: https://www.youtube.com/watch?v=99qNKiZ5n-CA&t=12s

[8] https://www.tuko.co.ke/273181-eldoret-police-officers-caught-stealing-water-illegal-connection.html#273181

[9] Wasreb insists that utilities and county authorities follow proper procedure. The governor of Kiambu county was publicly rebuked for ordering a merger of existing water companies in contravention of the legal provisions for clustering: https://wasreb.go.ke/purported-dissolution-of-boards-of-water-companies-in-muranga-county-2-2-2/

[10] Article in the Standard newspaper, 18.04.2018. Water Authority demands Sh2 billion from salt company. https://www.standardmedia.co.ke/business/article/2001277186/why-salt-price-may-go-up

[11] WRA, 2017. Performance Report No. 5. http://wra.go.ke/wp-content/uploads/2017/10/WRMA_Performance_Report_5.pdf

[12] Individuals at all levels have been implicated in scandals, but much effort has gone into supporting ethical standards and good governance.

Photo: WSTF

Communicating reform ideas lays the foundations for realising the human rights to water and sanitation.

be expedient to grasp the opportunity to scale up service provision in accordance with the HRWS by boosting infrastructure development. Extending physical access through the right mix of first and last mile infrastructure is now the overarching challenge next to the provision of sufficient raw water to meet demand in Kenya's burgeoning towns.

Poor enforcement poses a risk to kiosk users

Kiosk customers have little means to complain to the water company other than via their WAG. Interacting mainly with kiosk operators, some of whom still have no valid contract with the utility, their voice is far less strong than that of a 'regular' household customer. It is well known and documented that a significant share of water kiosks charge more than the regulated tariff. There is no evidence as yet that complaints lead to far-reaching change – to the contrary, there is a marked trend of kiosks being regarded as a second priority.

Tendency to revert to neglecting LIAs limits scaling up

There is a tendency to neglect LIAs, which is not only reflected in overpricing. Donor engagement in urban water and sanitation through the WSTF can only be described as very limited: though they are becoming more likely to observe Trust Fund implementation guidance, many donors continue to regard pro-poor interventions as an accompanying measure to large-scale projects or pursue their own activities altogether. Water kiosks, despite their proven success and justified reason for existence, are increasingly falling out of favour with utilities and politicians. During its most recent call for proposals for pro-poor investments, the WSTF received not a single funding application for kiosks, with utilities opting for 'social connections' instead. Existing kiosks are also more likely to be affected by water rationing than other types of connections. This is a regrettable development, given the ongoing societal trends: even in the unlikely scenario of current levels of investment funding doubling, it will simply be impossible to reach the poor and achieve some approximation of universal service without kiosks.

Many discussions with the regulator focused on the urgent need to take steps against this disregard of poor consumers, and Wasreb is beginning to steer counter. Utilities must now report specifically on LIAs and demonstrate how many people will be served – and how many will be left out – with new investments. This new regulatory requirement, along with the pro-poor indicator introduced by Wasreb as part of its routine performance monitoring, is expected to strengthen accountability for serving the poor. The association of Kenyan water services providers is actively promoting the replication of the pro-poor policies and institutionalisation of the pro-poor approach at utility level, which has been developed by GIZ during the last phase of the programme.

These activities, though decisively addressing key challenges encountered in the implementation of the human rights/pro-poor approach, still have to gain in strength and scale. Many utilities still need to learn how to service LIAs and adopt suitable strategies. Donors and civil society organisations in turn will have to learn how to support utilities to acquire such knowledge, and integrate the necessary capacity development into their funding. Peer learning between utilities and more pressure from the regulator and the ministry is needed, as is increased aid effectiveness driven by the implementation of the human rights approach as a funding condition.

Mitigate risks and capitalise on effective user participation

While the number of WAGs is set to increase to 30 within the year, this will still be insufficient to cope with demand. The number of WRUAs is much higher, but even so the question of how to make better use of their work remains. Financing user involvement is problematic, and there is the ever-present risk of groups becoming

politically hijacked. Selection standards for membership are being looked into. However, the WRA would be well-advised to review its support to WRUAs, who could play a greater and mutually beneficial role, especially in remote rural areas.[13] By acting as eyes and ears on the ground, WAGs and WRUAs could assist their respective regulators in planning for natural disasters, pollution events or disease outbreaks and, importantly, reducing reaction time should these occur. Local representation can also have a positive impact on revenue collection.

Rural water and sanitation development also needs reform

Although this series of papers has focused on urban water and sanitation services and water resource management, it is important to emphasise that the human rights of the rural population should not be forgotten. Millions of Kenyans live outside of urban areas, and outside of the service areas currently served by professional, regulated utilities. From a human rights perspective, meeting the 'rural challenge' will be an indispensable next step. This would need to begin with a review of the framework and the standards applied to rural services as well as the modes of delivery to address sustainability concerns.

[13] This is discussed in paper No. 10 'Public participation in water resources management'.

Insights and recommendations

1. The formal adoption of the Human Rights to Water and Sanitation helped to increase the regard for low-income areas amongst the sector institutions.

2. Recognition of the HRWS created a basis for imposing formalised service provision as a non-negotiable principle. With this, discrimination of the poor by condoning informal provision became no longer acceptable.

3. The HRWS supported an increased acceptance of ensuring a basic level of service through shared facilities, as these could be shown to meet human rights criteria. Ensuring that the HRWS is met requires a champion, such as Wasreb, who continuously reminds sector institutions of its relevance and practical implications.

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Impact and limitations of water services regulation

Reforming Kenya's water sector - Paper 3

The challenge

Professional management of service provision was chosen as a core principle for reforming the Kenyan water services sector, which was restructured accordingly. Having drawn a clear line separating utility managers from civil service administrators, it was imperative to ensure adequate regulatory oversight – also for the newly-created autonomous asset holding institutions. Regulation needed to be able to meet service professionals at eye level and be insulated from political influence, which ruled out the ministry due to likely conflicts of interest. In the event, the 2002 Water Act created an autonomous, professionally staffed Water Sector Regulatory Board (Wasreb).

Expectations for this new regulatory regime were high. Even though the legislative framework was silent on rural water and sanitation services, the nascent regulator faced a host of challenges that engulfed the urban service providers, starting with formalising relationships and responsibilities within the new institutional framework. Access to water and sanitation was dwindling, especially in the rapidly growing low-income areas (LIAs), and the generally low-performing and undercapitalised utilities showed little inclination towards customer-oriented services. Meanwhile, high water losses stood in stark contrast to declining availability of raw water for Kenya's burgeoning urban centres.[1]

Resistance to regulation came from many corners. For one, it was clear from the start that it would be impossible to regulate the many informal, often illegal alternative providers who dominated 'services' in urban LIAs, at times aggressively so. Their sheer number alone, presumed to run into the thousands, presented an insurmountable obstacle to a regulator with limited resources, whilst their discriminatory set-up and practices could not be addressed with registration and formalisation to bring them under the regulatory umbrella.[2] Some settlements had developed into complete no-go areas for officials, and water markets controlled by criminal gangs added to the residents' misery.

At the opposite end, fierce resistance also came from the Water Services Boards (WSBs) that had been established as asset holders and developers and were nominally in charge of (utility) water service providers.[3] The WSBs took their responsibilities to oversee contractual relations with utilities very seriously, and competition for regulatory powers was on the horizon. Not only did the 2002 Water Act introduce these unhelpful overlaps; in a bid to embed corporatisation into the sector, WSBs created large numbers of utilities, leaving viability concerns to be dealt with at a later stage. As these subsequently came to the fore, attempts to consolidate and cluster utilities to achieve economies of scale faced significant political opposition. There are plenty of examples that illustrate the challenges

[1] Whilst this early urban bias arguably excluded large swathes of the country and millions of people, many of whom were living in poverty, the reform had generated a much higher dynamic in urban settings – and it was here that regulation would be much more likely to have an impact as formalised utilities existed, along with great discrepancies between who could access their services and who could not.

[2] For example, water might be sold from privately-owned boreholes, such that the 'service provider' could simply refuse access.

[3] 'I will call the police and have the personnel of the regulator removed if they set foot in my office', the first CEO of one of the bigger WSBs maintained in 2006.

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of developing effective regulation in the Kenyan water sector, where the very concept of independent regulation was new and untested. Under-resourced and lacking support from subsidiary legislation, in its early days Wasreb was powerless to restrain the WSBs. It also struggled to prevent the ministry from giving in to demands for 'lease fees' to be paid for assets that had been transferred to the new utility operators from former municipality owners.[4] Clearly, the separation of operations and management from asset ownership and development functions was adding complexity to the task of establishing a smooth regulatory regime.

As for the most pressing needs of the sector, the lack of reliable information made the identification of priorities very difficult. Access and affordability of services clearly presented significant problems, though the precise extent and trends were simply not known with any degree of certainty. The new sector framework leaned towards poverty orientation and universal service provision but stopped short of assigning an explicitly pro-poor mandate to the regulator. Many of the densely populated areas that were home to the poor were found outside of municipal boundaries and had therefore been neglected in the past. At the same time, some of the WSBs' misguided strategies enhanced the problems of decentralisation and low viability, making it even harder to use utilities as vehicles to achieve universal coverage. Wasreb had its work cut out for it.

Responses

The overall aim was to create a regulatory environment that would facilitate efficiency, effectiveness and equity in the provision of water (and, later, sanitation) services. GIZ advisors brought insights and contacts through ongoing technical assistance programmes in other countries, giving Wasreb staff access to real, practical regulatory experience from the region. Much time and effort was invested into developing a comprehensive, tailor-made regulatory framework.

Determining the orientation and key tools for regulation

Sketching out a broad course for regulation to follow was a key item on the partners' agenda as soon as Wasreb had its first Board of Directors (BoD) and managers in place. Having previously acted as enablers, catalysts and facilitators of socially responsible commercialisation, a concept that had been embraced by the sector reform, GIZ now sought to offer guidance to ensure regulation would take this forward and promote universal access to formal services. Advisors arranged visits to other regulators (e.g. in Zambia), who were successfully addressing pro-poor urban services, and Wasreb could draw on advice grounded in practitioners' experience. The continuous dialogue between partners and advisors also helped with identifying the basic regulatory tools and instruments Wasreb urgently needed to begin its day-to-day work, including:

- licences that would indicate minimum requirements, service areas, etc.
- standard setting,
- monitoring, benchmarking and reporting to introduce comparative competition and transparency,
- guidelines on procedures and areas for improvement, such as corporate governance, water loss reduction, consumer engagement / complaints resolution, tariff adjustments, water quality and effluent monitoring, clustering utilities, Code of Ethics for BoD,
- an inspection routine to support enforcement efforts and verification of data,
- enforcement mechanisms, including applicable sanctions, and
- consumer representation structures.

As poverty-related inequities became increasingly prominent, it took little to persuade the regulator to weave a specific pro-poor focus through all its activities. Wasreb

Wasreb has been publishing its annual Impact Report since 2008. The report offers comprehensive information on the performance of urban service providers for decision-makers and the general public.

[4] This did not affect all utilities, but it was highly controversial and counterproductive given that the funds thus obtained were often diverted away from the water sector (shoring up health budgets, for instance), which only added to the challenging funding environment for desperately needed infrastructure upgrades and extensions.

increasingly required utilities to demonstrate a greater commitment towards LIAs and underserved consumers. In coordination with the Water Sector Trust Fund (WSTF), the regulator has been promoting low-cost solutions for water supply and safe on-site sanitation to reach out to the poor.

Ensuring financial autonomy of Wasreb and a functional organisation

Secure funding was needed to speed up the process of establishing a functional organisation and regulatory regime, but also to ensure a certain autonomy. The regulator successfully lobbied for a regulatory levy to be gazetted by the ministry in accordance with the provisions of the Water Act and in 2008, utilities were officially required to raise a 1% levy on customer bills to cover the costs of regulation. Actually collecting the levy was fraught with difficulty: utilities falsely declared it an additional burden to their ongoing struggle of covering operational costs (when it fact it was paid by customers). They also received the WSBs' backing when insisting that the amount transferred to Wasreb should be based on revenues collected (as opposed to billed). Wasreb asserted that there should be no reward for failure to collect unpaid bills and also succeeded in avoiding the levy routed through WSBs, as some would have preferred. Wasreb's difficulties highlighted some internal (administrative) weaknesses. Acting on this, GIZ advised on redesigning the regulator's organisational structure and procedures and helped to recruit professional staff.

Standardising the establishment of utilities and contractual arrangements with WSBs

The proliferation of newly-created but unviable utilities[5] became an increasing concern, as was the WSBs' laissez-faire attitude to formalising contractual arrangements with their utilities. Drafting contracts was left to the new utilities, with the result that a whole range of different contracts sprang into existence all over the country.[6] A pro forma contract was urgently needed to standardise content and procedures. With GIZ support, the regulator drafted a model service provision agreement (SPA), which prescribed minimum standards for service provision. Having licensed all WSBs as the formally responsible service authorities, the regulator then oversaw SPAs being signed between WSBs and utilities.

The 2016 Water Act introduced a more direct link between utilities and Wasreb. The regulator now issues licences to the utilities instead of an asset holding intermediary. In the wake of devolution (transfer of service provision responsibilities to counties was mandated by the 2010 Constitution), Wasreb seized the opportunity to relaunch the process of reducing the number of utilities to address the viability problem. Some governors are very receptive to the suggestion of having one rather than several utilities in their county.

Redefining service areas

In recognition of the fact that the technological 'fault line' running between rural and urban areas generally corresponds to population densities, the regulator extended utility service obligations to include densely populated areas on the fringes of towns. Service areas which had conventionally followed municipal boundaries were redrawn, at first for some pilot locations, and then for all regulated utilities. Wasreb and GIZ were raising the bar for regulation development in Africa: with this simple measure, Wasreb required an additional five million people to be served.[7] Following devolution, the utility licensing process was another opportunity to update service areas.

Introducing modern information management and benchmarking

The development of standard regulatory tools commenced with the design of a monitoring system for utility performance and a corresponding guideline which instructed the utilities and WSBs on their reporting obligations. In order to ensure that the information system would not fail (as similar attempts had done in the past when hosted by the ministry), two strategic decisions were made: first, the performance information system would be designed to suit the specific needs of the regulator whilst also supporting utility management. Second, its outputs would be linked to annual reporting to the public and include a benchmarking system. The latter would enable the regulator to use performance data to 'name and shame' utilities to encourage improvements.

A first version of 'WARIS', the water regulator's information system for utility performance, was set up in 2007, drawing on experience gained from developing similar

[5] This was most enthusiastically pursued by the Rift Valley WSB.

[6] In the case of Nairobi, the utility's lawyers managed to compile a document of nearly 100 pages without addressing the regulator's main concerns.

[7] According to official census figures, the population of urban and peri-urban areas was around 15 million. The regulated service areas designated by Wasreb covered more than 20 million.

systems in Zambia and Tanzania.[8] The regulator developed reporting guidelines and later in the process organised workshops to bring utilities and WSBs on board. Having collected its first set of utility performance data, Wasreb was ready to launch its first 'Impact Report' on sector performance in 2008. A parallel countrywide baseline survey of LIAs grew into a comprehensive database that filled the existing information void on water services for the poor. Originally designed for the WSTF to target low-cost investments to extend basic service provision, 'MajiData' emerged as a very useful tool for the regulator, for instance when designating service areas for utilities and tracking their pro-poor efforts. WARIS has undergone several updates and improvements, and its current version 3.0 incorporates inbuilt data validation mechanisms as well as enhanced reporting specifically on underserved urban areas.

With benchmarking, GIZ and Wasreb have introduced an element of comparative competition into the sector. The system has been continuously refined; the original set of nine technical key performance indicators is now complemented with indicators to appraise utility governance and pro-poor service provision[9], which reflect the regulator's growing awareness and concerns regarding these matters. Wasreb released a corporate governance guideline to address the lack of transparency and accountability that pervaded utility management; in particular some BoDs of underperforming utilities were clearly abusing their power.

Responding to the key concern of inadequate operations and maintenance cost coverage

Recognising that the decline in the sector was intricately linked with the generally low levels of cost recovery, establishing a tariff adjustment system became another early focus area for the regulator. Water tariff guidelines, which were completed by 2008, reflected Wasreb's strategy to first move towards covering 100% of operations and maintenance (O&M) costs. This was seen as an interim step towards achieving the national water policy objective of gradually reaching total cost recovery (later defined by Wasreb as 150% O&M costs). The guidelines set out minimum requirements for tariff adjustments and the procedures to be followed, and Wasreb organised workshops to help the WSBs and utilities with the application process. In order to use tariff adjustments as a tool for performance improvements, the process stipulates tariff conditions. In 2009, again with support from the German cooperation, the regulator introduced a tariff for sewerage services.[10]

Soon Wasreb started looking beyond O&M cost recovery: by 2012, it reported that 'the Board uses tariff adjust-

Wasreb's reporting on key utility performance indicators sets incentives for performance improvements.

Key Performance Indicators	2014/15	2015/16	2016/17	Trend
Water Coverage, %	55	55	55	▶
Drinking Water Quality, %	92	94	94	▶
Hours of Supply, hrs/day	18	17	14	▼
Non- Revenue Water, %	43	43	42	▲
Metering Ratio, %	90	91	93	▲
Staff Productivity, Staff per 1000 Connections	7	7	7	▶
Personnel Expenditure as % of O+M Costs, %	42	45	46	▼
Revenue Collection Efficiency, %	96	96	100	▲
O+M Cost Coverage, %	99	100	102	▲
Sewerage, %	15	15	16	▲

Sector Benchmarks: good acceptable not acceptable benchmark varies

Source: Wasreb Impact Report (2017)

[8] Design and development of the tailor-made software was completed within a year. More details on the regulator's approach to data management can be found in paper No. 7 in this series.

[9] Recognising that performance monitoring can mask serious inequalities across a utility's service area, Wasreb now monitors performance specifically in low-income areas with respect to four sub-indicators: service coverage, service levels, strategy and organisation with respect to service provision in LIAs, and compliance with standards for water kiosks.

[10] Sewerage tariffs vary from one utility to another according to indicators applied and can reach a maximum of 100% of the water charges.

ment as an important economic instrument for improving water use efficiency, enhancing social equity and securing the financial sustainability of Water Service Providers. Wasreb ensures that the tariffs set are fair, adequate, simple and that they encourage conservation of water.'[11] All approved tariffs now incorporate a subsidised 'social block' up to a monthly consumption of 6 m3 per household. When approving tariffs, the regulator seeks to achieve a balance between ensuring that utilities are in a position to meet their responsibilities (i.e. the average tariff is sufficient to cover the justifiable costs incurred by the utility in providing the service) and offering a simple mechanism to guarantee affordability for the poor (via the tariff structure).

Strengthening customer orientation and engagement

Naturally, customer protection and promoting positive relationships between consumers and utilities was a key concern for the regulator. A requirement to sign a customer service charter had been inserted in the SPAs as early as 2006, and the publication of Wasreb's consumer engagement guideline, which set out minimum requirements for customer complaints handling and institutionalised customer participation, followed in 2009.[12] The regulator also understood that engaging with consumers would be critical for its own success. Wasreb's communications and public relations strategy focused on generating awareness amongst other sector institutions and the general public. A recognisable 'brand' was needed to raise the regulator's profile as a key sector player and distinguish the 'Water Sector Regulatory Board' from the various other boards and actors. From 2007 onwards, 'Wasreb' (renamed from the less catchy original abbreviation 'WSRB') organised regular media campaigns and stakeholder events and sought direct interactions through extensive field visits and customer satisfaction surveys.

Direct consumer engagement was high on the agenda, and Wasreb explored the possibility of integrating formal representation in the regulatory regime despite its tight financial situation. The regulator was keen to reach out to all consumers, including the currently unserved living in LIAs, which precluded more conventional forms of customer representation.[13] A GIZ-supported visit to Zambia introduced Wasreb to the grassroots Water Watch Group concept, and the Kenyans soon piloted their own version: the first four 'Water Action Groups' (WAGs) were established in 2010. Wasreb hoped to be able to use WAGs to solicit direct feedback from low-income areas and shore up consumer trust in water sector institutions. Customer representatives received training to act as Wasreb's extended arm on the ground, giving a voice to the consumer in all matters related to water services provision. They were also expected to become involved in consumer complaints resolution, thus taking some pressure off the regulator. The emphasis was on true partnership rather than simply creating a forum to air complaints. The main challenge was to organise WAGs within the confines of a restricted budget[14] and to ensure that politics was going to be kept at bay during nominations.[15]

Progress

While the lack of prior experience led regulation off to a somewhat bumpy start, every problem offered an opportunity to review and re-examine the regulatory approach in light of existing experience and international best practice. Here, GIZ's involvement in developing regulation throughout the region was of immense benefit to all involved. Advisors were able to assist with adapting regulatory strategies to the Kenyan context and facilitating peer exchanges. Regulation has left its mark on the sector and has undoubtedly been instrumental in effecting positive change.

Regulation promotes human rights and a pro-poor approach in the sector

Wasreb has come to perceive its role as the 'custodian of the public interest' and its commitment to realising the human right to water and sanitation is reflected in its mission statement today.[16] With the development of its guidelines, the regulator made a substantial – and substantive – contribution to transpose the content of national policy, legislation and strategy to the implementation level, which helped to close the usual gap between framework provisions and the realities of implementation activities.

[11] Wasreb, 2012. Annual Report 2011/2012. p.19

[12] The consumer engagement guideline was last revised in 2018, and the obligation to sign the Service Charter (which only implemented legal requirements for all public institutions) was retained in the utility licences of 2017.

[13] All too often, national level representation attracts members (e.g. university professors) that may be very knowledgeable, but lack first-hand experience with circumstances and concerns of the average LIA resident-consumer.

[14] WAG members are community-based volunteers, but are reimbursed for necessary expenditures.

[15] Members are selected following a public call for candidates.

[16] By 2014, Wasreb would describe itself as 'instrumental in independently monitoring the progressive realisation of this obligation' [to ensure the right to safe water and sanitation]. Wasreb, 2014. Impact Report No. 7, A Performance Review of Kenya's Water Services Sector 2012 – 2013. p.viii.

Wasreb has been a champion of a rights-based approach to service provision, promoting a change in attitudes within the sector to align behind the pro-poor sector policy and strategy. Starting with formalisation of services and inclusion of many previously unserved low-income areas, its own pro-poor initiatives included the protection of minimum standards for all (through SPAs) and a progressive tariff structure. By explicitly recognising the obligation of ensuring safe basic services and the vital contribution of low-cost technologies and service options coupled with social tariffs, Wasreb has prompted utilities to set up dedicated pro-poor units and (on-site) sanitation units. Their work will be supported by the regulator's pro-poor service guidelines (linked to the pro-poor indicator) and kiosk management guidelines. As a result, regulated service provision is becoming more widely available in LIAs, services are improving, and it is now broadly accepted that utilities have to treat LIAs as part of their 'normal' operations.

Improved utility performance and customer service linked to governance and professional tariff setting

Benchmarking in combination with public performance reporting has markedly improved utility performance. Most utilities respond well to regulatory incentives, but also face sanctions for underperformance. The launch of the annual Impact Report coincides with a well-publicised special awards ceremony that recognises the year's best performers and improvers. Wasreb has not shied away from using its powers to punish severe cases of underperformance. The latest revision of the Water Act introduced a 'special regulatory regime' as a last resort enforcement option, which allows for stricter reporting requirements and even a forced change of management or BoD.

Regulation has introduced entirely new sets of national standards, which are being phased in to improve water quality and customer communications and reduce consumer complaints. Wasreb's clear preference for voluntary improvement on the part of utilities is expressed by its promotion of better corporate governance and peer learning, the latter being supported by the national association of water service providers.

Performance improvements are underpinned by professionalised and more transparent tariff setting. Cost recovery has reached an average of 100% of O&M costs, with the attendant reduction in operating subsidies and premature asset deterioration somewhat easing the pressure on the public purse. With the regulator's backing, utilities have substantially increased their collection efficiencies. Government institutions, previously notorious non-payers, no longer receive any preferential treatment. Tariffs being a prominent area of undue political influence, Wasreb is going to great lengths to curtail interference to protect the regulated utilities. The regulator has publicly condemned attempts to breach sector principles that would ultimately threaten the sustainability of services and therefore undermine consumer protection, such as the proposals to provide free services to LIAs[17] or pre-election promises to lower water tariffs.

Greatly enhanced transparency, accountability and credibility

Wasreb's Impact Reports are described as 'a shining beacon in the sector'. Without a doubt, transparency has improved substantially, and all sector stakeholders including the ministry benefit from a much better overview of the sector. Regulation has boosted both the quantity and quality of data, not only through the WARIS information system, but also through regular inspections and cross-checks on data. Robust data now supports informed decision-making, and the more realistic picture of the sector is being used by the ministry to provide its input to SDG monitoring. Wasreb has pushed performance reporting to a new level by obliging utilities to submit data on progress in the LIAs. Compliance with this new reporting requirement rose from 25 utilities (of around 100) in 2008 to 72 within two years, and today all utilities report according to the reporting guidelines.

By focusing on transparency and accountability, regulation has helped to enhance the credibility of the sector. Wasreb is widely recognised as the best source of information on urban water and sewerage services, also by the donor community. The regulator is routinely contacted during the implementation of donor-funded projects, and its inputs are sought on new project proposals and contracts. This reduces overlaps and encourages combined activities, and helps to keep interventions aligned with sector policy.

Active participation and representation of consumers and skilful use of the media

Integrating WAGs into the regulatory regime proved an excellent move. This active, bottom-up involvement of consumers not only ensures better customer services and

[17] Jubilee Manifesto, 2012. Transforming Kenya, securing Kenya's prosperity, 2013–2017, the shared manifesto of the coalition, 2012. p.55.

complaints handling by the utilities, but also made sure that consumer concerns were heard more than ever before. WAGs are now active in 15 counties across all eight WSBs, routinely leading public fora and focus group discussions, educating consumers, liaising with sector institutions and providing systematic feedback about consumers' views and experiences with their services.[18] Wasreb combines this direct involvement with a shrewd use of the media and a mobilisation of public opinion to generate pressure on utilities and other sector institutions to promote its vision and objectives. Consumers are more empowered and informed today than ever before.

Impact in unexpected areas – regulation as stabilising factor in a dynamic environment and as honest broker between two government levels

Regulation has also had a decisive impact in unexpected areas. The fact that Wasreb was able to safeguard key reform principles and preserve the achievements of the reform during turbulent times may be counted as one of the regulator's greatest successes: Wasreb ensured that key elements of the reform were carried forward during the realignment of the sector with the requirements of the constitutional review, and these principles now have a firm legal basis in the revised 2016 Water Act. In the ongoing dispute between the two government levels, the regulator is not only functioning as a stabilising force, but has also become a recognised professional institution consulted by parliamentary committees, the line ministry, the 47 county water and sanitation authorities, their governors and the courts. As a knowledgeable and trusted partner, Wasreb is able to promote further sector progress along the lines of the reform principles.[19]

Another example of unexpected impact of regulation was the intervention of Wasreb to scrap the lease fee arrangements that in some cases diverted substantial amounts of utilities' billed revenues to the municipalities, who then used water and sanitation income to cover expenditures in other sectors.

Limitations and remaining challenges

Regulation was instrumental in achieving most of the positive results of the reform. However, regulation has shown some limits, and this has affected sector development. In the beginning, Wasreb struggled to ensure that its resources matched the scale of its tasks. Even with a more secure funding base (the regulatory levy now stands at 1.5%), it has become all too evident that the costs of an effective regulatory regime with diligent inspections and high levels of consumer participation, for example, will quickly exceed any budget Wasreb is ever likely to generate. Especially in a highly fragmented sector facing immense challenges on all fronts, the content of regulation and the procedures will always have to consider financial constraints.

Improved enforcement needs to lead to better corporate governance and utility performance

Stagnating access figures suggest that the sector is struggling to improve performance beyond a certain level. Replicating the outstanding results achieved by the top performers (such as Nyeri utility, for instance) will take much more time. Without the cooperation of county governments, the line ministry and donors, it will be unlikely to see significant and timely improvement through regulation alone. Wasreb and the ministry should work on developing a strategy to put the necessary facilitation mechanism in place.

The limits of regulation became especially apparent when faced with poor corporate governance. Some BoDs, whilst not exercising enough pressure on utility managers to improve key indicators, have shown a tendency to interfere and limit managerial autonomy in day-to-day operations. Failure to reach an acceptable level of non-revenue water is an example where the fight against corruption needs to be far more decisive at all levels within the utility. Wasreb needs to expose underperforming utilities beyond the Impact Report and forge alliances with ministries (even the Ministry of Finance), counties and financiers to have the BoD removed.

Wasreb should exploit the full extent of its increased powers provided by the Water Act 2016, including a stronger emphasis on requiring utilities to improve accounting and record-keeping, annual budgets and procurement planning, and staffing policies. Wasreb, in turn, would need to improve its own enforcement and follow-up and demand corrective action. The regulator has to step in more quickly and should not shy away from taking dras-

[18] Utilities are finding the WAGs' involvement helpful, for instance for choosing appropriate locations for water kiosks. For more information on WAGs, see https://wasreb.go.ke/downloads/Water%20Action%20Groups.pdf.

[19] It is interesting to see that although national regulation was rejected by the counties during discussion on the Water Bill and even by a number of counties after the enactment of the new legislation in 2016, today the line ministry as well as those charged with responsibility for water and sanitation in the counties seek advice from the regulator.

Photo: GIZ-WSRP

Better regulation and increased investments have greatly improved the metering ratio and consequently the financial sustainability of water utilities.

tic action such as initiating court proceedings which have the potential to generate positive publicity for the regulator.

Move the sector towards full cost recovery and strengthen links with investments

The previously common influence on the tariff process from central government seems to have subsided, but unfortunately political influence persists at the local level. Some county governments pressure utilities not to apply for tariff increases. Although many tariff reviews have become overdue, Wasreb frequently did not succeed in impelling the utilities concerned to submit timely applications for renewal. This has been another crucial limitation of regulation so far, which is obstructing the move towards total cost recovery. Here, Wasreb should focus on sensitisation and peer learning to overcome the resistance of county governments.

Perhaps more importantly, there needs to be a stronger link between regulation (tariff setting) and investments, which is currently also affecting aid effectiveness.[20] Donors and central government need to support the regulator by including the necessary conditions when funding is negotiated and pushing for compulsory financing modelling as a regulatory requirement. It would be helpful to grant Wasreb an advisory role in determining priority investments for the regulated utilities. As early as 2012, long before the new Water Act 2016 came into force, Wasreb was calling for a comprehensive sector investment plan for the sector and developed investment planning guidelines for WSBs. Closer cooperation with the sector institutions responsible for financing and asset development (such as the Water Works Development Agency or Agencies foreseen in the Water Act 2016 and the WSTF) could prove key to overcoming many of the present limits to effective regulation, including those related to governance. By assuming a greater role in planning and monitoring investments, regulation could further strengthen credibility in the sector.

To reach full cost recovery and thereby ensure a sound financial position of the utilities, Wasreb will have to go beyond its present focus on keeping O&M costs as low as possible and include asset development in its tariff negotiations. Tariffs must become cost reflective to meet sector aspirations for financial sustainability. In order to avoid a misuse of funds earmarked for investments, the regulator has to develop a ring-fencing system. This could include an accountability / liability mechanism for the BoD of utilities to use funds for agreed-upon purposes.

To improve self-financing, there is a need to carry on with clustering: there are still too many unviable small utilities. Clustering would not only improve the viability of service provision, but increase the effectiveness of regulation. The sector has not yet found an appropriate minimum size for utilities.

Greater emphasis on pro-poor service extension and delivery to replace informal service provision

Despite the strong sector orientation towards human rights, utilities continue to use a number of excuses to evade their universal service obligations, which is most evident in LIAs.[21] As the latter are widely recognised as presenting specific challenges, regulatory enforcement

[20] This missing link and its effects on sector progress are discussed in paper No. 6 in this series.
[21] For more information on LIAs and pro-poor services, see also paper No. 4 in this series.

must be combined with targeted, hands-on support to improve the willingness and capacity of utilities to serve the poor. There has been a worrying trend towards discontinuing kiosk services, which is causing a return to using unregulated and unsafe sources.[22] When utilities reported a sharp decrease in the number of people served through water kiosks in recent years, Wasreb did not undertake any in-depth assessment as to why this was the case and whether this reflected a decrease in coverage in the respective LIAs.

It will be important to go beyond existing and draft pro-poor regulatory guidance and the pro-poor performance indicator, for instance by facilitating peer-learning, as mentioned above. Wasreb also needs to step up its monitoring activities of basic services, particularly of compliance with permitted resale tariffs. Despite being made aware that water at a significant percentage of kiosks is sold at a price higher than the regulated tariff, Wasreb has not taken remedial action. Random verifications of kiosk management should become part of the inspection programme, and WAGs could have an important role to play.

Improve information through WAGs, WARIS and MajiData

There are still 32 counties without active consumer representation. Being based in the capital, Wasreb has limited insight into the situation on the ground further afield, and more attention should be given to rolling out the WAG concept to complement the regular inspection programme and increase Wasreb's local presence and knowledge.

Meanwhile, WARIS 3.0 is a complex system, and realising its full benefit depends on Wasreb staff committing to work on learning to use it well. Especially the monitoring of services in LIAs will be challenging, but if successful will lead regulation to new heights. As these areas are in a state of constant flux, there is a need to find a better 'automatic' update mechanism for MajiData. A way to organise this would be to involve utilities, which can be done by linking the obligation to provide information to the benefits the utilities are receiving, such as funds for investments and ranking in the benchmarking. However, smaller utilities will need some help. Data reliability, for WARIS and MajiData, remains a challenge. Additional external validation, which has never been undertaken to date, could add not only to the reliability of Wasreb data per se, but immensely improve its standing in the eyes of the sector.

Extend regulation to rural settings

With the more recent devolution of water and sanitation responsibility to the counties, the weaknesses in rural water and sanitation development became even more apparent. At this point it is worth mentioning that many 'rural' areas (according to the census) have reached population densities in excess of those found in many residential areas in towns.[23] As counties are effectively starting from scratch to organise structures and develop procedures to ensure service provision in rural areas, central government support has fallen away. Many of the personnel engaged by the county governments to manage water and sanitation are political appointees with little or no sector knowledge or experience, making regulatory oversight, standardisation and enforcement even more important. With no comparable framework specifically for rural areas having been established as part of the sector reform, Wasreb has begun to develop adapted strategies and guidelines to support rural areas and define its own regulatory role. Setting up a lean system of regulation that meets the needs of rural areas remains a work in progress.

Increased attention of regulation on sanitation development

Comparatively little progress has been registered during the reform in the sanitation sub-sector, and the bias towards water services carried through to regulation. Especially with regard to effluent treatment and the sanitation chain for on-site services, unclear and fragmented responsibilities for the longest time hindered any meaningful development.[24] Fully absorbed by the challenge of improving the performance of water supply services (and nominally in charge only of sewerage services, which are only available to a small minority of Kenyans), which also received priority at the policy level, it is here that Wasreb focused its attentions. Given that Kenya is targeting universal access to water and sanitation, yet access to networked sanitation is in overall decline, the sector is awakening to the need to safely manage – and regulate – appropriate on-site sanitation solutions. The introduction of a sewerage levy to help fund sanitation improvements

[22] An increasing number of utilities have decided to bring the operation of kiosks to an end in areas where yard taps are available. While in some cases most people in the respective area did indeed have access to yard taps, in other areas more than 50% of the predominantly poor population was forced to resort to unsafe, unregulated sources.

[23] The sub-location Kizigitini, labelled 'rural' by the 2009 census, has a density of 5,095 people per square kilometre, compared to sub-locations in the heart of Nairobi town such as Kileleshwa (3,210), Embakasi (1,444) and Mwiki (2,084), which are all formally treated as 'urban'.

[24] The challenges faced by the sanitation sub-sector are discussed in paper No. 5 in this series.

beyond networked sewer system, should be considered. The regulator could further help to elaborate the operational framework for sanitation by means of guidelines.

Insights and recommendations

1. The regulator has had a significant impact on sector development. Much like other water regulators in BMZ's partner countries, Wasreb has developed into the most competent institution in the sector and has contributed to ensuring the success of the reform and increasing sector resilience.

2. GIZ's expectations of what regulation would be able to deliver were initially too high. A lack of political support limits a regulator's leverage, notably its ability to drive sector improvements and continuous progress towards full cost recovery, and restricts the application of consistent, effective enforcement mechanisms. Politically appointed BoDs are a critical bottleneck. It also weakens the link between regulation and investment as well as the cooperation with the pro-poor financing mechanism (basket fund).

3. In a politically difficult environment such as the water sector, a regulator often has to compromise. Complete autonomy, though highly desirable, is not achievable in reality. Nonetheless, having acquired a widely recognised reputation as a reliable, professional advisor, Wasreb has been in a position to exert a certain influence on questionable political decisions.

4. Regulation must be tailored to the problems to be solved. In BMZ partner countries, this means taking into account government's universal service aspirations against a backdrop of serious shortfalls in access and service levels, especially with regard to sanitation and outside of urban areas. Regulation must become pro-poor, address the on-site sanitation service chain and develop its role in overseeing rural service provision.

5. The regulator's effectiveness would be enhanced if donors were to align their funding conditionalities with the regulator's recommendations and tariff adjustment conditions.

6. Despite the inevitable challenges of implementation on a countrywide scale, regulators should strive to develop a fully representative consumer engagement mechanism. A suitable structure with a local presence enables the regulator to receive direct, authentic feedback from areas of concern, and at the same time strengthen disadvantaged consumers' rights.

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Scaling up pro-poor urban water services

Reforming Kenya's water sector - Paper 4

The challenge

The Government of Kenya has committed to aspirational targets for water and sanitation services. Reforms were set in motion at the turn of the century, which profoundly altered the way sector institutions sought to address the problem of low service coverage and below-standard service levels. Although the water sector reform had every intention of bringing about lasting water and sanitation service improvements for all Kenyans, a first outcome was for the scale of the problem to become better known and understood. If urban water services were in crisis, the situation in unplanned low-income areas (LIAs) could only be described as catastrophic. Despite emerging policy commitments to the contrary, sector improvements continued to favour wealthier residents, while the poor were, by and large, excluded from formal services. By 2011, it was shown that around half of the population to be served by utilities had no access and with urbanisation, population growth and in-migration continuing unabated, their numbers kept rising. With few exceptions, the people without access to utility services were found living in LIAs.

The Kenyan market for drinking water services clearly consisted of a highly diverse customer base, which did not fit the conventional model of one monopoly provider offering a standard product or package of services at a standard price for everyone across town. Here, reforms brought a paradigm change to the sector. Policy and legislation prescribed formalised service provision (i.e. through professional utilities) and introduced minimum standards for every consumer, regardless of income group or place of residence. This was an important change from the past, and the intention was clear: no longer should water and sanitation development be different in middle- and upper-income areas, which already benefited from controlled utility services, from that in low-income areas. Regulated utilities were now expected to scale up basic services for all residents and end this discrimination of the urban poor.

However, already struggling with services for their existing customers, utility providers and authorities had been using a number of excuses to escape their responsibility for water services in LIAs, whose residents also had very little political leverage to demand improvements. Settlements of the poor were perceived as not only economically unattractive, but fraught with legal uncertainty and insurmountable technical difficulties. More than eight million potential customers' willingness to pay for basic but safe services and their readiness to choose formalised shared facilities were almost completely ignored in the pursuit of a 'first class' water service. Hiding behind outdated standards and misguided assumptions, utilities, government and development partners effectively left poor consumers to rely on the informal sector with all its attendant problems, notably high prices and poor water quality. Informal, non-utility providers were tacitly accepted, even though they operated with little, if any, support or formal oversight and at times on the verge of illegality. Especially in uncontrolled slums, many of these

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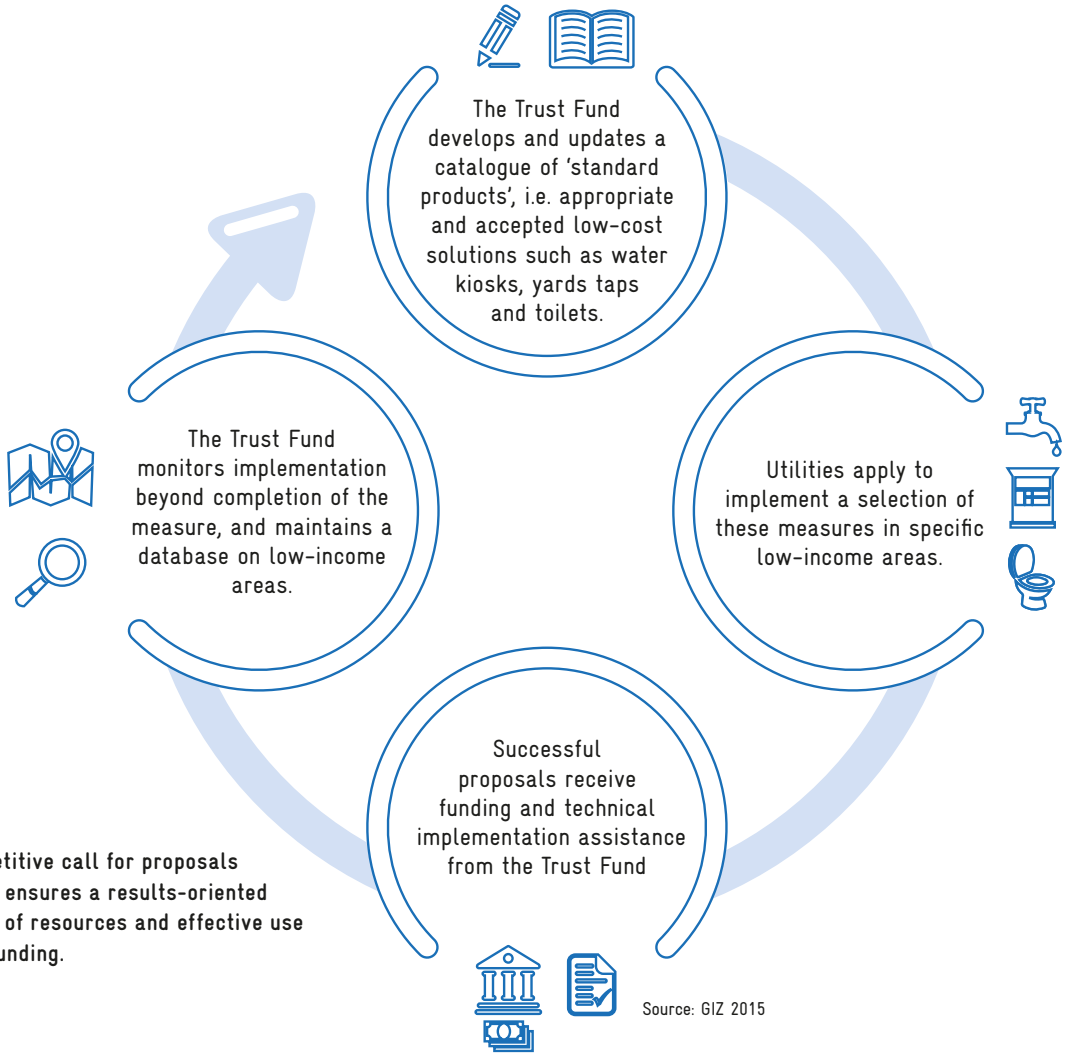


The competitive call for proposals procedure ensures a results-oriented allocation of resources and effective use of WSTF funding.

Source: GIZ 2015

informal systems were hijacked by powerful individuals or sometimes criminal gangs resisting any attempts to extend access to utility services.

Even with socially responsible commercialisation being mooted as a framework for pro-poor utility service provision, the necessary capacity and knowledge to tackle professional service extensions in low-income areas was lacking in the sector. The shift in sector policy failed to make a strong enough impression on decision-makers at the local level and some development partners. Some still promoted small-scale informal systems, while others showed little appreciation for transitional, shared water and sanitation facilities and an appropriate mix of low-cost solutions that acknowledge and address the circumstances of low-income consumers. There was little understanding that the financing gap could not be closed simply with more money, but that any additional funds needed to be put to better use by promoting basic utility services for all. Sector financing tended to veer away from investing in low-income areas, focusing almost exclusively on the 'first mile' of infrastructure development[1] instead. Investments into the 'last mile', the secondary infrastructure and customer interfaces to connect LIAs to the existing network,[2] were rarely more than accompanying measures of higher-profile, larger investment schemes – however necessary, the latter had remained woefully insufficient from a pro-poor perspective for decades. Furthermore, it was not recognised that the promotion of low-cost solutions could not be restricted to isolated projects, where donors were free to set their own standards and rarely offered capacity building for utilities to construct and operate infrastructure in the long term.

[1] First mile infrastructure refers to large-scale infrastructure and facilities, i.e. for water abstraction and production, raw water treatment, main storage, primary networks for drinking water supply and sewerage, and centralised wastewater treatment facilities.

[2] The term 'last mile infrastructure' is used to capture the gap in the service delivery chain between first mile infrastructure and consumers in unserved low-income areas. It consists of secondary infrastructure (e.g. small pumping stations, storage tanks or network extensions for drinking water supply, or sewer extensions, alternative collection systems and decentralised treatment facilities to ensure safe collection and disposal of sludge and wastewater). See also GIZ, 2015. 'Closing the Last Mile for Millions—Sharing the Experience on Scaling Up Access to Safe Drinking Water and Adequate Sanitation to the Urban Poor.' GIZ, Bonn.

With the rights to water and sanitation enshrined in a new constitution, interventions at scale for the poor were going to be of the essence to reverse the trend of an ever-widening service gap. It was time to hear the voices of the poor, who were desperate to escape from the negative impact informal services were having on their lives, and revisit unconventional approaches and concentrate on 'scaling up'. Developing a workable scaling up process, which would deliver sustainable access at scale in an acceptable timeframe with a limited amount of funding, became central to GIZ's efforts to support the Kenyan sector reform.

Responses

Inspired by state-of-the-art sector reform and the scaling up approach taken in Zambia, Kenyan water sector officials, supported by GIZ advisors, took steps to put pro-poor policy commitments into action. These efforts culminated in the launch of a Pro-Poor Implementation Plan for Water and Sanitation (PPIP) in 2007, by which time the regulator Wasreb had begun to formalise pro-poor service obligations: densely populated LIAs, even outside town borders, were being explicitly included in utility service areas and Wasreb was working on minimum standards and tariff options that would suit service provision to low-income consumers.[3] With a pro-poor sector framework in place, utilities needed to be supported to adapt their business strategies, acquire technical know-how and mobilise financial resources to serve a clientele they had previously sought to avoid.

Low-cost technologies that provide a safe and affordable service did of course exist – but how were utilities to transpose them into real situations at scale and design systems that would fit the different operating contexts in the LIAs? GIZ, with no agenda of its own but a wealth of experience and contacts throughout the region to offer to its partners, facilitated South-South knowledge exchanges and national strategic dialogues. Visits to Zambia and Burkina Faso, the 'home of the water kiosk model', offered convincing demonstrations of shared facilities and adapted solutions in action, and played no small part in helping Kenyan stakeholders overcome misconceptions.

More importantly, in Zambia, officials could observe the impact a pro-poor basket fund could have on tackling 'difficult to serve' areas. The 2002 Kenyan Water Act had in fact already established a similar institution, the Water Sector Trust Fund (WSTF).[4] Its potential enabling role for developing last mile infrastructure to bridge the urban service gap was quickly seized upon.

The plan: An 'urban financing window' of the WSTF was to become the vehicle for performance-based financing of pro-poor service extensions by the regulated utilities, effectively acting as the interface of financial and technical cooperation. This model would fit very well with wider international commitments to improving aid effectiveness and anchoring projects at a national institution. The WSTF would be tasked with promoting investments in low-income areas and channelling the requisite small and medium-sized funding tranches for proposed investments strictly based on merit. At the same time, it would offer the necessary capacity support and monitoring to ensure successful implementation and sustainable operation.

Starting out: Having secured financial support for the WSTF's urban portfolio from two major funding partners, the EU and the German Government through the German Development Bank (KfW),[5] GIZ assembled a team of international and national specialists to press ahead with the organisational development of the Trust Fund. Staff recruitment, with its emphasis on quality and efficiency, reflected the WSTF's principles and aspirations, as did the intermeshing of technical and financial expertise. But first, any lingering doubts about the water kiosk concept needed to be countered with tangible evidence, and this evidence needed to come from within the country. Pilots of kiosks under professional utility management were instigated by the WSTF-GIZ team. Results and reactions from consumers and the participating utilities were overwhelmingly positive, credibly proving the feasibility of this approach in the Kenyan context: investment costs per capita had been low and acceptance on the part of the target users high.[6]

The playbook: For the WSTF to accelerate the implementation of utility-managed water kiosks on a national

[3] The role of regulation is discussed in more detail in paper No. 3 in this series.

[4] The WSTF was originally known as the 'Water Services Trust Fund'. For simplicity, this paper refers to institutions by their names and acronyms as they are being used at the time of writing.

[5] Securing funding commitments from financing agencies and development banks was no small feat. The proposed financing mechanism ran counter to their entire funding philosophy and development partners' preference for first-mile projects which could be easily contracted out and absorbed large amounts of funds according to fixed disbursement schedules. This is discussed in detail in the financing and infrastructure development paper (No. 6).

[6] WSTF, 2010. Survey on the Impact of Formalised Water Kiosks on Living Conditions in Athi River and Ongata Rongai. WSTF, Nairobi. Also GIZ, 2015. Using the Water Kiosk to Increase Access to Water for the Urban Poor in Kenya. Global Delivery Initiative Case Study. GIZ. Bonn.

scale, it would need to establish mechanisms to ensure consistent quality of construction and services as well as efficient and sustainable operations. It would also need to prevent the all too likely embezzlement of funds and the misdirection of investment funding during election times. The pilots had shown that utilities needed extensive support and vigilant oversight; this was going to be a serious challenge for just six 'urban window' WSTF staff. However, working in close collaboration with utilities and GIZ advisors embedded in the team ensured that all had gained hands-on experience during the pilots. The logical step forward was to use this combined knowledge to develop kiosks – and all other last mile infrastructure components – into 'standard products' with detailed implementation guides for utilities. The first 'toolkit for urban water supply' was born out of these considerations and covered all technical, social and operational aspects of low-cost systems: it guided inexperienced utilities through the process of selecting appropriate technology mixes, establishing sustainable, community-oriented business and management models, right through to applying the social marketing mechanisms that would secure participation by the intended users. Overall responsibility, however, would firmly rest with the utility as the formally mandated service provider.[7]

Scaling up: By 2009, the WSTF was ready to invite utilities to apply for last mile investment funding. The response to its first public call for proposals surpassed all expectations, with 20 utilities entering the competitive selection process. Of these, ten met the WSTF's rigorous technical, financial and social quality standards. Planning and construction of water kiosks and yard taps[8] began under the watchful eye of the WSTF technical team and its county-based resident monitors (locally contracted field staff) to ensure compliance with WSTF guidelines and toolkit provisions. Kiosks with locally recruited operators were integrated into normal utility operations, and diligent monitoring ensured good technical, social and financial performance. The resounding success of this first round of last mile investment highlighted the capabilities of medium-sized utilities. Other utilities that had struggled to submit acceptable proposals were offered training, which ensured that an increasing number of utilities could participate in a thoroughly professional manner. Scaling up had arrived in Kenya, and confidence in the WSTF to manage it was growing. Seven years and seven calls for proposals later, 75 out of 92 utilities in 38 of the 47 counties have implemented last mile investments[9] and the WSTF portfolio has expanded to include low-cost sanitation options.[10]

Photos: GIZ-WSRP

Utility-operated water kiosks (top) are important to close the last mile in urban water service delivery in low-income areas. Previously, people often relied on less safe and expensive informal service provision, such as this water point in Athi River (bottom).

While the WSTF and GIZ were offering comprehensive support to utilities, collating experience, sharing insights

[7] http://www.waterfund.go.ke/toolkit/

[8] Contrary to the rickety shacks with long queues that populate the public imagination, modern kiosks are designed to comfortably serve several hundred people. Kenyan kiosks are generally equipped with three taps, each serving 300–500 people per day, as proven in the pilot projects. On average, a kiosk can therefore cover an area of one to two square kilometres, depending on the density of the settlement. Each yard tap serves 20–30 people.

[9] Water Service Trust Fund, 2016. Maji Insight 2015–2016. Financial Support for Improved Access to Water and Sanitation. WSTF, Nairobi. p.27.

[10] From the second call onwards, funding was also awarded to sanitation projects, though these remained fewer in number and beneficiaries throughout. Due to the complexity of the sanitation situation, another paper (No. 5) in the series is dedicated to the topic.

and facilitating peer-to-peer learning, the team was acutely aware of the need for a robust risk management system – not least to reassure donors. The difficulties faced by donors working with the WSTF's rural window made it clear that the Fund itself had to have strong formal provisions to allay fears of corruption and misappropriation of funding allocations. Legal safeguards to ensure autonomy, efficiency and integrity of its management and staff were supported by robust internal and external auditing arrangements. However, it was felt that solid guarantees were required to persuade a sceptical donor community. The competitive call-for-proposals procedure was introduced precisely for this: to assure transparent, efficient and needs-oriented funding allocation. Again, ensuring that investments were placed where they were most likely to succeed was not deemed sufficient. An in-house monitoring system was designed to track progress and compliance of each investment measure, from quarterly inspections at the construction stage to annual checks on operations.

Despite the rigorous governance framework that had been put in place, there were a number of attempts by trustees, ministry staff and politicians to influence the decisions on the selection of utility proposals. Some WSTF staff tried to extract bribes from utilities, transport companies or consultants. With the support of trustees with integrity and honest WSTF staff who refused to 'overlook' this unacceptable behaviour, as well as donors who tied funding to good governance, these attempts were reined back. More transparency was often all that was needed. At times, the link between a trustee's decision and their running for office in an election was so obvious that it took little for donors to prompt corrective action. The insights GIZ gained through working closely with WSTF staff as well as the close cooperation with the financial cooperation helped to strengthen this direct link between funding and good governance.

Photo: GIZ-WSRP

Pre-paid yard taps shared by several households could offer a higher service level in low-income areas in the future.

As the scaling up process was gathering momentum, GIZ advisors, increasingly concerned about the poor information availability in the sector, were pushing for a systematic assessment of low-income areas. A national baseline survey carried out from 2009 until 2011 identified more than 1,800 LIAs in 212 towns and cities. The comprehensive data sets collected in the exercise were captured in the 'MajiData' database.[11] MajiData has been used extensively to support the scaling up process, not least as a better understanding of low-income areas allowed low-cost technologies and service levels to be matched more closely to local needs.

Progress

To date, the WSTF has channelled investments worth €33 million into last mile infrastructure for urban low-income areas. With the Gates Foundation, another key donor has joined the EU and the German Government, and a cumulative total of 235 water projects and 71 sanitation projects have been funded (2016 figures).[12] Of the eight million low-income residents originally identified in the baseline study, more than a quarter now have access to safe, convenient and affordable drinking water. By June 2019, beneficiary numbers are projected to reach 2.4 million for water and more than half a million for sanitation.

Households have seen enormous improvements in terms of direct savings as well as improved health and living conditions. Prices for kiosk water are set at 2 Kenyan Shillings (€0.02) per 20 litres, easily reducing the expense for many users of privately vended water by more than 80%.[13] On-plot connections, which previously involved an up-front charge in excess of €1,000, are now available

[11] MajiData and the vital role of sector monitoring in general are discussed in detail in another paper on data management (No. 7 in this series). Today, the database holds detailed information on LIAs in more than 250 urban centres.

[12] Water Service Trust Fund, 2016. Maji Insight 2015-2016. Financial Support for Improved Access to Water and Sanitation. WSTF, Nairobi. p.25.

[13] Typically, informal vendors will charge at least 10 to 20 Shillings (10-20 Euro cents) per 20-litre jerrycan. During the 2017 drought, prices rose to 100 Shillings (almost €1) per jerrycan.

Photo: GIZ-WSRP

Storage tanks – as funded by WSTF – help to avoid rationing of water supply to low-income areas.

for as little as €25. Further savings are made as additional water treatment in the home has become mostly unnecessary. For local operators (often women), kiosks and public sanitation facilities not only provide a secure basic income but an opportunity to expand into small retail outlets. High-quality water has improved hygiene, and health professionals are noting fewer incidences of waterborne disease. Sites for WSTF-funded kiosks are carefully chosen for accessibility, convenience and security, greatly reducing walking distances and waiting times, thus freeing time for productive activities and education. In addition, they practically put an end to discriminatory neighbourhood resales, on which many of the new low-income utility customers had previously depended.[14]

Impressive in terms of reach and direct impact, the scaling up approach scores equally highly on cost effectiveness. Averaged over all calls for proposals, the cost of last mile water supply infrastructure funded via the WSTF has been €14 per beneficiary;[15] the corresponding figure for sanitation is €24 per beneficiary.[16] Moreover, continuous monitoring has shown that 84% of all last mile infrastructure is still operational around five years after construction.

As for the WSTF itself, GIZ insisted on the technical team being involved in regular discussions as well as all aspects of work in the field. Continuous interaction with utilities and low-income communities fostered mutual learning and an appreciation of the complex challenges LIA settings posed to utilities and their prospective new customers. This awareness put the WSTF in a position to take ownership of the entire process, being sensitive to the needs of low-income residents, and developing and refining approaches in response to the dynamically changing conditions in LIAs. The impact of the close support extended to the utilities was evident in the steadily improving quality of investment proposals, and soon utilities were exchanging know-how amongst each other.

Limitations and remaining challenges

Reluctance to recognise the positive contribution of basic services, not least to finances

Misperceptions about poor consumers' ability and willingness to pay are remarkably persistent. Caught between the conflicting objectives of achieving financial sustainability and extending service into low-income areas, many utilities nonetheless remain unconvinced of price and service differentiation. For all its popularity amongst users, the kiosk model in particular is shunned; the latest call for proposals received not a single application for new kiosk funding.[17] This contributes to the stagnation in terms of access to regulated drinking water (see figure page 7). The utilities' preference for household connections is still widely shared in political circles and again also encouraged by some development partners, who are advocating social connections in favour of shared facilities. Short surveys carried out in August 2018 in eight LIAs among six utilities[18] indicated that 10-90% of the poor in the LIAs are left stranded with unregulated services and surface water when kiosks are closed down pre-

[14] No longer having to enter private property meant that never again could they be denied access at random – perhaps because of their tribal background, unwillingness to give 'favours', etc. All had been commonplace before.

[15] This figure takes into account the total cost of technical assistance, capital for the last mile investment and WSTF overheads. It excludes investments in large-scale, first mile infrastructure that may be necessary to supply the additional quantity of water.

[16] This includes subsidies of approximately €16 per toilet built, construction of decentralised treatment facilities, the costs of technical cooperation and all other project-related costs. It does not include the financial contribution of the households for the construction of the toilets. (See Paper No. 5.)

[17] Kiosks are a good entry-level service option as there is no pre-selection: anyone can come and use a public water kiosk and the same terms apply to every customer.

[18] Embu, Muranga, Nanjuki, Naromoru, Nakuru and Kericho.

maturely because of social connections programmes. Many decision-makers highlight the big challenge of closing the growing funding gap, yet at the same time insist on the 'connection for all' paradigm.

Regulatory enforcement problems

A staggering 50% of water kiosks have been found to be in breach of tariff regulation. The fact that utility-supplied water with all its associated benefits is still significantly cheaper than water bought from independent providers should be no excuse for blatantly exceeding the approved rates. There are also too many instances where kiosk operators and utilities have no formal contractual relationship. Utilities openly flouting rules highlights the challenge of pro-poor regulation, and the problem of enforcement. In addition, difficulties with informal service provision are ongoing. Although explicitly prohibited in the legal framework, independent small-scale providers have yet to be phased out by extending utility services into LIAs. In addition, regulators need support from the ministry and from financing institutions to step up enforcement: funding needs to be better linked to compliance – not only with conditionalities, but also with regulation.

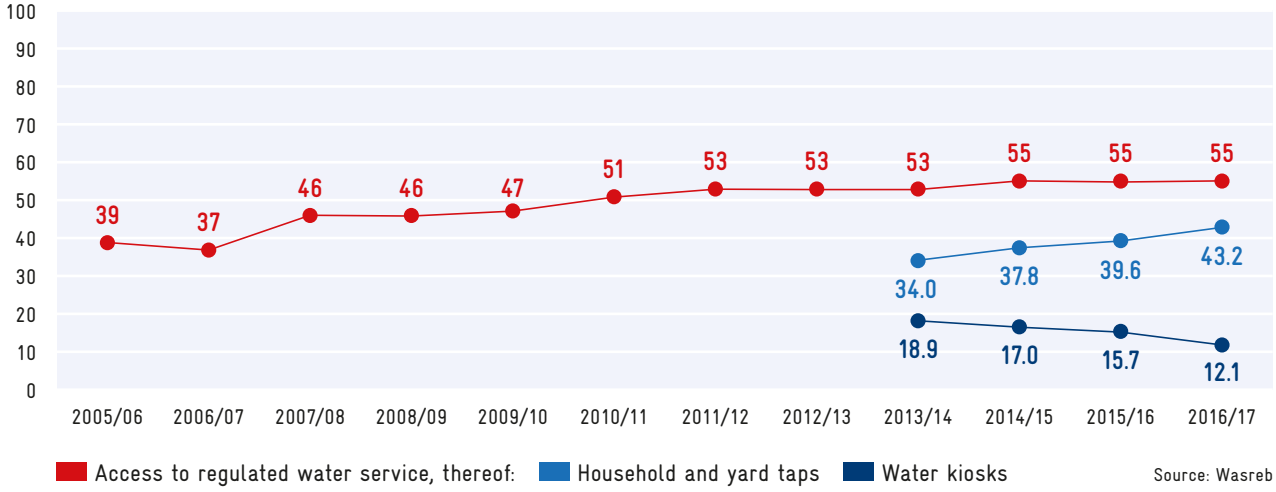
Growing need to self-finance scaling up

Despite the admirable progress made over the last decade, the number of Kenyans who currently cannot access safe water and sanitation services still runs into millions, and the vast majority are poor. The Kenyan government contributes no more than a minimum to the WSTF, and despite its successes, the Trust Fund remains unattractive to many development partners. Neither, however, would be able to bridge the widening financing gap. Even with the planned surcharge on customer bills to supplement pro-poor funding, it will be vital to revisit strategies to access the untapped potential for self-financing within the sector and secure donor funding for last mile investment.[19]

WSTF in danger of losing focus

The WSTF urgently needs to extend and consolidate its focus on last mile investments. Instead of seeking to capitalise on its evident successes to date and attract further funding for pro-poor scaling up, it is increasingly being swayed by donor preferences. This also fuels the latent danger of funding institutions becoming more prominent and extending their activities to overlap with other sector institutions (an example being first mile investments, which are the remit of WSBs). An overly wide interpretation of the WSTF mandate would only serve to create unnecessary and counterproductive competition with other stakeholders. There is also a real danger that the WSTF, overwhelmed with large amounts of earmarked funding, becomes distracted from its core business by pursuing projects that are at best tangential to its remit. In view of the imminent withdrawal of the integrated advisors once German technical cooperation comes to an end, the WSTF is urged to secure organisational performance and governance. It will be important to concentrate on developing a coherent 'marketing strategy' linked to a reliable track record of implementing and overseeing

Progress on access to regulated drinking water supply in Kenya's towns. Urbanisation and loss of poverty focus lead to stagnation.



Source: Wasreb

[19] By denying the ability and willingness of low-income users to pay for public and shared facilities, although they obviously participate in the local economy and are spending large amounts on water from unregulated sources, decision-makers are wilfully ignoring a potential source of internally-generated revenue.

last mile investment projects and concrete investment plans for donor money: this would allow the Fund to secure further financing for achieving the universal service objective. There is also scope to make better use of existing tools, such as MajiData, to mobilise additional donor funding for targeted last mile investments.

Insights and recommendations

1. Universal access to water and sanitation can only be achieved in the next decades through low-cost technologies, i.e. water kiosks and on-site sanitation. There are compelling reasons for this, starting with the financing gap in the sector. Achieving full coverage with household connections for both water and sewerage may be desirable but is unrealistic in the short to medium term. In many unplanned areas, it is not feasible for networked services to reach into every home, and many poor people can neither afford the cost of connecting nor pay regular water bills.

2. It is imperative to secure high-level political buy-in for successful implementation and scaling up of basic service provision.

3. Scaling up needs a champion to drive the agreed pro-poor agenda. This role can pass from one key figure or institution to another (trust fund, regulator, ministry, counties), depending on circumstances and the dynamic of the situation. One genuinely supportive actor can motivate others to stay on course.

4. Initial scepticism about low-cost technologies can be overcome through demonstrating workable and accepted solutions: study tours and pilot projects are a good starting point for developing and promoting coherent scaling up concepts.

5. It is important to stay vigilant to avoid losing the poverty focus, especially at the service provider level. Without constant external pressure, there is always a risk that utilities will fail to meet their service obligations towards all consumers.

6. Different low-income areas require different strategies and technologies (kiosks, yard taps) for basic water services. The capacity within the sector to analyse this adequately remains underdeveloped.

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Implementing basic household sanitation

Reforming Kenya's water sector - Paper 5

The challenge

The turn of the century saw Kenya undergoing a profound and radical water sector reform process, which regrettably did little to challenge the status of sanitation as the poorer relative of water supply. Aspirational commitments to the human rights to water and sanitation were subsequently underpinned by constitutionally guaranteed rights to 'reasonable standards of sanitation' and 'a clean and healthy environment' for all citizens.[1] However, key decision-makers remained firmly wedded to a water-dominated model of 'world class' public health engineering. Ignoring the evident impracticality of conventional networked wastewater disposal to solve the country's unfolding sanitation crisis, the revised legal framework remained heavily biased in favour of waterborne sewerage services.

For the vast majority of Kenyans without a connection to public sewers, the reform effected few discernible changes. Responsibilities for sanitation continue to be shared between three ministries and their associated regulatory agencies. The Ministry of Water and Sanitation (MWS)[2] oversees water and sewerage services management, wastewater treatment and disposal policy as well as sanitation management and investment planning. The Ministry of Health is nominally in charge of rural sanitation activities, public health and sanitation policy management and the Ministry of Environment and Natural Resources supervises environmental regulation.[3] The institutional fragmentation is mirrored at lower administrative levels, with significant regulatory overlaps and gaps, notably with regard to on-site sanitation in urban areas. Underinvestment barely describes the enormous lack of funding, which has been compounded by poor coordination amongst the key players. Sanitation attracts little political interest and does not appear to rouse much enthusiasm amongst donors either: funding commitments do not follow the widespread recognition of the personal and public benefits of adequate basic sanitation, and decentralised sanitation continues to be sidelined by more high profile and prestigious water projects.

Having no clear framework and institutional home for sanitation in place enabled utilities and officials to skirt the problem of developing infrastructure and improving sanitation services, particularly in the most underserved areas. Other than for sewerage, coverage of which has been regressing,[4] few professionalised services exist. To this day, households in 21 counties are wholly reliant on on-site sanitation systems, as networked sewerage has yet to be introduced in those administrations.[5] As far as treatment is concerned, however, utilities perform only marginally better than the various unlicensed alternative providers that offer limited, and mostly unsafe, replacement services. The vast majority of human waste is dis-

[1] Constitution of Kenya, Articles 43(1)(b) and 42.

[2] The former Ministry of Water and Irrigation has been renamed 'Ministry of Water and Sanitation' by the incoming government. The practical implications of this move are yet unknown. No specific changes to its role regarding sanitation beyond sewerage have been introduced so far.

[3] See Executive Order No. 1 of 2018 'Organization of the Government of the Republic of Kenya'.

[4] By 2016, networked sewerage service was available to just 12 percent of the Kenyan urban population (Ministry of Health, 2016. Kenya Environmental Sanitation and Hygiene Policy, 2016-2030).

[5] Wasreb, 2018. Impact Issue No. 10. A Performance Report of Kenya's Water Services Sector 2015/16 2016/17. Wasreb, Nairobi.

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charged into the environment untreated.[6] A lack of safe disposal options combined with insufficient enforcement means that, more often than not, sludge from on-site facilities is conveniently dumped in the open, where it spawns new environmental and public health problems.

Currently, any applicable legislation mostly relates to public health and the environment and contains very little on service aspects of sanitation, and enforcement is poor. Although many counties prohibit the construction of simple pit latrines, for instance, it is rare for the responsible health officials to take action against widespread contraventions of the ban. According to the Sanitation Concept of 2009 and the draft National Water and Sanitation Services Strategy 2019-2030, the tasks of faecal sludge emptying, transportation and treatment are to be formally assigned to water service providers (i.e. utilities), though in practice, few own the necessary mobile equipment and treatment facilities. As a consequence, sludge emptying is largely a private business.[7] Operators of vacuum trucks, who require a permit and must discharge at designated sites, tend to cater to the higher end of the market. Affordability, accessibility and technical constraints frequently leave lower-income households – if they have a private toilet at all – with no other option than to resort to unregulated manual emptying, a service that is available through the informal sector.[8] Various small and medium-sized enterprises, NGOs, CBOs and other not-for-profit organisations operate public toilets, but regulated private sludge treatment is virtually non-existent, meaning that sludge also remains an unresolved problem here.

Meanwhile, ambitious targets were set that mirrored the government's universal service aspirations for access to drinking water supply. However, the Kenyan Vision 2030 still expected to reach 100% sanitation coverage by increasing sewerage coverage to 80%, illustrating the mindset of stakeholders and policymakers at the time it was launched in 2008. Given that improved data showed that the population of urban low-income areas (LIAs) in Kenya was fast approaching eight million, and access rates for adequate sanitation were consistently languishing,[9] the sector was going to have to face up to the complexities of regulating and safely managing appropriate on-site sanitation options. Change has been slow, but there are welcome indications that perceptions are shifting.

If overcoming prejudices against adapted, low-cost technologies for water supply had required persistence,[10] implementing affordable solutions for sanitation was going to be several degrees more complicated. First of all, preconceived notions of an inextricable link between water and sanitation needed to be challenged. With little funding available from other sources, donors would need

Photo: GIZ-WSRP

Photos: GIZ-WSRP

The toilets funded by WSTF under the UBSUP sanitation programme (left) provide safer alternatives to existing pit latrines (top).

[6] According to 2016 figures cited in the Kenya Environmental Sanitation and Hygiene Policy, nationally only 5% of sewerage was receiving effective treatment, with treatment plants operating at an estimated 16% of design capacity (Ministry of Health, 2016. Kenya Environmental Sanitation and Hygiene Policy, 2016–2030).

[7] These proposed changes have not yet been taken up in the revised Water Act 2016.

[8] High housing densities, irregular layout and difficult terrain commonly found in urban low-income areas can prevent trucks from getting close enough to latrines, thus preventing mechanical emptying without alternative equipment. Existing pit latrines are often poorly constructed, unlined and prone to collapse during mechanical emptying. It is also not unusual to find them used as rubbish pits. Vacuum tankers refuse to empty them to avoid damage to their pumps.

[9] A comprehensive baseline study (2009–2011) was undertaken to systematically identify and map more than 1,800 LIAs in 212 Kenyan towns and cities. A wide range of data was captured and assembled into the pro-poor 'MajiData' database. For further information on this exercise and water and sanitation data more generally, see paper No. 7 in this series.

[10] Paper No. 4 in this series describes the challenges of scaling up low-cost technologies for pro-poor water services.

to be won over to the idea of low-cost decentralised sanitation provision. Any financing mechanism would need to consider the high up-front investment costs that so often prevented toilet construction in the first place. Regulation would need to bridge the 'mental gap' that for the longest time had ignored so many elements of the sanitation services chain that comprises containment, emptying, transport and treatment of faecal sludge. For utilities, managing on-site sanitation would represent a significant departure from business as usual. Purely from an infrastructure point of view, on-site sanitation is fundamentally different to piped water or sewerage in that instead of networks running across public land, toilet facilities include both capture and containment of the faecal waste and are located entirely on private property. Utilities would thus connect privately-owned 'interfaces' and storage with services further along the sanitation service chain, managing the associated decentralised infrastructure beyond the plot.

Responses

The outputs of the poverty-focused baseline study provided strong arguments in favour of pushing for the sector to accelerate service provision in low-income areas. With the Water Sector Trust Fund (WSTF) acting as a pro-poor financing mechanism, utilities were already being supported to implement investments into sustainable 'last mile' infrastructure using adapted low-cost technologies.[11] Funding was awarded based on the merit of proposed investments and every project monitored beyond completion to ensure long-term successful operation. While sanitation featured from the second call for funding proposals to the WSTF onwards in the form of public toilet blocks, water projects far outnumbered sanitation ones.[12]

Committed to working with regulated service providers, GIZ's endeavours to replicate the successful scaling up approach developed for drinking water supply were seriously hampered by the lack of professionalisation of existing sanitation services. Unexpected support arrived from a new sector player, the Bill and Melinda Gates Foundation (BMGF). Impressed with the successes of German technical cooperation and its relentless focus on poverty orientation, BMGF had approached the GIZ water programme with the clear objective of joining efforts to work on exploring scaling up concepts for on-site sanitation. An offer of US$10 million[13] was on the table, on the condition that this would be matched by another donor. Serious capacity constraints, evident from the ongoing work in LIAs, meant that a great deal of hands-on involvement would be required.[14]

Given the dire sanitation situation in urban low-income areas and the obvious lack of awareness amongst key national stakeholders, the offer had the potential to become a breakthrough opportunity. Here was a donor who was totally focused on developing a workable implementation concept instead of seeking impressive beneficiary numbers in return for its money. The pressure of circumstance called for a decisive move; GIZ approached the German Development Bank (KfW) and was able to secure the necessary co-funding from the German Government. 'Up-scaling Basic Sanitation for the Urban Poor' (UBSUP) was officially commissioned by the Government of Kenya, through the WSTF, in 2011. Locally known as 'SafiSan',[15] projects offered under the UBSUP umbrella would focus on sanitation at the household and plot level rather than public, shared facilities.

The programme had originally been envisaged to reach at least 600,000 residents of urban low-income areas with adequate basic sanitation, addressing the entire sanitation services chain. This number was based on the initial project proposal, which assumed that investment funds would be used primarily to subsidise the construction of toilets, while sludge resulting from these toilets could be treated in existing facilities. However, at the early stages of implementation this was found to be a limiting factor for many towns where UBSUP could potentially be implemented. Rather than restricting UBSUP to towns with existing treatment facilities, it was decided that the project would also develop and finance decentralised treatment facilities where required. This substantially

[11] The 'last mile' is used to describe the gap in the service delivery chain between existing large-scale infrastructure and facilities (dubbed the 'first mile') and consumers in unserved low-income areas. For more information on GIZ's approach to 'closing the last mile for millions', see the publication of the same name (GIZ, 2015), or paper No. 4 in this series.

[12] The WSTF funding structure was split into 'calls', a competitive selection process for utility funding applications. This guided the allocation of resources from funding partners and had been designed to ensure accountability and easy monitoring and operations.

[13] Of this, US$3 million had been earmarked for GIZ to provide technical assistance to the WSTF to develop a pro-poor urban sanitation concept.

[14] The GIZ Water Sector Reform Programme was renowned for anchoring all of its projects to national institutions, fully integrating reform and change management into the sector. The programme had previously not engaged in free-standing projects.

[15] SafiSan, derived from 'safi' (a Kiswahili word meaning 'clean') and 'san' (short for the English word 'sanitation', meaning hygienic management of human excreta), is the branding name of UBSUP.

Photo: GIZ-WSRP

Sanitation marketing experts contracted by water utilities discuss improved sanitation and hygiene. They advise on subsidies on offer to residents of low-income areas to build new toilets or upgrade old ones.

increased the per capita cost of the project and as a result it was agreed to reduce the number of beneficiaries to 400,000.[16]

Firmly anchored at the 'urban financing window' of the WSTF, the entire UBSUP programme is structured around Trust Fund processes and follows the stringent requirements developed for WSTF-funded water projects. Its primary objective is to improve access to basic household sanitation in urban LIAs by developing a scaling up concept for sanitation that covers the complete service chain, from building toilets right through to safely disposing or reusing waste. The UBSUP concept centres around social marketing to shore up demand, low-cost technical options that are adapted to the local context, as well as bespoke business and financial models covering the entire range of toilet construction, faecal sludge collection, transport and treatment services as well as safe sludge disposal and reuse options.

Initially, a large-scale sanitation study covering 11 Kenyan towns was carried out, followed by testing of prototype toilets. By the time the UBSUP programme entered its pilot phase in 2013, a concept outline and many of the tools had been prepared. Three utilities were selected for pilot implementation, with local residents and other relevant stakeholders in the service area, such as local Public Health Departments, being involved throughout. During this crucial phase of the programme, GIZ provided direct operations support to the utilities via a permanent advisor based in each pilot area, who could access technical backstopping from an international GIZ expert.

Having undergone rigorous testing in the field, all materials, design standards, technical manuals and drawings were assembled into the 'SafiSan Toolkit' for urban sanitation projects. UBSUP had drawn on external experience and readily integrated lessons learnt by others working in the same field. In turn, its own insights are shared freely, and the toolkit is made available on the WSTF website.[17] It offers detailed practical guidance for planning, implementation, operational and financial management as well as monitoring and evaluation of last mile sanitation infrastructure to utilities, consultants and contractors, communities, and also WSTF staff.

UBSUP is entirely demand-driven; licensed water utilities use a flexible, phased approach to promote and implement improved sanitation. Social marketing is used to create the awareness and the demand needed for the uptake of the various technologies proposed in the programme.[18] Consequently, a lot of market research and study is encouraged to be able to incorporate the ideas of the potential beneficiaries in the technologies that are being considered for rolling out. Households, many of which are renting rooms with shared facilities, and landlords[19] are encouraged to construct their own toilets to a specified technical standard. Once inspected and approved by the utility, a fixed cash subsidy is paid out by the WSTF, which covers approximately half of the construction costs.[20] The programme also incorporates the skills and business requirements of the local private sector. Previously informal small-scale entrepreneurs specialising in solid waste management have been transformed

[16] UBSUP could have returned higher numbers by focusing on an 'easier target', i.e. a single low-income area in a large town or city. GIZ advisors greatly appreciated working with a funding partner that was equally committed to 'getting this right' and was undeterred by decidedly less impressive beneficiary numbers.

[17] See http://www.waterfund.go.ke/safisan/. The corresponding toolkit for public (shared) sanitation is available from http://www.waterfund.go.ke/sanitation/

[18] UBSUP employs the latest social marketing techniques. 'SafiSan' emerged as an effective way of increasing the acceptance and recognition of the project among the targeted audience: residents of low-income areas responded positively to a branding name.

[19] UBSUP has astutely made use of existing regulations. Under threat of having their rental properties closed down for using illegal pit latrines, landlords could be persuaded to invest in upgraded SafiSan toilets. This worked well in LIAs with a high proportion of tenanted houses.

[20] The post-construction incentive paid for a new toilet is US$200 or US$150 for a rehabilitated toilet. Each toilet is designed to serve a maximum of ten users.

Photos: GIZ-WSRP

The UBSUP branding concept incorporates WSTF colours and has been adopted countrywide to identify SafiSan projects. UBSUP toilets are instantly recognisable from their blue and red stripes.

into local private sanitation operators, collecting and transporting faecal sludge from the new toilets.[21] If there are no existing and functioning utility-operated treatment works in the vicinity, UBSUP also provides funding for small-scale decentralised treatment facilities (DTFs), which become a utility-owned and operated asset.

While UBSUP focused on household-level sanitation, separate funding was available via the WSTF to improve public sanitation. In a similar vein to the water kiosk concept, public toilets would be constructed in sanitation hotspots, such as marketplaces. The infrastructure would be sub-contracted to an operator (attendant) but remain in utility ownership to ensure long-term maintenance and cost recovery.

Progress

The WSTF now offers funding for decentralised sanitation projects through UBSUP. At present, 25 utilities are implementing the first call for proposals. Including the three pilot schemes, over 14,000 toilets have been constructed so far. These are currently being served through ten DTFs that are already operational, another three DTFs are under construction and a further eight due to be added in the near future. Per capita investment costs have been kept low, at around €40 for a pour-flush toilet, based on two units sharing a septic tank, or €50 for a double vault single cabin UDDT. Investment costs for a DTF are around €100,000, or €4 per capita for each of the 25,000 people it can serve. Annual operation and maintenance costs are estimated at around €5,600. Toilet owners now pay regulated emptying charges for their pit latrines and septic tanks, which vary depending on the size of the vacuum truck (€45-100 for 8-18m3). Owners of UDDTs face twice-yearly emptying charges of around €15 per vault. An UBSUP project area is easily identified, as people take great pride in their toilets.

All of the 64 public toilets financed by the WSTF are still operating successfully, some up to ten years after construction. These go some way towards alleviating the needs of those unable to access or afford the convenience of a private toilet, at least until slum upgrading programmes are extended into their neighbourhoods. This has given slum dwellers, e.g. in Kawangware, Nairobi, with an estimated population of 140,000, an alternative to sharing a privately-run toilet between 50 or more households.

Decentralised sludge treatment facilities are now attracting business from outside UBSUP, proving that there is demand. The concept offers a range of economically attractive reuse options for treated sludge and effluent. Treated sludge could be sold as soil conditioner for non-edible crops, co-compost to replace chemical fertiliser, or briquettes as fuel material to replace coal, whereas treated effluent can be used as nutrient-rich irrigation water.

Overall, the public sanitation concepts promoted through the WSTF have been very successful in Kenya: county governments are now copying and successfully operating

[21] The majority of SafiSan toilets are pour-flush types connected to a septic tank, which is emptied by utility or privately-operated exhauster truck. A small minority are urine-diverting dry toilets (UDDTs). Dry sludge from UDDTs can be collected and processed by the 'Sanitation Team', private entrepreneurs trained and supervised by the utility and using UBSUP-developed customised vehicles.

public toilets in many towns, and UBSUP is producing spillover effects: towns are requesting technical advice for treatment facilities, which they intend to fund and operate themselves. Other local authorities have been prompted to exercise their powers to compel private exhausters to use DTFs, and some counties have purchased exhauster trucks of their own.

Having boldly come into an almost complete vacuum and created facts on the ground, UBSUP's tried-and-tested concept is now influencing policy at the highest levels: several chapters of Kenya's latest Environmental Sanitation and Hygiene Policy are covered in the unmistakable handwriting of the UBSUP programme. As local stakeholders affirm: 'where UBSUP is, there is no need to explain sanitation – people just know.'

For all these successes, GIZ support to UBSUP was not always straightforward, as it straddled the roles of partnership broker, strategic advisor and implementation troubleshooter. Effectively acting as the link between donor and supported institution, its advisors came under pressure from both sides: BMGF insisted on strong technical assistance (TA) to ensure a successful outcome and to avoid funds being misappropriated, whereas from the WSTF's perspective, the advisors' presence could easily become misinterpreted as interference. Fortunately, by engaging all relevant partners in decision-making processes, advisors managed to strike a balance that allowed the project to keep moving forward.

Photos: GIZ-WSRP

Emptying services (top) and decentralised treatment facilities (bottom) ensure a safe collection and treatment of faecal sludge.

Limitations and remaining challenges

Demonstrating popular acceptance and willingness to pay for non-networked sanitation options has been one of the successes of the UBSUP programme. Wherever appropriate technologies and management systems are backed with proper enforcement of public health regulation, residents and landlords will embrace – and pay for – the convenience of quality service. Despite the proven need and demand for low-cost sanitation, swift nationwide roll-out is not (yet) realistic.

Persistently unclear frameworks and stubborn misconceptions

A key impediment is the absence of a coherent framework for sanitation, which prevents the country's ambitious sanitation goals from being converted into practice. For the time being, sludge management from on-site sanitation does not form part of utility obligations. The practical implications of the recent name change of the sector ministry, particularly whether it will raise the profile of sanitation within the sector or retain its status as an adjunct to water, are yet unknown. Having a dedicated Ministry of Water and Sanitation appears to have sent a powerful signal, with a growing number of officials now acknowledging the fact that progress in the sector will only be achieved if more emphasis is given to decentralised, basic sanitation instead of sewerage systems. Generally, in these circles, on-site sanitation is still widely regarded as sub-standard, and it will require a great deal of political will to shift away from the ingrained preference for sewerage. Despite prohibitive investment costs and the many technical reasons that prove its unsuitability, especially in low-income settings, piped sewers are seemingly irresistible to many politicians and sector professionals.

Complexity and capacity limitations

The UBSUP project has again demonstrated the complexity of scaling up processes. As the GIZ Water Sector Reform Programme is coming to an end, 23 implement-

Photo: GIZ-WSRP

Each decentralised treatment facility is managed and maintained by a dedicated operator employed by the water utility.

ing agents are involved in 23 towns, tackling sanitation in one low-income area each with backstopping support from GIZ. While UPSUP is integrated into WSTF processes, there are capacity limitations in the Trust Fund which can have a profound effect on the future of the project. Even though many challenges have already been met, new ones are being encountered through every phase of the implementation, requiring constant adjustment to the concept. Sludge is a case in point: there simply are no standard solutions for treatment that have worked at scale internationally which could have been transferred to Kenya, and it still needs to be demonstrated how the ones that are currently available can be scaled up to bigger towns. Reuse activities have yet to start.

In an ideal world, GIZ would be able to iron out any remaining difficulties before handing over a set of standard routines that can then be followed by the WSTF and service providers. In practice, the end of the concept phase has not yet been reached and some form of continued TA engagement may well be useful for some aspects. In any case, the WSTF developing its capacity for taking on sanitation will be central to meeting the sustainability challenge.

Technical difficulties and the law of unintended consequences

UBSUP sanitation projects intervene on private ground, requiring liaison with individual households or landlords to a far greater extent than WSTF water projects, which significantly adds to implementation times. Also, while densely populated areas can conveniently be served through water kiosks, UBSUP offers no equivalent solution in locations where space is a major constraint. The availability of suitable land has also been a problem for DTFs, which need to be sited on a slope and near a water body to discharge into, with easy access neither too close nor too far from the settlement they are planned to serve. UBSUP also ran into problems in towns that had no alternative treatment facilities, as other trucks (from outside the project area) started using the new DTF. Though in principle a positive development, this quickly led to the DTF being overwhelmed with demand and exceeding its planned capacity. There were other unanticipated project outcomes: due to their unpopularity with users, only a fraction of the toilets built were UDDTs; people preferred pour-flush toilets, a known technology for which emptying services exist. For UDDTs, the project had to develop bespoke vehicles, only to learn that the number of UDDTs built was so small that there would never be a viable business opportunity for emptying services.

Monitoring remains an issue that needs to be addressed. Utilities tend to focus on the front end, and less on actual implementation. Admittedly, the first monitoring system developed for the project requested far more data than would have been needed, reinforcing the perception of monitoring being unnecessarily complicated.

Funding constraints and subsidy problematics

As mentioned above, UBSUP uses a direct subsidy to support and incentivise toilet construction. This kind of subsidy is particularly prone to criticism. It is indeed difficult to pursue the 'right' targeting strategy: on the one hand, the poorest are excluded as they cannot afford their share of the construction costs; on the other hand, with so many tenanted properties, subsidies arguably add to the private wealth of landlords, who are less poor and by law should have provided adequate toilets in the first place. The project chose a pragmatic approach and considered the ultimate beneficiaries rather than strict ownership. Working directly with landlords often proved more efficient than working with household users, and demand across the board (people having saved up for their own toilet) has increased to such an extent that funding is running out.

Donors, however, are less likely to give money for sanitation than for water, and UBSUP is no exception to this rule. So far, no other financing partners have been found to support the project. The reasons are similar to those encountered in any last mile investment, where donor preferences do not align with project constraints – only

that for sanitation, disbursement amounts are even smaller, and time horizons even longer.[22] Sanitation requires a high degree of flexibility, and intensive, long-term technical support, which few donors are willing to offer.

Insights and recommendations

1. Universal access to sanitation can only be achieved by focusing on on-site sanitation; in a majority of situations, networked sewerage is inappropriate for various financial and technical reasons. Safe and sustainable on-site sanitation provision can only work if the entire sanitation chain is considered.

2. Sanitation development is more complex and fragmented than water and requires a national approach. Even with a coherent and pragmatic scaling up concept, it will take decades to achieve universal access.

3. Utilities are willing to engage in on-site sanitation if offered an adequate concept as well as financial and technical support.

4. Improving sanitation at the household level requires subsidies for low-income and vulnerable users. Subsidy design needs to strike a balance between perfecting the targeting strategy and ensuring administrative feasibility.

5. The development of the framework for sanitation infrastructure and services does not belong in the health sector; it should be firmly placed in the water sector, where key implementing actors are found and adequate oversight can be guaranteed.

[22] See paper No. 4 in the series.

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Financing urban water and sanitation services and infrastructure development

Reforming Kenya's water sector - Paper 6

The challenge

Chronic investment gap exacerbated by a crisis situation

Demand for water and sanitation services continues to outpace the capacity of Kenyan service providers.[1] Though trying to embrace efficient and customer-focused commercial management, operators are struggling to reverse declining access and service standards and catch up with chronic underinvestment in infrastructure. Population growth and high levels of poverty, rapid urbanisation and economic development increase the pressure on existing assets and require considerable investment in service upgrades and extensions. Next to providing everyone access to a utility outlet for water, substantial capital expenditure will be required to mitigate the threats of climate change, intensifying water scarcity, catchment degradation and pollution linked to the absence of sanitation services that cover all aspects of collection, transport and treatment of faecal matter. All are threatening the long-term sustainability and resilience of the sector and place further demands on the development of new water resources and wastewater treatment. Though the sector reform has successfully reversed the long-term negative trend in water services for the time being, it has been unable to stop the absolute numbers of underserved people from rising.

Insufficient self-financing through consumer payments

Decades of underinvestment have resulted in the accumulation of a formidable annual investment gap that shows no sign of diminishing. By 2017, the level of investment reached less than a third of that required to meet the country's development objectives set out in the Kenya Vision 2030. Water Service Boards, until recently the responsible entities for water and sanitation assets,[2] invested a disappointingly low proportion in urban areas.[3] While commercial viability has been a key reform objective, the self-financing potential of the sector remains far from exhausted, perpetuating an unacceptable level of dependency on donor funding. Average cost coverage of operations and maintenance (O&M) expenditure has barely risen to 100%, leaving few providers in a position to reinvest revenue in new assets. In too many utilities, the tariffs charged to many types of customers are not cost-reflective, even though higher tariffs would not jeopardise ability or willingness to pay for middle- and higher-income groups or commercial customers. The issue is further confused as self-finance raised through tariffs is not always transparently separated from government contributions intended to compensate for shortfalls in utility revenues (which they do not fully). In any case, the potential for private investment has been continually overestimated.

Unclear financing framework, missing tools and insufficient focus on low-cost technology

In the wake of the constitutionally mandated devolution of water and sanitation to county level, responsibilities and contributions for investment of counties and national government have yet to be clarified, and there have been

[1] A notable exception is the water utility in Nyeri, which was supported by German Cooperation (through GIZ and KfW) in its development and became one of the first commercialised water companies in Kenya. Nyeri Water & Sewerage Company Ltd has achieved over 90% water coverage and has been continuously ranked by the regulator as the best performing utility in the country.

[2] Responsibilities for asset development and investment are in the process of changing.

[3] MWI, 2016. Annual Water Sector Review 2014/2015 – 2015/16. Nairobi.

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warnings of a 'complex and time-consuming' reorganisation process for sector finance.[4] The most striking omission during the most recent overhaul has been the failure to introduce a mechanism for national bottom-up investment planning, coordination and oversight. The problem is compounded by the fact that in order to meet aspirations for universal service provision, investments increasingly need to be adapted to reach into the 'last mile', which requires more than hard funds and technical expertise.[5] However valuable and necessary, concentrating on large-scale infrastructure and facilities quite literally does not reach far enough to extend access for those most in need and neglected – the unserved urban poor. Together with the prevalent narrow focus on systems that offer a single product at a single price (notably household connections, which are many a politician's and utility manager's first preference), the current approach favoured for investment is proving counterproductive and can be held responsible for the stagnation of access in the last years.

Responses

Making the utilities financially viable and the sector more attractive for investors

In the early days of the reform, hopes for attracting private sector investment had been high and the sector framework was tailored to accommodate countrywide private sector participation (PSP) in water services. A new legal framework formally separated policymaking, service delivery and regulatory functions. Regional Water Service Boards (WSBs) were created as asset holders and developers with a mandate to oversee contracted water service providers (WSPs, i.e. utilities), all under supervisory control (licence) of the sector regulator Wasreb. The principle of full cost recovery was prescribed by law, and by making tariffs subject to regulatory approval, a level of professionalisation of tariff decisions was achieved. However, the preparations for large-scale private sector involvement ignored the reality of a highly fragmented domestic market for water and sanitation services. Also, PSP involving foreign enterprises in other countries, quite apart from being notoriously controversial, had exclusively concentrated on large centres.[6] The Kenyan water sector reform thus pressed ahead without any precedence case of note. Despite extensive institutional restructuring, the thorny question of developing strategic investment priorities and mobilising funding sources has been repeatedly relegated to a secondary consideration. In this unfolding context of regionalisation of asset holding and development, GIZ intended to support selected WSBs in improving investment planning and monitoring of asset development in order to make the sector more attractive for investors.

Establishing a national financing basket to reach the urban poor in low-income areas

The 2002 Water Act created a Water Services Trust Fund (WSTF) 'to assist in financing the provision of water services to areas of Kenya which are without adequate water services'.[7] How the WSTF was going to acquire funds to distribute to areas in need, however, was left suitably vague. At the same time, the new legal provisions contained an opportunity for the Trust Fund to reinvent itself as a pro-poor sector financing mechanism, a transformation which GIZ actively supported. Prior to that, the WSTF's activities had been limited to rural projects. As soon as the interpretation of 'underserved areas' could be widened to include urban low-income areas, the WSTF opened an 'urban financing window' (formally called the Urban Projects Concept, UPC), which was to play a pivotal role in addressing the interlinked funding and implementation challenges of extending services to the urban poor. GIZ focused on helping the WSTF to mobilise funding from development partners and government, specifically for last mile infrastructure investments. GIZ also worked with the WSTF on elaborating a UPC scaling up concept,[8] which includes applicable technical standards and transparent award and implementation procedures. Advisors promoted aid effectiveness and supported the development of information systems.

Designing a last mile development concept

The Kenyan water sector, then as it is now, was heavily reliant on overseas development assistance. Donors, however, were wary of the high levels of corruption in the country and feared that distributing funds via a national

[4] WSP, 2013. Devolution in Kenya: Opportunities and Challenges for the Water Sector. p.5 http://wsp.org/sites/wsp.org/files/publications/Devolution-in-Kenya-Opportunities-and-Challenges-for-the-Water-Sector.pdf

[5] The term 'last mile' describes the gap in the service delivery chain between existing large-scale infrastructure and facilities (dubbed the 'first mile') and consumers in unserved low-income areas. More information on GIZ's approach to last mile water and sanitation infrastructure is summarised in paper No. 5 in this series. Alternatively, see GIZ, 2015. Closing the Last Mile for Millions. GIZ, Bonn.

[6] According to Schiffler, private investment accounts for just 3% of water sector investments in the developing world. Schiffler, M. 2015. Water, Politics and Money. A Reality Check on Privatisation. Springer International Publishing, Cham Heidelberg New York Dordrecht London, p.8,9.

[7] 2002 Water Act, s 83(2), in 2017 renamed 'Water Sector Trust Fund'.

[8] Further information on this can be found in paper No. 4 in this series. See also GIZ, 2015. Closing the Last Mile for Millions–Sharing the Experience on Scaling Up Access to Safe Drinking Water and Adequate Sanitation to the Urban Poor. GIZ, Bonn.

Photo: GIZ-WSRP

Water kiosks are an important part of the last mile development concept funded by WSTF. 8 out of 10 water kiosks – such as this one in Machakos – have been in operation for several years. While in need of some paint, it still provides a high level of service.

basket would provide further opportunity for misuse and embezzlement. The numerous, flexible, small and medium-size investments needed for last mile infrastructure also ran counter to the conventional disbursement practices of large donors, who preferred large funding tranches, succinct time frames and projects that could be implemented by consultants and contractors. GIZ was called on by the ministry to support the organisational development of the WSTF. Clearly focused on reaching the last mile, GIZ advisors tried to dissuade decision-makers from giving in to the temptation to extend the WSTF's mandate to include first mile investments in order to avoid competition between WSTF and the WSBs and the risk that the pro-poor focus of the WSTF would be diluted.[9] While many potential funders remained doubtful about basket funding for last mile infrastructure because of perceived risks, a breakthrough came with a funding award from the German Government through KfW, the German Development Bank, and a subsequent financial commitment by the EU. In 2011, the WSTF, with GIZ support and in consultation with KfW,[10] submitted a successful proposal to the Bill and Melinda Gates Foundation to fund the WSTF's urban portfolio. Considering the heavy donor dependency of the WSTF and the need to anchor sustainable development measures for the poor in the national framework, GIZ advisors floated the idea of having the WSTF partly financed through customer contributions. This suggestion aligns with the constitutional protections of water as a right, and is now reflected in revised legal provisions: the 2016 Water Act introduced the option to supplement the WSTF's available funding by a levy on (existing) water customers' tariffs.[11]

Progress

Utilities making progress on self-financing, although short of full cost recovery

The latest available figures suggest that just two Kenyan utilities can be deemed to have reached full cost recovery, with another handful close to the 150% sector bench-

[9] Looking for first mile investment funding would have created unhelpful intra-sectoral competition, as WSBs were approaching the same funders for similar projects.
[10] The team of national and international experts supporting the WSTF urban team also included a KfW-funded financial consultant.
[11] 2016 Water Act, s 117(2).

mark.[12] On average, O&M cost coverage has reached 100%, though actual figures dip below 20% for the worst performers. With this, the utilities still cannot be considered financially sound. Providers overall now require fewer operations subsidies and can secure better maintenance, which has reduced premature asset deterioration and with it the need for rehabilitation. However, the regulator cautions against complacency, noting that current performance puts continuity of service in jeopardy.[13] The vast majority of providers are a long way off from the 150% needed to service debts, contribute to the funding of new investments and finance asset renewal. The anticipated injections of private capital did not materialise; finance raised from private investors has been negligible to date. Viewed in the cold light of day, the unrealistic expectations raised by promoting private sector involvement during the early days of the water sector reform served more as a distraction than a practicable strategy to solve the investment problem.

Successful ring-fencing of water revenues

While the regulator continues to struggle with adjusting tariffs to sustainable levels, a major success has been its intervention to stop the practice of local authorities charging exorbitant asset lease fees: when water services assets were transferred from the previous municipal owners to WSBs and utilities (WSPs) were formally contracted as operators, asset lease fees were introduced to be paid by the utilities to some municipalities. These payments became controversial because municipalities used the monies for unrelated spending (and not to make loan repayments or for reinvestment in water services). Wasreb sensitised the donor community to the need to ring-fence sector income, given the growing financing gap for infrastructure development, and succeeded in ending this malpractice with the adoption of relevant conditionalities by the international financial cooperation. The institutional arrangements after reform had some success in leveraging investment finance and, to an extent, helped to professionalise asset development through the involvement of WSBs and the WSTF. WSBs were able to attract higher (yet insufficient) levels of donor funding in the early years, though this has stagnated more recently.

WSTF, the poverty basket, as one of the drivers for sustainable access to water and sanitation

The WSTF, however, became a vehicle specifically for pro-poor investment and made a decisive contribution to increasing access in underserved areas: by mid-2016, around €60 million had been invested in a wide range of water supply and sanitation projects, with approximately half of the funding dedicated to improving services in urban low-income settlements throughout the country.[14] The WSTF-UPC received a total amount of €33 million for urban water and sanitation from development partners, including the German Federal Government, between 2009 and 2015.[15] The number of beneficiaries then was around 1.9 million and is estimated to have now surpassed two million. More than 500,000 people are targeted to receive first time access to adequate sanitation. Ten years on from the first tentative steps towards poverty-oriented funding and sustainable implementation of last mile investments, it is evident that investments channelled through the WSTF have been more efficient and sustainable than many projects undertaken in the past: for pro-poor water supply, the average cost over all calls for proposals is around €14 per beneficiary, with an average cost for a last mile sanitation system of €24 per beneficiary.[16] Monitoring data from 2016 indicates that 83% of all WSTF-funded urban water and sanitation infrastructure completed since 2011 remained fully operational.[17] Also noteworthy is that all 64 public toilets financed by the WSTF and handed over to the utilities are still in operation, some of them as old as ten years.

Successful cooperation supports good governance

This notable success of the WSTF can largely be attributed to the close collaboration between the team of GIZ advisors placed at the WSTF and KfW colleagues, which ensured the coordination of the donors involved with the WSTF. Many risks of governance and undue interference by politicians have been contained through close cooperation within the German Cooperation set-up,

[12] Wasreb, 2018. Impact Issue No. 10. A Performance Report of Kenya's Water Services Sector 2015/16 2016/17. Wasreb, Nairobi.

[13] Ibid, p.53. The 10th Impact report points out that 'It should, however, be noted that with a cost recovery below 110%, utilities may not be able to guarantee continuity in existing levels of service'.

[14] For a more detailed discussion of pro-poor financing mechanisms, see GIZ, 2018. Access to Water and Sanitation in Sub-Saharan Africa – Review of Sector Reforms and Investments, and key findings to inform Future Support to Sector Development – Synthesis Report.

[15] This figure is quoted in the WSTF Maji Insight report (p.25: 3,638 billion Kenyan Shillings, using 110 as the average EUR exchange rate). Water Service Trust Fund, 2016. Maji Insight 2015-2016. Financial Support for Improved Access to Water and Sanitation. WSTF, Nairobi.

[16] GIZ, 2015. Closing the Last Mile for Millions—Sharing the Experience on Scaling Up Access to Safe Drinking Water and Adequate Sanitation to the Urban Poor. GIZ, Bonn.

[17] GFA, 2017. Development of the Water and Sanitation Sector Kenya – Strengthening of the organizational structure and management of the Water Service Trust Fund (WSTF). Operations Monitoring Exercise. Unpublished consultancy report.

which (albeit in a slightly different context) has been cited as an outstanding example of aid effectiveness.[18] It is, however, impossible to disconnect the sector completely from the general situation the country is facing. Corruption remains a serious issue, which the teams are addressing through vigilance and maintaining strong links between technical cooperation (TC) and financial cooperation (FC) to support the forces within the institution that are committed to good governance.

Limitations and remaining challenges

Persistent failings in asset development

Reforms have clearly improved the sector framework, raising utility performance far beyond levels observed in the past and boosting oversight through a dedicated services regulator. With a much-improved potential for absorbing investments into the sector, the reasons for slow progress in extending access to water and sanitation must be sought further afield. The spotlight falls on failings in asset development, where many unresolved questions remain with regard to investment planning, financing, funding mobilisation, use of funds and monitoring of investments. A particular concern at this point in time is the cooperation of national and county governments in financing infrastructure development. Crucial to future sector development, all of these issues are clouded by Kenya's poor governance record, which affects all sectors and weaves through all levels of society. Regrettably, the water sector is no exception, and financial resources and (potential) revenues continue to be lost despite campaigns to root out corruption.

New constitution leaves sector financing undefined

It is worth bearing in mind that the changes brought by the new 2010 constitution have shaken the foundations of the sector, yet left many crucial areas undefined, especially with regard to financing. County governments will face untold difficulties in raising sufficient funds for infrastructure development and need the support of national institutions, such as the ministry, Water Works Development Agencies (WWDA, the proposed replacements of WSBs[19]) and Wasreb. Making all stakeholders aware of this, finding a workable approach to cooperation between the two levels of government (national and county) and at the same time developing the necessary tools and mechanisms at the national level will be a laborious process and inevitably take time. Ultimately, the national government will have to accept responsibility when counties slide into major financial crises and default on loan repayments. There is thus a strong case to be made for large-scale loans, even if taken on behalf of county governments, to remain within the remit of central government.

Previous ill-considered institutional configuration continues to threaten effective asset development

With the creation of WSBs, post-reform institutional design had inserted previously non-existent regional institutions into the sector, and operators lost influence over infrastructure planning and asset development. Worse still, tailoring the institutional structure to extensive PSP entailed transferring several hundred staff into a new regime of employment as well as a tedious asset transfer process. Instead of opening new avenues for much-needed investment, the sector sustained huge losses in terms of time and money. Outsourcing asset development from the ministry to more or less autonomous sector institutions may have professionalised these functions.[20] However, in the regions, the missing professional oversight and guidance from the national level as well as the creation of a structure tailored to PSP has such negative effects that this change has not added much tangible value – to the contrary, the compromises necessary to achieve asset transfers further increased the financial strains on an already underfunded sector. As a result, rationing has intensified and access has stagnated despite more funding becoming available.

Failure to bring WSBs together into some form of national-level professional structure that would draw out benefits for national development was an unfortunate oversight. Recent turns of events suggest that there is a real risk of the uncoupling of operations and asset management being perpetuated if financing of assets (owned by county governments) is directed from the national level. It is quite possible that the three-tiered institutional structure will prove a serious impediment for the sector for years to come. Continued haphazard asset develop-

[18] Findings of the Wolfensohn Centre for Development indicate that an effective combination of TC and FC is crucial for attaining acceptable aid effectiveness, and of the case studies under investigation this was particularly well demonstrated by German support to the water utility of Nyeri. Mwega, F.M. 2009. A case study of aid effectiveness in Kenya. Volatility and fragmentation of foreign aid with a focus on health. Working Paper 8. Wolfensohn Centre for Development, Brookings. p.18 and 19.

[19] The Water Act 2016 foresees the creation of 'one or more' WWDAs, phasing out the eight WSBs currently in existence. WWDAs would become responsible for 'the development, maintenance and management of national public water works' (s 68(a)).

[20] See also GIZ, 2018. Access to Water and Sanitation in Sub-Saharan Africa – Review of Sector Reforms and Investments, and key findings to inform Future Support to Sector Development – Synthesis Report.

ment is already on the horizon, as the eight WSBs fight to preserve their existence[21] even though service provision (i.e. both asset development and operation) has been transferred to county governments.

Missing financing strategies and unrealistic expectations will cost the sector further time losses

Meanwhile, the overall volume of investment in the Kenyan water and sanitation sector has stayed too low, and the financing gap continues to grow. The absence of financing strategies both at national and county levels carries two risks. The first is remaining insufficiently prepared to mobilise funds and leaving the full potential of conventional sources[22] underused. The second is for governments to carry on waiting for the promised full impact of the 'innovative' financing options promoted by international cooperation. Considering the efforts undertaken by the sector to attract private financing through PSP since the early beginnings of the reform – and the negligible result obtained, national and international decision-makers would do well to seek a more realistic assessment of the contribution of any innovative financing instruments. Unjustified euphoria only threatens to harm the sector over longer periods. It must not be forgotten that the likes of commercial finance, blended finance or financing by pension funds will not change the fact that water and sanitation are the classic example of a national monopoly and both are near public goods. Hence, no innovative financing will transform the sector into a functioning market or reduce its intrinsic social nature.

Concerning the preparedness of governments in Kenya, an investment strategy exists only in summarised form as part of the updated draft National Water and Sanitation Services Strategy 2019-2030. This needs to be further elaborated, with a view to harmonising and coordinating funds mobilisation between the two government levels. Investment planning and funding mobilisation have not yet been sufficiently professionalised. Timely and well-targeted investments being of vital importance to realise and sustain the vision of universal service, many voices are now calling for a coherent and comprehensive sector financing strategy[23]. With hindsight, GIZ concedes that more emphasis should have been given to financing mechanisms, strategic investment priorities, investment monitoring and funding sources from the very outset of the reform – and their importance for successful reform implementation and achieving sector targets was underestimated even by those working closely with key partner institutions. The new water law makes investment and financing plans a legal requirement, but the problem of lack of capacity within the ministry to deliver on these aspirations remains. A way forward would be for the ministry to make use of a professional structure at the national level for these functions and to integrate the downscaled eight existing WSBs as departments into it. However, the artificial, unnecessary regionalisation has created powerful vested interests which today stand in the way of a more effective and efficient asset development structure.

Missing accountability for investments and loan repayments

Despite efforts to improve global aid effectiveness and repeated declarations to this effect, investments in the Kenyan water sector are insufficiently scrutinised. Existing fora for donor-government interactions have developed into 'talking shops'. Donor coordination meetings are chaired by one donor where the ministry is an invitee. This does not foster the leadership of the country. There is little, if any, coordination of funding streams, and even less accountability for their impact. Both sides are largely falling short of their Paris and Accra commitments to deliver results and ensure mutual accountability. Having reasserted their pledge to leave no one behind at the high-level meeting of the Global Partnership for Effective Development Co-operation in Nairobi[24], government and development partners alike will need to take heed of calls for better planning and accountability.

In the absence of a coherent national strategy, many donors prefer making direct, project-based funding allocations, and are accused of sidestepping their responsibilities for ensuring that investments have measurable and sustainable benefits. On the government side, only lip-service is being paid to the importance of the water sector, but so far political promises have not translated into greater funding allocations. There is of course an argument that external challenges will soon necessitate much

[21] Albeit under a new name – section 68 of the 2016 Water Act makes provision for 'one or more water works development agencies' with responsibility for national public water works and interim operational functions.

[22] These include tariffs (as a primary source) and public money (allocations from national budgets, i.e. taxes, often backed with donor funding).

[23] Most recently, the regulator stressed the 'need for a comprehensive sector investment plan backed by adequate and predictable financing in order to realise the rights to water and sanitation.' Wasreb, 2018. Impact Issue No. 10. A Performance Report of Kenya's Water Services Sector 2015/16 2016/17, Wasreb, Nairobi, p. 64.

[24] Global Partnership for Effective Development Co-operation, 2016. Nairobi Outcome Document. http://effectivecooperation.org/wp-content/uploads/2016/12/OutcomeDocumentEnglish.pdf

more integrated cooperation – the investments needed to secure the availability of sufficient raw water will become immense. Much more will have to be done with regard to the monitoring of investments and their use.

Conversely, utilities need to become more accountable to the sustainable use and maintenance of developed assets and strive to ensure that their income from water bills can cover the repayment of loans. Where underperformance is clearly linked to inadequate corporate governance, utilities should no longer be able to offload their repayment responsibilities to the government, effectively passing the burden on to the taxpayer. Improvement in the resilience of the sector goes hand in hand with the capacity of loan repayments via consumer billing, at least for production (water treatment) and distribution infrastructure. Here, governments and donors have a shared responsibility that reaches beyond the completion of investments projects and must already be factored in to the planning of financing.

Missing link between tariffs and investment

While the regulator is striving to push utilities towards full cost recovery and is seeking guarantees that any income above O&M expenditure will be set aside for investment, Wasreb has little influence over investment in practice and would need the support of a professional investment planning and monitoring structure. Some would go as far as to argue that Wasreb's enforcement of valid and more cost-reflective tariffs has been insufficient: tariff increases are often blocked by political influence, the absence of functioning Boards of Directors in some cases prevents tariff approval, and some (small) utilities lack the management capacity and resources to successfully navigate the tariff application process. Nonetheless, investment finance has never been systematically linked to tariffs, and the requisite instruments are missing. The ministry, tacitly assumed to take on this role, never stepped up to the task.

As grant funding is progressively being replaced by loans,[25] there is a strong case to be made for the introduction of a financing model for each utility and for the sector that allows decision-makers to gauge the consequences on tariffs when contracting loans. This would also allow utilities and Wasreb the time to work towards adequate tariffs in view of future liabilities as well as to ensure investments meet transparent, performance-oriented and pro-poor criteria.

Reviewing sector finance and activating the potential for self-financing

In light of this, overall sector financing needs to be reviewed. As pointed out, the sector should first concentrate on maximising reliable and proven sources such as international financial cooperation. A decade and a half were spent waiting – in vain – for promised private capital investments through PSP, which should serve as a note of caution when innovative financing ideas are being considered. Their potential and reliability should be demonstrated through a piloting process followed by up-scaling activities before attention is diverted from conventional financing options. Secondly, the sector needs to exploit its potential for self-financing through water bills and charges. While cost coverage has increased substantially since the beginning of the reforms, it has never reached the recommended level of 150% regarded as a rule of thumb for full cost recovery.[26]

Introducing an adequate average tariff remains a key sticking point. Water and sanitation specialists in the ministry and other sector institutions have been struggling to explain to (non-expert) decision-makers the difference between an average tariff, which has to cover the average cost per cubic metre (an economic necessity), and the tariff structure (a social necessity), which makes allowance for varying affordability between different income groups.[27] It is estimated that the sector could double its turnover by increasing the average tariff without risking social unrest.[28] Equally, national and county governments should increase their budget contributions to water and sanitation to match the importance of urban water and sanitation for the development of the country. Such funds should exclusively be used for investments and not to cover O&M costs.

Structures for effective funding mobilisation urgently needed

To a large extent, further sector progress will depend on the ability of the ministry to show firm leadership in

[25] In 2016, the ministry reported an approximate 80:20 split, with the majority of donor funding now being offered as loans. MWI, 2016. Annual Water Sector Review 2014/2015 – 2015/16. Nairobi.

[26] Wasreb, 2018. Impact Issue No. 10. A Performance Report of Kenya's Water Services Sector 2015/16 2016/17. Wasreb, Nairobi; in the draft National Water and Sanitation Services Strategy 2019 – 2030, this increases to 160%.

[27] In essence, this means that tariffs are structured so that the charges to be paid by different consumer groups are adjusted to take socio-economic characteristics into account, but averaged over all consumers, the average tariff meets that required by the utility to provide the services.

[28] Developments in other Sub-Saharan countries such as Burkina Faso (much poorer than Kenya) suggest that this is feasible as long as an adequate strategy is in place.

financing and funding mobilisation. This can only be done if the ministry can rely on a professional sector institution which ensures the necessary support, such as centralised bottom-up planning, effective priority setting for investments and oversight in asset development. Funding mobilisation would need regular round-table discussions where all parties can commit funds into jointly agreed investments and financing plans and in turn will be held accountable to their pledges. This would help to close the chronic financing gap, smooth the currently volatile flow of funds and overcome disbursement challenges. A centralised structure of the WWDAs proposed by the Water Act 2016 should be in a position to offer such professional support to the ministry and counties alike.[29]

Financing sanitation services

Sanitation development requires particular attention in the urban setting. With the recognition that access to piped sewer systems has been declining even since the beginning of the reforms, and the vast majority of Kenyans depend on on-site sanitation, it follows that sanitation financing has to concentrate on two areas. In the first place, system sustainability must become a primary consideration in any development of sewer networks. This means carefully selecting only those areas where the potential for connections is high, and where county governments have put prior legislation in place to oblige residents to connect and provide for the necessary enforcement. Secondly, development in low-income areas should concentrate on all service aspects along the sanitation chain for (decentralised) on-site sanitation (i.e. emptying, transport, treatment and safe disposal, potentially including reuse of treated faecal sludge), whereby emptying and transport could provide opportunities for a regulated private market.

The sanitation sub-sector has long suffered from the misperception that everyone could gain access to sewer systems and that no subsidies should be provided to promote the construction of toilets. As a result, the few sewer systems financed with donor-subsidised loans remained insufficient in reach and number; connection rates have tended to be low and services are primarily offered in affluent areas. Subsidies intended to improve access to sanitation through on-site solutions for poorer population strata were abandoned in favour of 'awareness creation', a strategy which eventually contributed little to increase sustainable access.

In view of the magnitude of the urban sanitation challenge, the development of decentralised on-site sanitation should be scaled up through sector institutions, and sanitation services should become professionalised in the same way as water and sewerage services. Utilities and the civil service structure (e.g. county governments) should take the lead in planning, implementation and operation. Such activities should be part of the utility monitoring system and included in the annual reporting to the regulator. With the spectre of returning cholera epidemics already looming,[30] upgrading sanitation facilities at the household level should no longer be ruled out, though there is a strong argument in favour of strictly limiting such interventions to low-income areas to improve targeting of the poorest households.

Photo: GIZ-WSRP, Jesper Anhede

Water is a right and a precious good, creating added value in society and the economy. Well-managed utilities, such as Nyeri, prove that high levels of cost recovery – a precondition for mobilising additional investments – can be achieved.

[29] There are studies which offer several proposals for how such a structure for planning and fund mobilisation should be established. One of the options is the creation of a national level WWDA with a regional institutional structure.

[30] Also see Gaffga, N.H. et al. 2007: Cholera: A New Homeland in Africa? The American Journal of Tropical Medicine and Hygiene, 77(4): 705–713.

Insights and recommendations

1. For political reasons, the sector is not even beginning to exploit its self-financing potential, with poverty orientation being used as an excuse to avoid cost-reflective pricing. Continued efforts to adjust the average tariffs to sustainable levels (with due attention to a socially acceptable tariff structure) will be necessary.

2. Since both government and donors prefer to select and implement their projects themselves, there is little interest in transparent priority setting. Round table discussions and funding baskets would be effective means of ensuring complementarity and mutual accountability.

3. In order to make significant progress, Kenya needs a professional and autonomous financing institution that sets standards for investments. There should be emphasis on national bottom-up planning and consistent application of financing models. If asset development were integrated into the regulatory process, this would greatly enhance continuous monitoring of financing and investments against sector priorities.

4. The necessary investments will mainly have to be financed through tariffs, national taxes and donor funding. Private finance, blended and commercial financing and the like will continue to play a niche role in the water sector.

5. Wherever possible, investment funds should be allocated on a competitive basis, with governance being an important awards criterion.

6. Investment funds provided by or channelled through public (financing) institutions will always be vulnerable to considerable corruption risks. This can be countered by a long-term presence of Technical Assistance.

7. Scaling up pro-poor water and sanitation services can best be achieved through national concepts and financing mechanisms.

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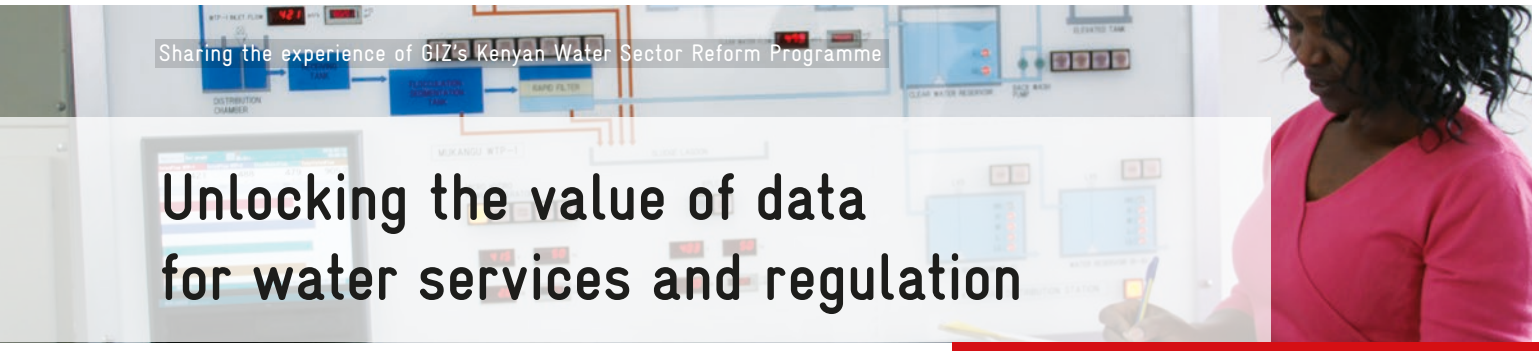

Unlocking the value of data for water services and regulation

Reforming Kenya's water sector - Paper 7

The challenge

When the Kenyan Water Services Regulatory Board (Wasreb) assumed office in 2003, it did so in a highly uncertain situation as far as the true state of the country's water and sanitation service provision was concerned. The lack of comprehensive, reliable information about access and service levels, utility performance and management was going to be a first challenge for the regulator, who had been charged with ensuring that consumers in Kenya would receive efficient, affordable and sustainable services. Sector shortcomings were widely known, yet without access to hard facts, overseeing the implementation of policies and strategies to overcome them would be nearly impossible. Low-income areas, for example, were being wilfully sidestepped by providers and authorities alike, but despite a host of anecdotal evidence remained largely an unquantified problem. The information vacuum thus allowed decision-makers to surrender their responsibilities and, worse, gave leave to political motivations influencing sector development.

For the regulator it was going to be imperative to put an end to ignorance and more or less benign neglect. Indeed, the success of the entire reform would hinge on being able to access and use detailed knowledge and accurate data: without systematic and rigorous data collection and analysis, the sector would continue to rely on guesswork and patchy external data sources, such as isolated project data or the JMP's birds-eye view. Hard evidence was also needed to press the case for the sector, which was continuously competing for scarce funding with more prominent sectors, such as health and education, more often than not losing out as a 'lower priority'. Information would be the key to enabling the right policy and investment priorities, and to holding providers accountable for the quality of services in their assigned service areas. As for Wasreb, no meaningful regulation could take place without effective monitoring.

Another challenge for this new data-focused approach was the predominant culture of regarding data as purely a technical issue: the ministry already had some systems for utility reporting and resource management, but their upkeep had been delegated to IT departments and technicians with little, if any, subject-specific knowledge or interest. Existing information systems had never been developed with any particular end user in mind, inputs was entered without verification and data were mostly sitting untapped; no outputs were shared effectively, let alone communicated to the public.

Responses

Convincing stakeholders of the added value of monitoring was a first task, designing the information systems and databases that would afford standardised observation and systematic performance review – of the various service providers as well as the sector as a whole – the next. For both, GIZ advisors could draw on positive experiences from Zambia and neighbouring Tanzania: the Zambian water regulator in particular was successfully using performance monitoring to direct and incentivise utilities to extend services into underserved areas, including low-income settlements. IT-based information systems had proved capable of providing the necessary routine scrutiny in both countries. In Kenya, too,

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consistently reliable and easily comparable data would be needed.

Different stakeholders would have different data requirements, each collecting, storing and analysing it for their specific purposes. Besides the Ministry of Water and Sanitation (MWS), there were the newly established regulator Wasreb and a Water Sector Trust Fund (WSTF)[1], regional asset-holding Water Services Boards (WSBs) and several categories of utility provider. The former practice of amassing data at ministry level was dismissed in favour of developing bespoke information systems for the different sector institutions. Each database or information system would be matched with the functions and responsibilities of – and developed jointly with – the intended users, and institutionally anchored accordingly. GIZ advisors were keen to avoid a situation where it would be unclear who needed which information and would use it for what ends and where users could manipulate data for their own purposes. They were equally clear that there should be strong local ownership of the entire process amongst the key institutions, and that stakeholder engagement would be important to address user opinions and concerns from the outset.

With such a range of institutions, the type of data and the level of detail needed by the various stakeholders required careful consideration. Three data sets were identified as necessary to manage and develop the urban water and sanitation services sub-sector:[2]

1. **baseline information on low-income areas**, so that investments could be targeted towards marginalised and underserved consumers,
2. **utility performance data** as a basis for regulation, notably tariff adjustments, so as to improve efficiency and (financial) sustainability as well as customer orientation,
3. **information to track investments** (by type, amounts, target areas and intended beneficiaries) and their effectiveness.

All of the above would need to be gathered methodologically, on a national scale.[3] When approaching the critical question of how to develop information systems in practice, GIZ advisors were looking for smart, but simple solutions – software and systems that would be

- **useful**: to collect all data that would be necessary and relevant for the intended users, yet restrict the volume of entries to a manageable level without compromising on desired outputs,
- **user-friendly**: to avoid too much complexity, taking into consideration staff time and cost implications for input, verification and analysis, but also interlinkages between the different information systems and institutions,
- **up-dateable**: to have the facility to easily incorporate changes in variables and/or functions as necessary.

With these considerations in mind, GIZ advisors began working with their partners to develop and customise three information systems that would hold the three key data sets:

1. **MajiData** was conceived as an online pro-poor database containing detailed characteristics of all urban low-income areas (LIAs) across Kenya. A comprehensive data collection exercise from 2009 until 2011 initially mapped and captured more than 1,800 LIAs in 212 towns and cities; these figures have grown to a current 1,964 LIAs in 264 urban centres. The results are publicly accessible.[4] Prepared for and by MWS and the WSTF with technical support from GIZ and financial support from the German Government via KfW, as well as from UN-Habitat and Google.org, MajiData had no clear institutional anchor at first, but has been used by the WSTF and Wasreb.

2. **WARIS**, the regulator's information system, was directly financed and developed with support from GIZ. Hosted and managed by Wasreb, WARIS consists of a three-tier structure (and three adapted interfaces) that reflects the institutional relationships between the regulator, WSBs and the various types of service provider. WARIS collects and analyses detailed technical and financial performance data from each utility, including the data required to calculate its nine key performance indicators. Data was carefully chosen to enable the regulator to gain a thorough understanding of each individual

[1] MWS recently changed its name from 'Ministry of Water and Irrigation', and for many years the WSTF was known as the 'Water Services Trust Fund'.

[2] The regulator's information system WARIS included information on small network-based schemes, which at the time were called 'rural providers'.

[3] Service providers, of course, would have additional needs to improve their internal decision management. In recent years, utilities have increasingly realised the benefits of digitalisation. A growing number have begun to map their entire infrastructure in GIS systems, for instance to better manage supply zones, and many have introduced SMS billing and mobile payment facilities to help reduce billing costs and to increase their revenue collection. However, the discussion here focuses on the national picture and the information systems developed specifically to support decision-making at this level.

[4] majidata.go.ke

service provider, including their particular difficulties and progress made. The data collected forms the basis for Wasreb's annual Impact Report on utility performance and on progress made in the sector.[5]

3. **WASBIT**, the Water Services Boards Investment Tool, had been intended as a professional planning and monitoring instrument for investments for all WSBs, compiling data at a sub-location level. Designed mostly as an internal planning tool for WSBs to track – jointly with the funding donors – infrastructure, investments and their impact, the expectation was that it would also be accessed by the ministry.

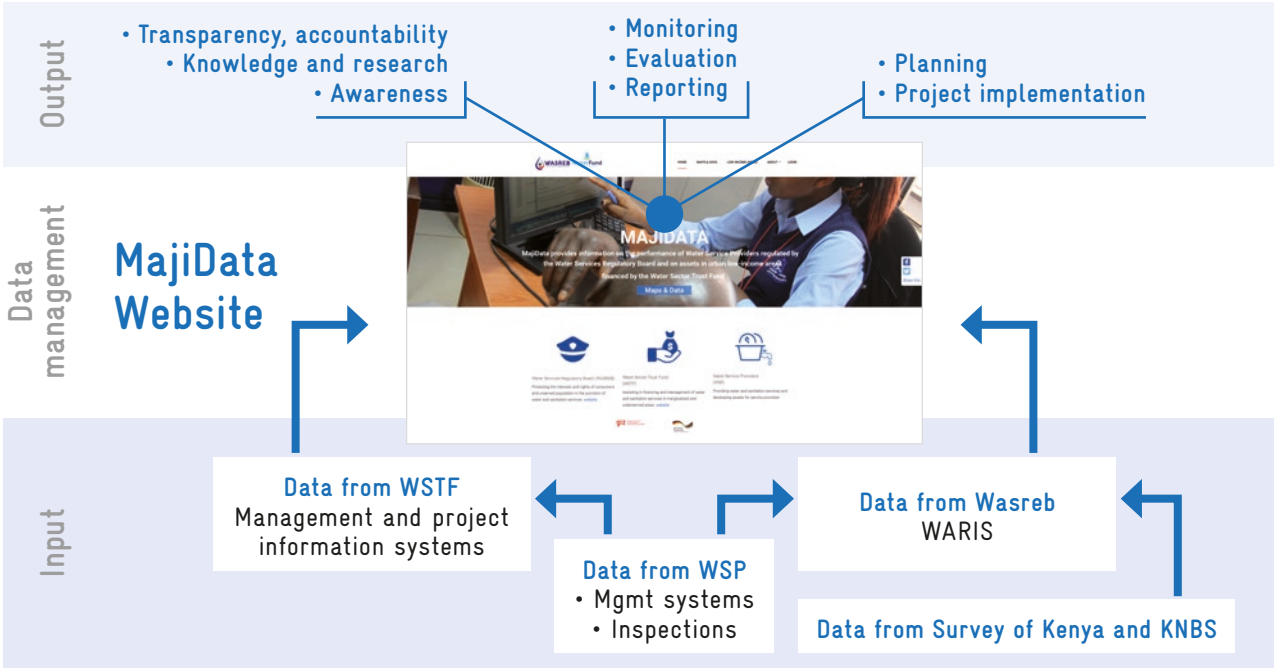
For WARIS and MajiData, content and technical solutions could be adapted from existing systems in the region, benefiting from the advisors' experience working on similar projects in other settings.

The success of WARIS would be heavily reliant on data collected from – and in practice provided by – the utilities. Well aware of the difficulties many of these were facing in terms of managing their own internal data, let alone meeting the more stringent regulatory reporting requirements, GIZ considered which support and incentives could be given to the new system users and contributors. For a start, WARIS was designed to accommodate paper-based data submissions, which were still common in many remote areas. Ideally, WARIS would offer direct feedback for its new contributors, who would be instantly able to read out indicators, such that the system would double as an internal management tool. To simplify the task at the other end and increase confidence in the inputs – and hence Wasreb's analysis and interpretation – WARIS offered built-in data checks.

By 2016, the information contained within MajiData (which had been originally conceived as a one-off baseline survey) was becoming increasingly outdated. The WSTF and Wasreb therefore reached the decision to use GIZ support to combine the necessary update with setting up a modern database that would be connected to Wasreb's and WSTF's databases. According to current plans, it will be officially hosted by Wasreb in the near future, with the WSTF acting as co-host. The latest version now includes individual utility performance data drawn from the regulator's WARIS and shows geo-referenced WSTF-funded investments. This is expected to curtail the (mis-)allocation of funding for political reasons and significantly increase transparency of investment allocations in general.

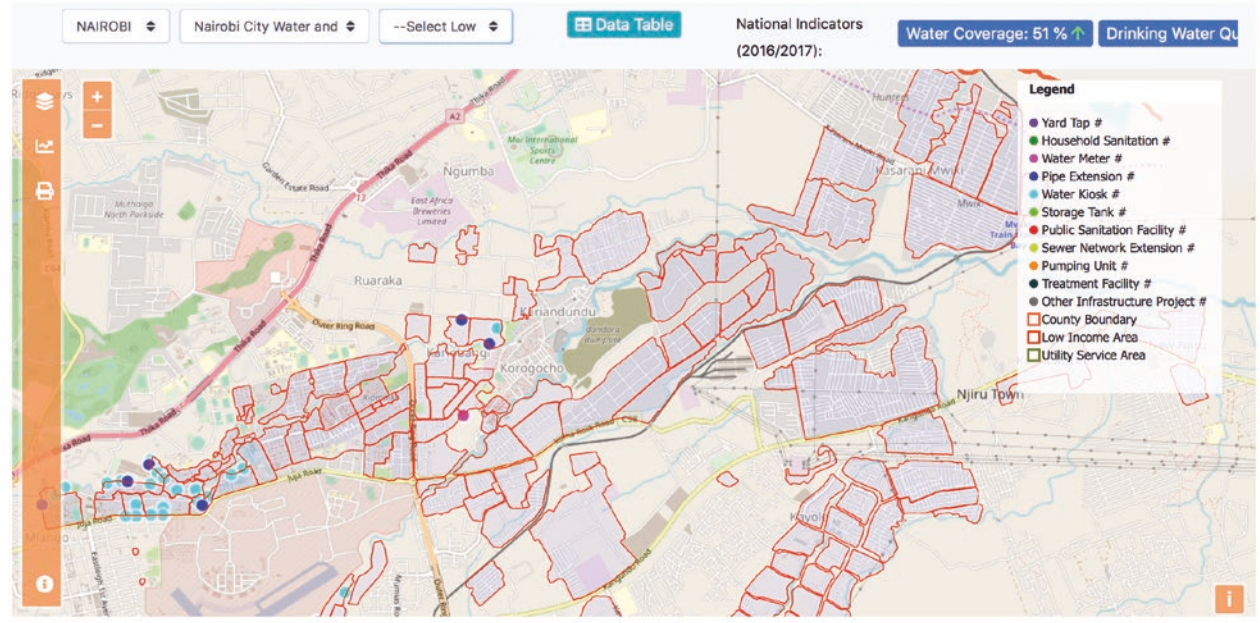
Progress

Through WARIS, a realistic overview of the performance of Kenyan utilities has become available for the first time.



The design of databases requires careful consideration, starting from the required output, to data management and institutional anchorage and, of course, data collection for reliable inputs.

[5] https://wasreb.go.ke/impact-reports/



Source: www.majidata.go.ke

The database and online platform 'MajiData' provides decision-makers with information on the status of water and sanitation services in urban-low income areas, investments made by WSTF and the overall performance of the responsible utilities.

WARIS underpins the regulator's efforts to identify 'good', 'acceptable' and poor ('not acceptable') performers and to apply incentives and sanctions as necessary. Outputs are made accessible to all, primarily through regular public reporting: the launch of Wasreb's 'Impact Report' has become an eagerly anticipated and widely reported public event. Their quality is such that donors have come to rely on Impact Reports as an essential source of sector information. Sector improvements can be clearly traced back to public reporting as well as professionalisation of service provision.

When MajiData went live as a public website, the full extent of underserved and entirely unserved areas became known, on a national scale, for the first time. The impact in terms of awareness was phenomenal. Neglect and marginalisation could no longer be hidden behind ignorance; open knowledge became a powerful driver for change. MajiData helped select the appropriate mix of service levels as the make-up of low-income areas became better understood. Only approximately half of all LIAs were found to be 'pure' slums or shantytowns, which prompted a multi-pronged service approach: a mix of low-cost, utility-managed technology options would be needed to ensure every resident could access safe, convenient and affordable services.[6] All WSTF-funded investments became clearly linked to high-need areas identified through MajiData. Utilities and the WSTF used the information available on individual LIAs to design investment proposals (e.g. demand calculations and number of kiosks required) and evaluate the merit of proposed investments. Considering these targeted investments alone, MajiData (i.e. the cost of the baseline study) provided excellent value for money. With pro-poor service extensions high on the regulatory agenda, Wasreb soon started requesting annual reports from WSPs on their service provision in all of the LIAs that had been mapped and included in MajiData.

WASBIT was initially used by Athi WSB, but elsewhere uptake was disappointing. Even the two WSBs that were closely involved in the development of the tool have since abandoned its use, citing data input as the stumbling block.

Despite WASBIT having been much less successful in its implementation than WARIS and MajiData, information systems now provide a previously unavailable wealth and depth of data and have increased efficiency, accountability, responsiveness and transparency in the sector. They have proved an excellent tool for evaluating policy and tracing sector development more accurately: it would be inconceivable to make judgements about successes and remaining gaps without the level of information and the type of analysis that is now available from the different information systems. Wasreb in particular has made a name for itself as the most authoritative source of sector information.

[6] Water kiosks would become a pillar of the pro-poor scaling up approach; see paper No. 4 in this series.

Limitations and remaining challenges

It naturally took some time before all utilities had settled into a regular reporting routine, although having WSBs as a formal first layer of supervision probably hindered rather than helped the process. A look through the regulator's annual Impact Reports (from No.1 in 2008 to No.10 in 2018) quickly illustrates how data not only presents an ever-changing picture, but also reflects developments in availability of information as well as growing sophistication and complexity of data analysis. There are a number of challenges related to data management, some of which provide useful lessons for any further attempts at designing and implementing information systems, and others that would need to be addressed in order to maximise the benefits of existing ones.

Abandoned systems

If some information systems have been so clearly successful, why did others, notably those intended to track investments, not work? WASBIT was designed primarily for internal data management, with no external reporting requirements. It could be assumed that those funding any investments would have a clear interest in monitoring their effectiveness. In practice, however, there is little appetite for transparency where large amounts of money are involved. Investment decisions have been frequently political in nature, and there is a certain level of ambiguity regarding the impacts and sustainable benefits of donor-funded investments. Governance failures have patently occurred at various levels, including within the donor community. These have been compounded by the lack of a tradition of decision-making grounded in data analysis: the ministry rarely took up the opportunity to question investments, even when it would have had good reason to do so.

Data manipulation

Elsewhere, data is being used far more routinely, but the danger of falsification persists. Different types of data submission requirements hold contradicting incentives for utilities to present their current position: performance reporting rewards the 'best possible picture', whereas poor coverage data makes a stronger case for 'demonstrated need' and thus increases a utility's chances of success when applying for investment funding. As for the former, some utilities who introduced internal management information systems have found their indicators drop quite significantly as they are now reporting more accurate data. Wasreb has introduced a governance indicator, which goes some way towards mitigating this disadvantage, but extra support is needed to instil pride in working with verified data.

Photo: GIZ-WSRP

Accurate technical measurements taken by qualified utility technicians have greatly improved the quality of data reported to the regulator.

Using data – enforcement

In many cases, information systems are still not understood as a management tool, but rather a 'technical' issue. As such, they are looked after 'by IT' – and worse, analysis and interpretation left to IT technicians and consultants who lack the necessary understanding to make full use of the information. Even the regulator, who is widely commended for its data collection and reporting efforts, could be using its data more systematically, e.g. to develop regulation further. Enforcement beyond 'soft options' (i.e. those relying on public pressure) remains one of the biggest problems in Kenya. A link between regulation and investment is missing, though it would be necessary to improve efficiency.[7]

Database 'housekeeping'

While the baseline study of low-income areas produced an eye-opening, comprehensive picture of the situation in some of the most marginalised areas in the country, lots of information was collected that was interesting, but not essential. Ballooning databases are difficult to administer and analyse meaningfully, and comparatively less data

[7] See paper No. 6 in this series, 'Financing urban water and sanitation services and infrastructure development', for a discussion of this problem.

would have been necessary to continue to work with the resulting MajiData. Another more serious limitation was the failure to consider how this data was going to be updated. Urbanisation continues to fuel the rise of LIAs, and settlements can change in location and composition over relatively short periods of time. For utilities trying to access funding, this presented a challenge: WSTF finance was strictly limited to areas included in (the original) MajiData, which, unlike WARIS, featured no built-in update mechanism. The original design had been for a baseline study, but utilities increasingly raised concern that MajiData was becoming outdated, with some mapped areas no longer deserving to be called 'low-income', while additional LIAs had emerged, but were not included in MajiData. In 2018, GIZ therefore assisted in developing a new version of MajiData, anchored at Wasreb, which provides utilities the functionality to update their LIAs.

Other limitations and blind spots

A wealth of data and multi-layered analysis is now freely available to anyone with an interest in the sector and access to the internet, but to date, the focus – for various practical reasons – remains firmly on urban services. No comparably accurate information exists for rural areas, which cover vast parts of Kenya.

Insights and recommendations

1. As part of their support to the sector, donors should specifically promote the development of national information systems/databases and improvements in data quality.

2. In view of scarce financial resources and increasingly inadequate infrastructure, establishing an information system that comprises all existing infrastructure assets and ongoing investments is urgently required.

3. Water ministries are categorically not the appropriate institutions for developing, maintaining and utilising comprehensive information systems for two main reasons: firstly, as their day-to-day work does not generally rely on extensive and disaggregated data sets, there is little incentive to maintain the requisite information systems. And secondly, political entanglement compromises a ministry's ability to report neutrally, especially on negative trends in the sector.

4. Due to the complexity and diversity of the sub-sectors (water resources management and water supply and sanitation), it will not be possible to develop and maintain all-encompassing information systems for the entire water sector. Experience shows that it is best to develop separate information systems and anchor these where the necessary expertise (and responsibilities) ensure their continued use.

5. Sustainability of information systems requires:
- anchoring at institutions with the relevant mandate and available resources,
- matching the complexity of the system with institutional capacity,
- including an updating mechanism as part of system design,
- offering the option to integrate additional facilities as and when required without distracting from the main purpose.

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Unlocking the value of data for water resources management

Reforming Kenya's water sector - Paper 8

The challenge

The Kenyan water sector reform sought to address the myriad of problems the country was facing in relation to its fragile water resources. A Water Resources Authority (WRA)[1] was established with its headquarters in Nairobi and six regional offices, each covering one of the six catchment areas in the country. Each catchment was further divided into several sub-catchments with a total of 26 sub-regional offices. WRA was mandated to regulate the management and sustainable use of surface and groundwater resources in accordance with modern principles of catchment-based planning and participation. Several regulatory tools were developed to achieve this, such as a permitting system, water pricing, abstraction and pollution survey, water allocation plans, environmental impact assessments and audits, emergency responses, gazettements and effluent discharge control plans. Taken together, these tools could be powerful, but all depended on the Authority having access to adequate data. Hydro-meteorological data, if collected with sufficient spatial density at suitable intervals and over long periods, can make vital contributions to the design of water infrastructure and planning for early response to natural disasters. It can also form a sound basis for decision-making, innovation and knowledge generation.

In Kenya, however, reliable data was few and far between: there were spatial and temporal gaps, data contained inaccuracies, and data on several crucial parameters was not collected at all. Existing data was scattered across offices all over the country, some tightly held onto by the ministry, and many used inconsistent formats, even different units. This reflected the general culture within the Authority at the time, where the value of data was greatly underestimated and consequently few human and financial resources had been allocated to systematic data collection, let alone verification or detailed analysis. Data had little bearing on decisions, and data management was low on the list of priorities. There was neither a structure nor the equipment to address this situation, and attitudes within WRA did little to motivate data collectors to work on improvements. Decentralised data was thus inaccessible, and information sharing with the public was inefficient at best.

Responses

The GIZ Water Sector Reform Programme (GIZ-WSRP) realised that WRA faced a number of challenges related to data management. Advisors, having consulted with WRA staff, were convinced that it was imperative for the WRA to have access to better information and structure its decision-making accordingly. Taking into account the available financial and human resources of both WRA and GIZ, the partners decided to work on some of the challenges in selected sub-regional WRA offices in order to showcase best practice, make the added value of professional data management explicit, and gradually identify further activities to work on. It would be impossible to roll out modern water resources management (WRM) equip-

[1] Under the first 'new' Water Act of 2002, the authority was established as 'Water Resources Management Authority' (WRMA). With the gazettement of the Water Act 2016, its name changed to 'WRA', reflecting an increasing focus on the regulation of water resources and less on water management activities.

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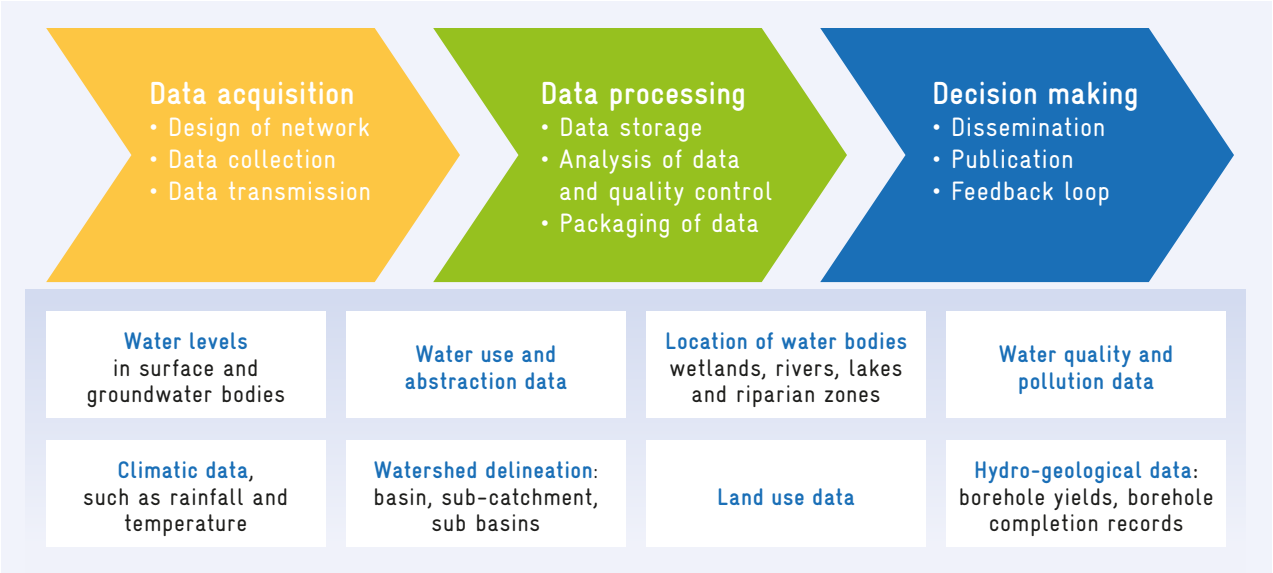
ment and procedures for the entire country; nonetheless, data would be comprehensive, and 'data management' was going to comprise the entire process, from data acquisition to processing and transformation into information.

The following activities were selected as focus areas for GIZ support:

- build capacity of WRA staff through continuous technical support and on-the-job training (GIZ staff were based in the (sub-) regional offices), through fieldwork and specialised trainings on data management, and GIS professional trainings,
- develop and implement record management protocols and guidelines for data and record handling,
- increase the data collection network and efficiency through installation of modern hydrological and meteorological (hydro-met) data equipment, for instance river gauging stations, groundwater monitoring borehole dippers, rainfall stations,
- purchase data archiving and processing equipment (cabinets, GPS devices, servers and computers, amongst others),
- profile, structure and archive the available hard and soft copy data and identify the spatial and temporal gaps in the hydro-met data,
- centralise data records at their relevant locations: (sub-)regions, WRA headquarters, and transfer of ministry data to WRA,
- digitise the hard copy data to increase data access,
- delineate watershed boundaries: sub-catchments (numbering 1,492), sub-basins and basin areas,
- organise an open day of a 'role model' sub-region to showcase the added value of proper data management to fulfil the Authority's mandate and increase the income base,
- draft, print and disseminate WRA Performance Reports to communicate the progress and achievements made by WRA and to create more awareness on the importance of water resources protection to the general public.

Apart from assigning national and international advisors to these activities, GIZ also hired interns, who together spent thousands of hours going through existing records. Inventories of available data were created at the sub-regional and regional offices, WRA headquarters and the Ministry of Water and Sanitation, any hard copy data digitised, and all data archived and centralised according to protocols.[2]

Water resources data is either intrinsically spatial in nature, or has to be related to a specific location. GIZ technical advisors developed several training modules to address the fact that this had been a previously neglected aspect of data collection. Tailor-made to the needs of WRA, training included a spatial data processing open source training module, QGIS 1 and 2 (focusing on data usage, visualisation and analysis with the help of the open software Quantum GIS), a manual on data collection with a GPS and pocket fliers for best practices in using GPS. All WRA staff working with the technical advisors in the (sub-) regions were encouraged to attend, and this



Data use in water resources management and types of information required.

[2] WRA had internal protocols, such as the 'QMS (Quality Management System) Water Resources Data Procedures', which (partly) set out how data needs to be handled (collection, storage, verification / quality control, sharing, etc.), but were not always applied consistently.

offer was extended to other relevant and interested WRA staff from other workplaces on request. Different governmental institutions also showed an interest in the modules, and in the end several Water Services Providers, County Water Departments and selected staff of the Kenya Forest Service and the Kenya Wildlife Service also received training.

Some training was also provided to Water Resources Users Associations (WRUAs), members of which were envisaged to become active in all sub-catchments (WRUAs had been introduced as part of the reform). Once WRUAs had been assigned to the newly delineated areas – GIZ having played an active role in the delineation process – they assumed data collection responsibilities (such as reading of river gauging stations and weather stations) in exchange for a small payment. GIZ supported WRA in training WRUA members to ensure that the quality of data met expectations, and in some cases became involved in sensitising the WRUAs on their boundaries.[3]

Progress

The most profound and sustainable impact of GIZ support has been a noticeable change in attitudes towards data and the importance the WRA attaches to data acquisition, processing and dissemination today. With dedicated staff and financial resources allocated to data management, there is now substance behind the WRA motto 'accounting for every drop'.

GIZ's inclusive approach to training has meant that more than 500 WRA staff (of a total workforce of 800) attended training. Standardised implementation of data protocols allows for quicker collection, processing and dissemination of data. Unlike before, staff absences no longer bring work to a halt – the clearly outlined and structured processes permit colleagues to step in.

Data availability has increased dramatically. Thanks to the step-by-step approach to collating records and the support to the ongoing projects that encourage WRA to take an ever more forward-looking approach,[4] digital hydro-met and permitting data is now internally available. With additional support of a World Bank project that is developing an enterprise data platform where all data will be uploaded and can be retrieved by authorised users (though some data is publicly accessible), it is now possible to access data remotely, from every WRA office. Though GIZ has only provided direct support to WRA headquarters as well as three of its regional and nine sub-regional offices, the approach is being duplicated across all levels within WRA.

With financing from the World Bank, WRA is in the process of increasing and updating the hydro-met data collection nationwide to its desired standards and finalise the digitisation of remaining hard copy data. Additional modern equipment, an extended Management Information System,[5] and additional trainings are making data management more efficient and effective. Thanks to GIZ's previous interventions, a solid foundation had been laid, allowing national scaling up of the initiatives. The GIZ technical advisors are part of the World Bank implementation team.[6]

WRA is now able to respond swiftly to a variety of external requests for data, for instance for research, planning or modelling purposes. The Authority knows exactly which data is available for which time period for any of the national water resources monitoring points. External institutions and individuals are showing an interest in this data, for example private investors or government departments looking to ascertain existing abstractions when planning new infrastructure for hydropower or irrigation. Another interested party are research institutions engaged in modelling the impacts of climate change, for which WRM data is indispensable.

Consistent application of scientific methods is becoming the basis for reliable and trusted water resources monitoring, which is supporting good governance in the sector. The fact that WRA recognises the importance of public accountability is reflected in the fact that it now provides information on its own performance by publishing reports to the general public. Though more needs to be done, much more emphasis is being placed on public information sharing, which is helping to create an environment that allows for equitable water allocation, compliance and enforcement. Given the difficulties with governance the

[3] For more information on WRUAs, please refer to Paper No. 10 in this series, 'Public Participation in Water Resources Management'.

[4] As water security and resilience to climate variations are becoming more pressing and relevant in Kenya, WRA is engaging in projects supported by other development partners, such as the ongoing World Bank Kenya Water Security and Climate Resilience Project.

[5] These were provided in collaboration with a number of additional development partners.

[6] This is valuable because, for instance, it is important that the World Bank data project mentioned previously builds upon GIZ's work and supports the development of a professional data platform.

country has been experiencing across all sectors and society as a whole, transparent data management not only supports equity objectives, but also helps address the ever-present risk of corruption and evasion of rules.

The Water Resources Authority and the Ministry of Water and Sanitation have agreed upon a 'one stop shop' policy for the various permit applications: all are received and processed by WRA, who also manages and stores all water resources related data, according to its mandate. However, information is shared with the Ministry. This shows increased trust and cooperation between the institutions and makes the process more transparent and straightforward for applicants.

The WRUA boundaries rectification and adoption approach championed by GIZ has been applied nationwide. A WRUA database held by WRA (detailing information such as location and membership of each WRUA, spatial data of the sub-catchment, sub-catchment management plan, activities undertaken, support received) is now part of the WRA Quality Management System. The boundaries will be gazetted soon and thus become legally recognised.

Limitations and remaining challenges

The national hydro-met data network is improving, but there is definitely a need to increase the spatial network further and collect more groundwater, water quality, water level and meteorological data. Several governmental institutions (e.g. the Kenya Meteorological Department, the Kenya Wildlife and Forest Services, the Ministry of Agriculture) and other stakeholders (mainly in rural areas: schools, private companies, churches, community leaders) also collect relevant hydro-met data. While quality control and assurance would certainly be needed before incorporating any of these data into the national database and a single data sharing platform may be a long way off yet, WRA could take better advantage of data collected by others. It is important in this case that data be shared openly and timely amongst the stakeholders, and preferably with the wider public.

More recently, GIZ has been exploring the potential for extending the involvement of WRUAs in data collection for and on behalf of the WRA. It is expected that WRA resources will remain insufficient to ensure collection of all required hydro-met data in the medium term. WRUAs, however, are already involved in twice-daily manual readings of the majority of the river gauging stations. If WRUA members were to be tasked with collecting more data and especially supporting the Authority with monthly monitoring of water abstraction rates, this could create an excellent opportunity for both parties: at the moment, a large number of ground and surface water abstractors are either not being charged for abstraction at all or are being billed at a flat rate (i.e. not related to the actual abstracted volume). Provided that WRA compensates WRUAs for their assistance (which in effect would amount to a public service), both could increase their income base. WRA would also benefit from having more reliable data to inform water allocation planning and permitting processes.

Photo: GIZ, Anne Marie Ran

Automated weather stations, as this one in the Mara River Basin, provide accurate and regular information for water resources management.

Insights and recommendations

1. GIZ chose to permanently work with WRA staff, rather than advise from the outside, and to start with small, achievable and concrete steps in the sub-regional offices. This approach allowed it to showcase a workable methodology, results and impacts to the regional office and WRA headquarters and had the anticipated positive impact. Changing procedures and attitudes is complex and time-consuming, but after the new data management concepts had proved their worth in the sub-regions, the approach could be scaled up efficiently and effectively – WRA having taken the concept on board, professional data management was rolled out to its offices across the country.

2. Inviting as many interested staff as possible to participate in the training sessions, especially for the data management and basic QGIS trainings, was a key success factor. Training was not limited to relevant technical staff, but offered to interns, admin staff, managers and staff from other disciplines - personality and commitment were more important criteria than function or job description. This had a positive effect on team spirit, attitude towards data and personal development; it created broad awareness on the value of data management and provided 'free upscaling' and 'spreading the data management gospel', as staff transferred to other offices relatively frequently.

3. Under the new devolution set-up and in line with the Water Act 2016, collection and sharing of water resources data between WRA and the counties is crucial.[7] Organising trainings and fieldwork sessions in which both county and WRA staff participate promotes a 'sharing attitude', creates professional relationships and contributes to an understanding of each other's mandates and challenges.

4. With a view to sustainability, it is worth considering current and future absorption capacity when choosing equipment. High-tech hydro-met or ICT equipment will fail if there is no positive and committed attitude towards data management in the institution. Also, without human and financial resources to handle and maintain the equipment, purchasing expensive and delicate material would simply be wasteful.

5. Transparent data collection and sharing is the basis for good governance and practice in the water resources sub-sector. Including citizens in data collection has proven to have a positive impact on behavioural change and social control, which is especially important in remote areas, where enforcement by the authorities is difficult, or in areas where water scarcity is a frequent occurrence.

[7] According to the 2016 Water Act, WRA remains in charge of water resources regulation, but protection and management of catchments and certain aspects of water resources development (infrastructure) have become a responsibility of the counties. This only increases the interdependence of both sets of institutions to exercise their mandates. Information will need to be exchanged on permits and development plans, for instance, and enforcement needs to be done jointly.

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Water Allocation Planning

Reforming Kenya's water sector - Paper 9

The challenge

Kenya is a water scarce country experiencing irregular variations in seasons, some resulting in extreme climatic events such as the floods and droughts that have been witnessed in the recent past. Water storage facilities are inadequate or insufficient for stabilising water availability during dry seasons. Pollution of surface waters and groundwater reserves is worsening as a result of poorly managed solid and liquid waste and erosion. In this context, exponentially rising water demand and pollution incidents inevitably lead to the violation of the water reserves set aside for environmental flows and basic human needs.

Clearly, water allocation planning is high on the agenda of the Water Resources Authority (WRA). Though WRA has the mandate to formulate water allocation plans (WAPs) in consultation with other relevant stakeholders, including the water users, there were gaps in capacity to do so effectively. Perhaps more importantly, the information and data on which a WAP would rely could only be acquired with difficulty or was not available in sufficient depth and detail. Groundwater resources were largely unquantified, water abstractions were not always known as the permitting database was not continuously kept up to date, and the number of illegal abstractors was large. A full assessment of usable water was still at a remote stage of being feasible on a national scale.

A Water Allocation Plan (WAP) is an agreed framework amongst stakeholders that stipulates the rules for sharing the available water resources within the constraints of the existing water use demand, resource availability and negotiated prioritisation of various uses. A WAP regulates equitable water use in a catchment or basin, taking into account the environment, the economy and the social wellbeing of the population in the basin.
A WAP provides information on the amount of water that can still be allocated to different users when they apply for an abstraction permit. It also stipulates how to deal with water allocation priorities in cases of water scarcity and droughts.

A WAP, however, not only takes into consideration the reserve, any inter-basin transfers, all other authorised users, current abstractions and the reserve flow as well as projected future demand. It is preceded by an abstraction and pollution survey that determines the location and status of the resource, and the quantity and quality of its waters in different periods of the year. By 2010, guidelines for water allocation planning had been formulated, yet these were not comprehensive enough to be uniformly applied and interpreted.[1] Together with the general lack of spatial and temporal hydrological data,[2] the amount and quality of the water available for allocation to different users was essentially unknown. The situation was not helped by the rather diffuse geographical delineation of sub-catchments, and the fact that these were sometimes not known to the responsible water resources users associations (WRUAs).

[1] Incidentally, the WAP guidelines have not been adapted to the new institutional roles and mandates as set out in the 2010 Constitution, the revised 2016 Water Act, the Devolution Act of 2012 and the yet-to-be-updated Water Rules of 2017.

[2] The challenge of improving data management for the purposes of water resources management is discussed in detail in paper No. 8 in this series.

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Hydrological monitoring, compliance and enforcement of the permitting conditions are crucial complementary components of water allocation. The lack of data as well as frequent violation and weak enforcement of permitting conditions were serious, but not the only obstacles to implementing effective water allocation planning. A review had raised two major concerns:

1. Due to WRA's internal capacity constraints, tasks were often delegated to external consultants, who answered to the funding partners rather than directly to WRA. The latter, thus being in a weaker position to supervise the assignments, had less scope to guide their outputs, which in several cases compromised the quality of the plans.

2. In consequence, there was reduced ownership and acceptance of the plans on the part of WRA and the water users, which made compliance difficult.

WRA also struggled to enforce compliance with the water use and Effluent Discharge Control Plan conditions – even in cases where the users had valid permits. This was caused by the Authority's relative inexperience and a certain reluctance to prosecute water cases through the courts. In addition, the WRA's efforts were hampered by a general lack of adequate resources (human, financial, logistics) and a lack of political backstopping. This impacted on its ability to enforce water use conditions and to stimulate compliance by creating awareness, information and guidance. And of course, water resources management was beset with various governance issues, a problem shared across the sector and beyond.

Responses

To assess the problems and identify, amongst other things, the challenges related to capacity, guidelines and practical implementation of a WAP, GIZ organised a workshop with all relevant WRA staff from sub-regions, regions and headquarters. This served directly as awareness and capacity building of WRA officers, and allowed a work plan to be formulated. GIZ and WRA agreed to place several advisors in some of the regional and sub-regional offices, and at the authority's headquarters. This ensured permanent on-the-job training, planning and implementation of the activities and integration of the outputs / results in the WRA national processes. From 2013 onwards, work concentrated on the following topics:[3]

Agriculture is the largest water user in Kenya. Water allocation planning helps to avoid conflicts between different water users and to prevent the over-exploitation of ground- and surface water resources.

Photo: GIZ, Jesper Anhede

[3] GIZ also assisted with improving accessibility and collection of hydrological data, as detailed in paper No. 8.

Introducing bespoke GIS manuals and trainings

Spatial analytical skills are vital in the process of water allocation and sharing. The various applications of GIS and remote sensing technologies make it possible to achieve core tasks, such as mapping water bodies or visualising and modelling various catchment challenges. The spatially-linked information thus generated helps to support decision-making in management and regulation, for instance regarding water abstraction and discharge permitting or billing and planning for compliance procedures.

GIZ advisors developed six tailor-made training manuals based on their practical knowledge of working with WRA staff in the (sub-) regions and headquarters:[4]

- GPS Data Collection Manual: an open source training manual prepared for water resources management professionals in Kenya
- Quantum Geographic Information System, Desktop I Training Package: an open source desktop training package produced for the Water Resources Authority
- Quantum Geographic Information System, Desktop II Training Package: an advanced open source desktop training package produced for the WRA
- Quantum Geographic Information System Remote Sensing for Water Resources Management
- Quantum Geographic Information System Training Package 2 for Water Utilities
- Soft Well Maps Training Manual

To date, over 700 professionals have been trained, 75% of which are WRA staff and 25% other government staff (e.g. county officials from water supply and natural resources departments and the Kenya Wildlife Service).

Strengthening prosecution capacity

Over the years, three week-long training sessions were organised to strengthen the capacity of WRA staff to prosecute water resources offenders, for instance for non-compliance with permitted abstraction volumes, illegal abstraction, non-payment of abstraction fees or discharging polluted effluent. Staff were also assisted with preparing the supporting documents and evidence to bring a number of non-compliance cases to court. A total of 19 trained WRA staff were formally gazetted in order to give them the legal status needed to prosecute.

Supporting abstraction and pollution surveys

In seven sub-catchments[5] GIZ supported the implementation of abstraction and pollution surveys (APS). The objective of an APS is to identify the water users in a (sub-) catchment, assess the actual abstractions and effluent discharge, and ascertain the legal status of these abstractions and discharges. Teams of WRA staff and representatives of the local water resources users associations surveyed the sub-catchment to locate the ground and surface water abstraction points, effluent discharge points and map the water resources (e.g. intakes, springs, dams, pans, wetlands). Additional information captured included land use and the abstractors' and dischargers' details. Using the Open Data Kit to capture the data with tablets substantially increased the data accuracy and ease of compilation.

At the same time, by sensitising the population and interacting with water users during fieldwork, awareness was created amongst the water users on the objective of and need for a permit, the process and costs involved. Pamphlets that had been compiled for this purpose were distributed during fieldwork. The latter consisted of three distinct phases, and GIZ was involved throughout the entire process:

Preparation

- Community sensitisation through public barazas (meetings)
- Training of WRA staff and WRUA representatives, including GIS and data management training, use of data forms and equipment and safety measures during fieldwork

Fieldwork phase I

- Mapping of water resources, abstraction and effluent discharge points
- Permitting system validation (comparing the field data with the Permitting Data Base (PDB; update PDB and stimulate compliance of illegal abstractors)
- Report writing

Fieldwork phase II

- Discharge, yield and effluent quality assessments to establish the available water for allocation
- APS reporting and dissemination to the relevant stakeholders

[4] The training manuals will be made available on the WRA website.

[5] Rupingazi and Nyamindi in Tana Catchment Area, Mbogo and Siyonga in Lake Victoria North Catchment, Nyangores, Yurith and Timbilil in Lake Victoria South Catchment.

GIZ also supported the sub-regional WRA offices with reorganising their archives. Advice and equipment was offered to store hard and soft copy permit files to improve handling, storage and access to information, and some ICT equipment was provided to support fieldwork.

Developing Water Allocation Plans

Following completion of the APS, WRA officials were in a position to start working on the WAP: a water balance was determined based on computations of available water and current and future demand, which in turn provided the basis for the first WAP. Stakeholders were involved through three workshops to give ample opportunity for sensitisation and data sharing and to gather comments on the draft WAP before the final version was adopted.

Although essentially a desk study and report writing task, formulating the final WAP with the WRA staff required time and technical support. The lack of reliable data made determining the amount of available water at different periods of the year difficult. Any calculation of the environmental flow, which in practice requires estimations and making reasonable assumptions with regard to water quality and groundwater data and future water demand, requires specific expertise.

Updating and refining WAP guidelines

The WRA's 'Guidelines for Water Allocation' from 2010 set forth general principles for the equitable allocation of available water resources for the various competing needs in a sustainable manner, as well as the procedural and methodological frameworks for this process. However, they neither provide for the APS or stakeholder engagement, particularly the involvement of WRUAs, nor have they been updated to reflect changed institutional mandates arising from the new Water Act 2016 and the use of new technologies in data collection and analysis.

The progress with APS and WAPs, both in terms of quantity and quality of the work undertaken,[6] has drawn attention to the need for updated and harmonised guidelines as well as standardised methods and tools for data collection, analysis and presentation. Documents setting out procedures would need to be more specific and accompanied by practical guidelines and protocols. GIZ has been assisting the Authority in reviewing, updating and expanding the 2010 guidelines accordingly.

A new Code of Practice for groundwater drillers

The increased demand for groundwater resources has not only led to an unprecedented increase in the number of actors in the development of groundwater resources, but also to a proliferation of illegal boreholes. As groundwater is an integral part of water allocation planning that is designed to safeguard sustainable use of the aquifer, there was an obvious need to focus on awareness creation and regulation of the drillers. Drilling was (and unfortunately continues to be) regularly undertaken without thorough prior hydrogeological surveys, without authorisation from WRA or by unlicensed contractors. There has also been a dramatic decline in the quality of critical groundwater data that contractors are expected to collect during the drilling and test pumping of new boreholes.

The Ministry of Water and Sanitation, in conjunction with WRA, the Geological Society of Kenya, the Kenya Water Industry Association, drillers, contractors, NGOs and GIZ, started by organising workshops to address these challenges, sensitise the drillers and the general public to the necessity of and reasoning behind compliance and update the Codes of Practice (CoP) for the industry together. The updated CoP have been disseminated. Also, a 'one stop shop' policy for the public and the drillers was introduced to guide applicants and streamline the application process for permits which are received by WRA. The Authority then stores the data but shares the information with the Ministry as needed.

Engaging through Water Allocation Boards

A relatively low-key but very useful activity was the production of water allocation display boards to create awareness and encourage compliance with water use and

The Nyamindi mapping exercise

Civil society activity in the Nyamindi Catchment is vibrant. The Kathendeni Community Forest Association is working on conservation issues in the upstream areas, while the Upper and Lower Nyamindi Water Resources Users Associations are working on water allocation issues and efficient use downstream. Equipped with handheld tablets, community members covered 432 km2 and mapped 332 water resources features – including 46 permanent and 23 seasonal springs, 48 wetlands, 93 surface and 24 groundwater abstraction points. The survey sparked discussions on how all parties could gain better oversight of water resources developments, improve the current water infrastructure and better guide future developments – for the benefit of all.

[6] Several other donors supported the development of WAPs in Kenya: WWF – Lake Naivasha, MaMaSe / UNESCO IHE, the Nile Basin Initiative and USAID – Mara.

abstraction. The boards show which abstraction use is allowed and are adjusted on a weekly basis. Placed along water courses, they have attracted positive attention from the local communities. Where WRUA members are involved in hydrological monitoring, they can easily manage the boards.[7]

Progress

WRA staff are now working confidently on APS and WAP development. Several sub-regional offices are systematically implementing abstraction and pollution surveys in the field on their own, using GIZ's step-by-step methodology. In the Sondu river basin for instance, where GIZ resources would only stretch to supporting two sub-catchments, WRA staff is independently surveying the remaining four sub-catchments, which enables them to develop a WAP for the system as a whole.

Overall, both WRA and water users are taking greater ownership of water allocation planning. The emphasis on communication and engagement, especially during sensitisation meetings through public barazas, through involvement of WRUA members in the APS fieldwork or the systematic collection of comments from the public during WAP workshops rallies stakeholders behind the final plan. This is critical as a WAP, despite its legal status after gazettement, is implemented by stakeholders and not from outside – without full support of stakeholders, practical enforcement is almost impossible.

A survey of the population of five catchments reported 100% positive responses to the impact of APS and WAP, with many commenting on how the approach reduced conflicts:[8]

- between WRA and water users: the negative attitude towards WRA disappeared in Mbogo catchment during APS fieldwork and the WAP formulation. The understanding of the water apportionment and allocation of water based on objective data drastically improved the relationship between the water users and the WRA.
- between water users due to transparency: prejudices could be countered by providing data on e.g. quantity of water abstracted by water users and on pollution when water quality measurements were done involving community members.

Transparency also has the potential to increase local conflicts, and these need to be handled carefully. However, there have been many encouraging examples of local water users' reactions to the enhanced knowledge the WAP offers: downstream water users in the Mbogo catchment, for instance, once aware of the importance of an upstream spring that feeds 'their' stream, pooled resources to protect the spring, and with it their abstractions.

More enforcement and prosecution is taking place and although not all cases brought to court lead to a conviction, some notable cases even reached the national press, which sends a clear signal. The training of WRA staff led, for instance, to a prosecution case against an agrochemical company, whose treatment plant could not process large enough volumes with the result that low-quality effluent was being discharged into the Nyando River. Following several hearings in court, the company accepted liability and opted to expand their treatment plant. Also, a construction company that had been dumping soil from a construction site in a riparian zone was fined after successful prosecution.

Photo: GIZ, Till Muellenmeister

A Water Allocation Planning board on the shore of Lake Naivasha informs the different water abstractors whether they are allowed to abstract or not, depending on the lake level.

[7] WRUAs are routinely involved in measuring water levels in a lake or stream (see Paper No. 10 for details), and can translate the measurements to 'everybody can use the water according to their permit' or 'only abstraction for drinking water purposes is allowed', for instance.

[8] WSRP, 2018. Study report on impact of water allocation planning on reduction of water use conflicts. p. 4. Internal report.

The very interactive and appealing GIS trainings attracted lots of interest from additional stakeholders and GIZ tried to accommodate them in the ongoing trainings or provide specific trainings for them. With respect to water resources protection, this was especially of use for the water utilities and the county governments. For instance, utilities with a good overview of the locations of distribution lines, storage tanks, meters and intakes manage their water losses much better, which helps ease pressure on resources. Similarly, a county with good knowledge of where resources are located and what their status is can better protect and invest in these resources for the benefit of people and ecosystems.

Limitations and remaining challenges

Capacity and resource constraints hamper enforcement

Though its technical capacity increased substantially, WRA's resources for enforcement remain limited. There are serious problems related to logistical support (notably transport and equipment) for monitoring and following up on cases in the field. Enforcing compliance effectively would require stronger political will. Environmental offences, if brought to court, too often attract penalties that are of little consequence to the guilty party, and therefore serve neither as punishment nor as deterrent. Magistrates presiding over such cases may be lacking expertise in these matters. However, the emerging trend of the government strengthening the protection of natural resources by enforcing rules and regulations might have a positive impact on water abstraction and use, and protection of water resources in general.

Data limitations and complexities surrounding WAP calculations

The minimum and maximum scale (i.e. hydrological unit) for the formulation of a WAP needs to be determined: the approach in the two pilot areas has been quite thorough, but as it requires a substantial amount of resources it is realistically difficult to extend to large catchments. At the same time, the area covered by a WAP must be suitably small so as not to complicate ownership and implementation.

The existing procedures for calculating environmental flows and reserves are very complex. For WRA to take this forward, these would need to become more accessible and realistic, i.e. written in a more practical language. A next step will be to communicate the reasoning behind these calculations to communities, which again is complex. Another challenge is that groundwater and water quality data are still not adequately taken into account in the WAP, given that more often than not this data is lacking.

Attitudes to payments are impacting efficient allocations

As a general rule, raw water is still cheap – too cheap for heavy users of water to become concerned about efficient use of the resource. This increases water scarcity and potentially restricts the future availability of abstraction permits. Low prices do not signal these consequences to current and future users, who might risk being denied water permits in future.

At the same time, the political debate is still ongoing over the agricultural sector's responsibilities of paying for its water. In Kenya, it is estimated that irrigation accounts for up to 70% of all abstracted water. WRA, rightly asserting that they cannot regulate and protect the country's water resources if the (biggest) users don't pay for the water, faces a powerful lobby of farmers and some politicians who argue that food security is at stake if the WRA's demands for payment have to be met.[9] A similar debate is taking place for the water utilities. For both cases, the impact on water use efficiency is of concern, given that without payment, there is no incentive to use the water carefully. There are also misconceived notions of water 'belonging' to counties, and therefore some institutions and/or politicians are less easily convinced of the need for payments to be collected by a national authority.

Potential for self-generated revenue far from exhausted

There is still much scope for increasing the WRA's revenue base, as illustrated by an exercise in the Rupingazi catchment: here, according to the WRA permitting data base, 543 abstractors had a valid permit, yet geo-referencing identified only 344 abstraction points, 112 of which were mentioned in the PDB (38 with a legal permit for surface water, 5 for groundwater; 44 surface water authorisations, 12 groundwater authorisations and 13 still being processed). This not only meant that 431 of the 543 catalogued PDB abstraction points did not exist on the ground – worse, the 225 additional 'real' abstractors were doing so illegally.[10]

[9] That is despite the fact that abstractions for subsistence farming do not incur any charges.
[10] The remaining 'missing' seven abstraction points were found abandoned.

This is a serious cause for concern for two reasons. For one, if the PDB is out of date to this extent, the Authority wrongly assumes that the water volume linked to these permits cannot be allocated to other users. More importantly, by updating its database and legalising illegal abstractions, WRA could recover substantial amounts of money – provided its metering and billings systems are functioning.

Insights and recommendations

1. Thanks to extensive community and other stakeholder engagement, the WAP process serves as a means of creating awareness. It stimulates water use efficiency and reduces wastage; it also presents water users with the bigger picture of 'their' hydrological system. With an understanding of the linkages between water resources, users are more inclined to take responsibility for the totality of these resources and conflicts are significantly reduced.

2. A WAP creates transparency about water abstraction volumes – the volumes currently available for abstraction as well as any volumes potentially available for future allocation. This information, if shared with local users and communities, creates local ownership for the protection and allocation of the resources. Gazettement of a WAP is important to give the tool legal leverage, which is critical for enforcement.

3. A WAP should be achievable, practical and create ownership at WRA and amongst local users, not a theoretical academic exercise for consultants and scientists. Working in close collaboration with WRA staff and WRUAs, starting slowly and on a very small scale has been a particular strength of GIZ's approach to supporting water allocation planning, which has resulted in greatly enhanced capacity amongst the supported institutions.

4. Making use of new technologies in water allocation planning not only makes the work easier, but more efficient, effective and accurate.

5. Water pricing is necessary – not only to increase income for the regulator, but as an incentive mechanism for users to increase water use efficiency. Prices can be a powerful means to signal the true value of resources and increase future water security.

6. In light of the challenges water resources management is facing in Kenya, it is crucial to respond to climate change. By ensuring that the reserve and environmental flow are calculated and maintained, a WAP protects the human right to water (by ensuring there will be sufficient clean, though raw, water) and protects the needs of ecosystems (by precluding over-exploitation, e.g. by commercial irrigation).

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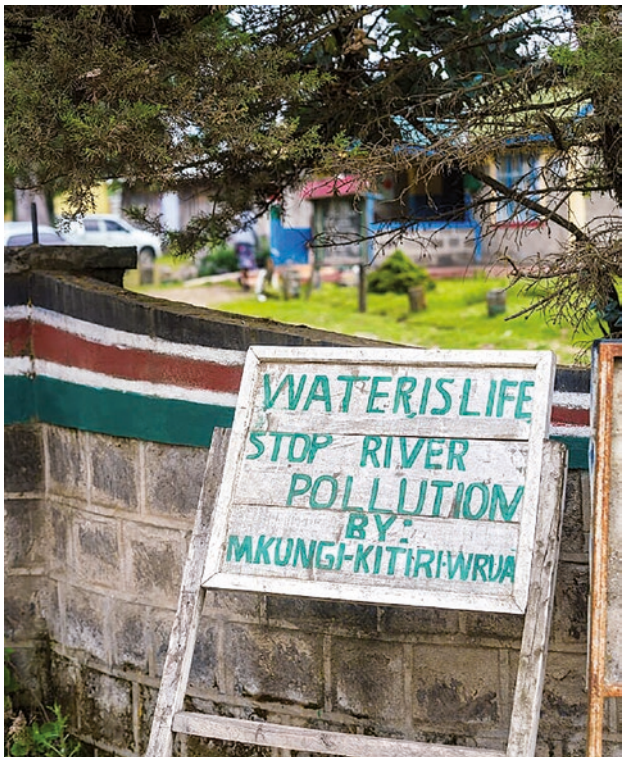
Public participation in water resources management

Reforming Kenya's water sector - Paper 10

The challenge

Prior to the water sector reform, water resources management (WRM) was not considered a priority as there was limited pressure on Kenya's water resources. However, the change of the political regime in the early 2000s allowed for rapid economic growth, during which urbanisation, property development, industrialisation and the introduction of large-scale irrigation were promoted. This created a higher water demand, though the supply side was neglected.

Photo: GIZ



WRUA members hand-paint billboards to raise awareness about pollution.

At the same time, the idea of stakeholder engagement gained prominence, and spaces to speak out and get organised opened up with Kenya acknowledging the Dublin principles, which are founded on public participation. With the passing of the 2002 Water Act, the country fully embraced the principles of integrated water resources management (IWRM), including local stakeholder involvement in planning, decision-making and management of its water resources. Water Resources Users Associations (WRUAs) were introduced to represent the communities and ensure public participation in water resources management. WRUAs would also give the responsible governmental institution, the Water Resources Authority (WRA), a means of reaching out to every part of the country and supporting IWRM implementation through formal representation on the ground.

Though legally mandated to engage with water users, the newly created WRA faced practical challenges in involving the public in a meaningful way. WRUAs, intended as formal platforms to allow communities and individuals to participate in planning and decision-making and act

Integrated Water Resources Management (IWRM) is defined as the process which promotes the coordinated development and management of water, land and related resources in order to maximise the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. IWRM brings together decision-makers from across the various sectors that impact on water resources and all stakeholders to make sound, balanced decisions in response to specific water challenges.

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as the voice that expresses the needs and interests of the population, were essentially voluntary associations. Though not organised at sub-catchment level, community-based environmental organisations were already actively involved in the protection of forests, wetlands and riparian zones, or had begun to rehabilitate degraded areas. In many cases, these groups became the basis for the first WRUAs. Many more would be needed, and it quickly became apparent that participatory sharing, managing and conserving of common water resources was not as smooth a process as perhaps envisaged: while supporting WRA with the establishment of its regional and sub-regional offices, the GIZ advisor received a request from WRA to mediate in a violent conflict over water resources sharing in a sub-catchment. It became evident that much of the framework for public participation had yet to be developed.

WRUA membership and functions

Everyone with a special interest in a water resource, for example a river, spring, wetland, lake, storage infrastructure or ground water aquifer, can become a member of the WRUA. Members could include riparian landowners, effluent dischargers and water users, such as farmers, herders, domestic users, hydropower projects, water service providers, industries and other commercial water users. WRUAs sensitise water users to legalise their water abstractions and effluent discharges by applying for a permit, promote the dialogue between water users, provide early warning on water scarcity and conflicts, monitor water quality and water use or abuse, advise WRA on permit applications and support data collection and maintenance of WRA monitoring stations.

Responses

After the successful intervention, which helped the opposing factions to agree on set of 'rules of the game', GIZ continued to guide and support WRA in institutionalising WRUAs as active participants in the management of their catchments. Work focused on their organisational and governance structure, areas of intervention, mandate, membership and representation, and registration procedures.

In 2008, WRA and GIZ, jointly with the German University of Siegen under their summer school programme in conjunction with Kenyatta University (Nairobi), developed a concept for establishing sub-catchment management plans (SCMPs) that reflected an integrated approach to water resources planning. GIZ tested and adapted the SCMPs template and methodology in several of its intervention areas' before it was rolled out countrywide by WRA and different donors. GIZ also supported the delineation of 1,492 sub-catchments, covering the entire country's territory.[1] Clearly designated catchments and agreed SCMPs could now provide a basis for the involvement of WRUAs.

It became evident that capacity building was crucial to strengthen the WRUAs to enable them to fulfil their mandate and tasks. GIZ, with the help of a consultant, developed a voluminous first training manual, covering topics ranging from submitting funding applications to the Water Sector Trust Fund[2] and basic knowledge about the water cycle to riparian conservation, financial management and water resources monitoring. At the same time, through 'training the trainer', the WRA's Community Development Officers were empowered to provide technical assistance and deliver the training modules to the WRUAs.

In 2015, after the first ten years of capacity building of WRUAs by different stakeholders all over the country, GIZ collaborated with WWF, the Water Integrity Network (WIN), the Centre for Social Planning and Administrative Development, WRA and the WRUAs in the Lake Naivasha Basin to further develop the WRUA Capacity Assessment Tool that had been initiated by WWF. Capacity assessments were conducted for all the 12 WRUAs in the catchment, looking at nine specific areas including internal capacities, management procedures and external relations. Based on the main identified gaps, further tailor-made training modules were developed. For now, these include WRUA governance and integrity, WRUA advocacy and lobbying, a WRUA communication toolkit and WRUA finance and accountability.[3] As WRA adopted the training modules and capacity assessment tool, its 35 community development officers again received training on the application of the tools.

[1] It may not be necessary to form WRUAs in every sub-catchment, for instance in very dry areas without water resources or in sparsely populated areas; and in areas with a majority of pastoralists it is difficult to form permanent institutions.

[2] A national, governmental financing basket that funded, amongst other things, the formulation and implementation of activities mentioned in the sub-catchment management plans.

[3] See https://www.wra.go.ke/brochures/wrua-training-modules/ for the training manuals.

Progress

The concept of WRUAs and the SCMPs, their institutionalisation and application methods, as well as the training manuals, are all integrated within the WRA procedures. WRUAs are encouraged to register with the WRA and enter into a memorandum of understanding – without this formal registration, no support or funding is made available. 680 WRUAs are now active in almost half of the delineated sub-catchments, working towards the implementation of 390 SCMPs that have already been formulated.[4] All WRUAs have at least received some form of capacity building[5] and funding. Some of them have unlocked substantial amounts of money and are well-resourced in terms of offices and transport. Rivers scouts have been engaged to monitor water levels and survey water abstraction and effluent discharges. On the whole, WRUAs are more vocal and increasingly seen as crucial local institutions in resources management. They actively contribute to policy formulation, provide input for the County Integrated Development Plans, receive money from counties to implement activities related to the environment but also write proposals and explore donor funding opportunities.

As a direct result of GIZ support, the diversity of WRUA membership and representation has increased. More women and young people have been recruited and are involved in decision-making processes ('a WRUA is not a retirement project', in the words of a senior figure). Due to active lobbying and sensitisation, private sector stakeholders, such as flower farms and commercial farmers, water service providers and manufacturers, as well as civil society organisations became members, acknowledging their stake in good water and catchment management. This has had a positive impact on the number and quality of the activities realised by the WRUAs. Users also report their involvement as a challenging but positive experience: '[I] made some enemies but more friends during the formulation and implementation of our water allocation plan', one WRUA member reflected during the evaluation study.[6]

Two years after the assessment conducted in the Lake Naivasha Basin, a follow-up capacity assessment showed an overall improvement for the pilot WRUAs. Those that were found to have lapsed (slightly, on legislation and financial administration and process and programme management) received further financial management training. Several WRUAs revised their constitution after the 'governance and integrity' training, organised elections of the management committees and elected new leaders. They increasingly comply with governance standards and good management practices and are seen more and more as proactive platforms to address water-related conflicts. Similarly, the lobbying, advocacy and external relations training resulted in more active participation in county government processes (i.e. planning and budget allocation processes) and unlocking of county funding by submitting financing proposals. The communication training module, which had aimed to increase the visibility of WRUAs, motivated members to make more and better use of email, text messages, social media[7] and billboards to convey messages on, for example, environmental conservation, pollution control, and water allocation and abstraction in case of water shortages. The response from local communities has been positive; WRUAs have been able to create awareness and secure buy-in to the new arrangements.

As the capacity and governance of the individual WRUAs is steadily increasing, more WRUAs recognise the advan-

Photo: GIZ, Japheth Koros

WRUA members attending an advocacy and lobbying training session.

[4] Data end 2017.
[5] The World Bank will be taking GIZ's work further: 226 WRUAs will receive additional training through the Kenya Water Security and Climate Change Project.
[6] WSRP, 2018. Study report on impact of water allocation planning on reduction of water use conflicts. p. 4. Internal report.
[7] Facebook and WhatsApp are widely used.

tage of forming basin-wide WRUAs. By the end of 2018, it is expected that eight umbrella WRUAs will be established. This will give local stakeholders a stronger voice to lobby for their interests, and supports inter-WRUA learning and knowledge sharing. Existing umbrella WRUAs have been found to become more efficient and effective in implementing activities that impact a larger area than their own sub-catchment.

Kenya has become a model in the region for the involvement of communities and other stakeholders in water resources management. GIZ, WRA and several WRUAs received visits of peers from Zambia, Uganda, Burundi and Ethiopia, who are interested in replicating the WRUA approach.

Limitations and remaining challenges

Securing financial sustainability

Financial sustainability of WRUAs remains a concern; they are considered voluntary organisations but provide a public service. In general, they are under-resourced for their tasks of contributing to effective catchment conservation and sustainable water resources development. At a time when the number of WRUAs is still rising, funding previously available through the Water Sector Trust Fund (from national and international sources) is dwindling and/or becoming available only to WRUAs in certain areas. WRUAs are now looking to the counties for funding, where finances are also under pressure.

Rolling out representation across the country

As mentioned above, there are still many sub-catchments without active WRUA representation. Even some potentially crucial WRUAs are still missing – not only in more remote areas, but also in urban settings. It can be surmised that the rural population may feel the impact of poor management (e.g. pollution and water shortages) more, and social pressures drive more active participation. Reasons for less active direct participation in urban areas might be found in the 'shorter accountability routes', as the (often better-educated) population may be in a better position to challenge the government to fulfil their mandate and take action.

Uncertain roles

The institutional reorganisation necessitated by the new constitution and the resultant new mandates introduced by the 2016 Water Act created a 'grey area' for support to and the role of WRUAs.

With regulation, hydrological monitoring and water allocation planning still the responsibility of WRA, but catchment management, protection and developments (of a non-national importance) having been designated county responsibilities, there is equal chance of a resultant vacuum or overlap for WRUA support. At present, the counties do not necessarily have the knowledge and capacity to address water resources management, which could manifest itself in decreased attention given to supporting and resourcing WRUAs. The Water Act 2016, although yet to be fully implemented, also introduces Basin Water Resources Committees (BWRCs) to oversee the 'facilitation of the establishment and operations of WRUAs' in advisory capacity to WRA and county governments. Under this arrangement, WRUAs could be contracted by BWRCs as agents to perform certain (unspecified) duties in water resource management.[8]

Despite the lobbying efforts of different umbrella WRUAs and their stakeholders, WRA does not acknowledge WRUAs as agencies. WRUAs could without doubt play a greater – and beneficial – role in, for instance, hydrological data collection, abstraction and pollution control, billing of water users and monitoring compliance with water allocations. This would not only increase the revenue base for WRA (as more abstractors would pay for water) but also enhance the availability of different types of data for various stakeholders, create an income for the WRUAs and empower communities.

Raising the profile of WRUAs amongst the general public

The general public lacks awareness of WRM, which hampers WRUA representation and strength. This is slowly changing, as more frequent flood events and droughts are bringing water resources to the fore of the public debate, and other environmental crises related to deforestation and encroachment are attracting greater attention. 'Never miss out on a good crisis', as the old adage goes, and GIZ probably should have done more to promote environmental awareness and encourage people to take action by joining their local WRUA. Strategic long-lasting partnerships with environmental institutions and NGOs can generate considerable impact, and it would be beneficial to scale up the small-scale successes that have been achieved.

[8] 2016 Water Act, s 25(1), 27(g), 29(4).

Insights and recommendations

1. Public participation is crucial to manage natural resources; given the vast territories, it cannot be delivered through government agents and their limited resources alone. Local stakeholders can mobilise people and resources, control and encourage compliance and water allocation, contribute to policies, implement SCMPs and provide inputs to spatial planning processes. Successful participation needs a critical mass, partnerships and a certain level of awareness and education.

2. Scale is an important factor: WRUA areas (and the sub-catchments and SCMPs their involvement is based on) should be the right size, given the water resources, ethnic representation and predominant land use within the sub-catchment. Not every area needs a fully-fledged WRUA.

3. Thinking of WRUAs as uninformed community groups would be a mistake: they comprise differentiated groups of stakeholders with a wide range of interests and capabilities and can access certain resources.

4. Whether for data collection, fieldwork or public awareness activities, it is always best to work through the local administration and traditional leaders to ensure access to local knowledge, ownership, commitment and participation.

5. The public service rendered by WRUAs should be recognised. There are mutual benefits to WRUAs receiving payment for data collection or environmental services.

6. If a WRUA is experiencing governance problems, these need to be resolved before any other activity can have an impact. Adequate support, e.g. through mediation or integrity training, is critical to move forward.

7. Finally, crisis events can provide entry points for focusing attention on better WRM and can motivate the public to become actively involved to secure the future of 'their' water resources.

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