

Closing the Last Mile for Millions

Sharing the Experience on Scaling up Access
to Safe Drinking Water and Adequate Sanitation to the Urban Poor

Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH

Registered offices
Bonn and Eschborn, Germany

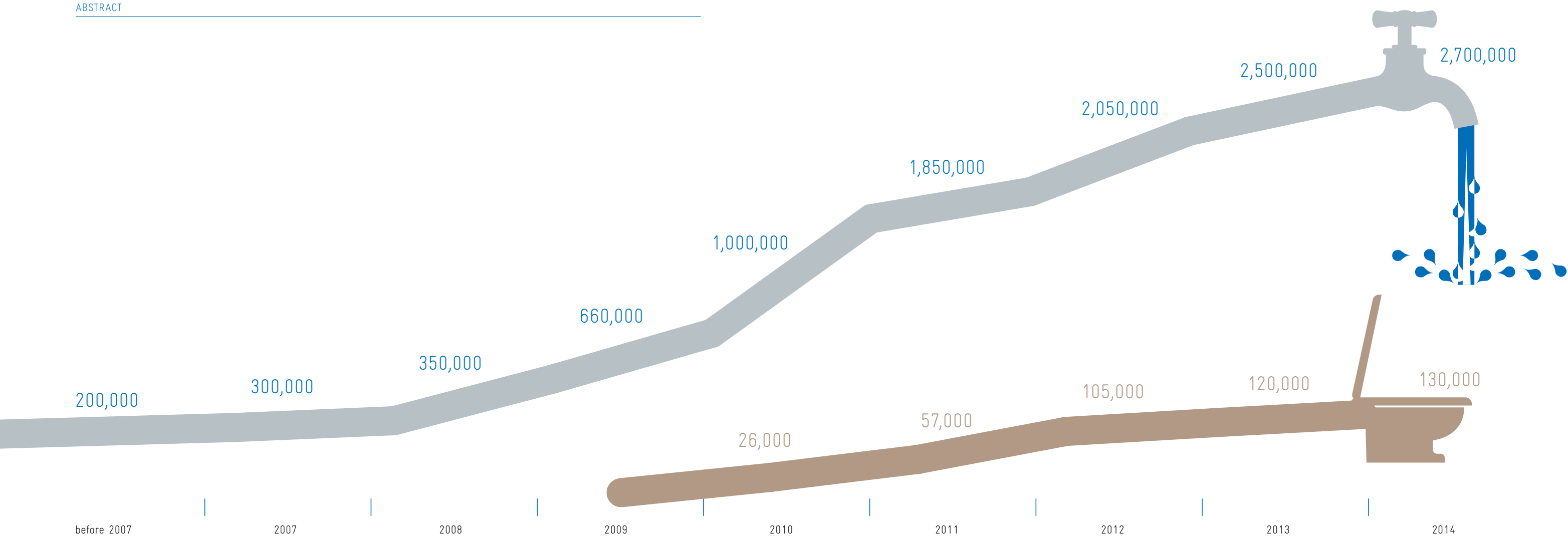
Friedrich-Ebert-Allee 40
53113 Bonn, Germany
T +49 228 44 60-0
F +49 228 44 60-17 66

Dag-Hammarskjöld-Weg 1-5
65760 Eschborn, Germany
T +49 61 96 79-0
F +49 61 96 79-11 15

E info@giz.de
I www.giz.de

giz Deutsche Gesellschaft
für Internationale
Zusammenarbeit (GIZ) GmbH





ABSTRACT

Despite concerted efforts to extend water and sanitation services to the fast-growing numbers of people living in urban low-income and often informal areas, the water sector in many parts of Sub-Saharan Africa appears to be stagnating. Many challenges stand in the way of closing the last mile of physical access for an estimated 250 million unserved urban residents. A misguided focus on conventional household connections for drinking water supply and an almost complete disregard of sanitation responsibilities at policy and operational level are just two of them. Though providing important *first mile* infrastructure, the widespread overemphasis on large-scale investment projects is not delivering for many of the urban poor, with dire consequences for individuals and society.

Experience from German Development Cooperation in Kenya and Zambia demonstrates that the sector is capable of funding and implementing a successful *scaling up* approach in an acceptable time frame. Remarkable results have been achieved by taking a pragmatic stance on operationalising new pro-poor sector policies and focusing on sustainable investments in last mile infrastructure: more than 2.7 million people have gained first-time access to safe and affordable water and sanitation services in the two countries within just seven years, at an average cost of 10-14 EUR/beneficiary for water supply and 24-100 EUR/beneficiary for sanitation¹.

A key element of this success has been abandoning the conventional (large-scale) project approach with its seriously limiting implementation modalities in favour of explicitly pro-poor financing mechanisms and assigning clear service responsibilities to utilities. Investment funding is disbursed via Trust Funds, which promote low-cost technologies, provide comprehensive implementation support, maintain customised monitoring systems, and facilitate continuous institutional learning.

This paper intends to encourage other Development Partners to learn from the experiences gained in Kenya and Zambia and to contribute to a significant increase in access to water and sanitation by adopting similar approaches and more focused support to extending formal services into low-income areas Key lessons learnt from Kenya and Zambia include:

- Scaling up needs to be embedded in national and local sector institutions and supported by pro-poor sector policy and strategies to reach the urban poor in a sustainable manner.
- Rigorous monitoring beyond completion of investments ensures adherence to minimum service standards and long-term effective contributions to access targets. The process also allows for incremental improvements to service levels in line with available finance as well as customer demand and expectations.
- By ensuring cost efficiency and long-term serviceability of the infrastructure, demand-orientation and environmental health, a comprehensive scaling up approach successfully links infrastructure to sustainable sector development in general.
- Joint action on the part of financial and technical cooperation is critical to combine the funding of last mile investments with the conceptual and capacity development that is necessary to scale up services. This is how GIZ cooperates with the Trust Funds' financing partners in Kenya and Zambia. Working with professional national organisations such as the Trust Funds and utilities has proven particularly advantageous.

1) 2014 figures, including the capital cost of last mile infrastructure components (secondary infrastructure, customer interfaces) and the overhead cost of the financing mechanisms (pro-poor Trust Funds) only.

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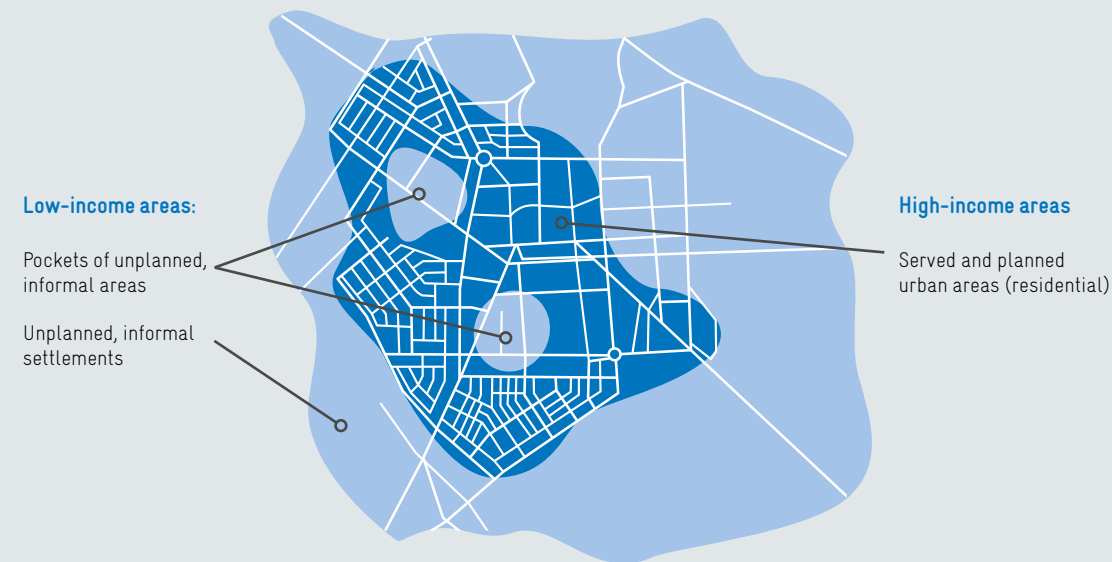
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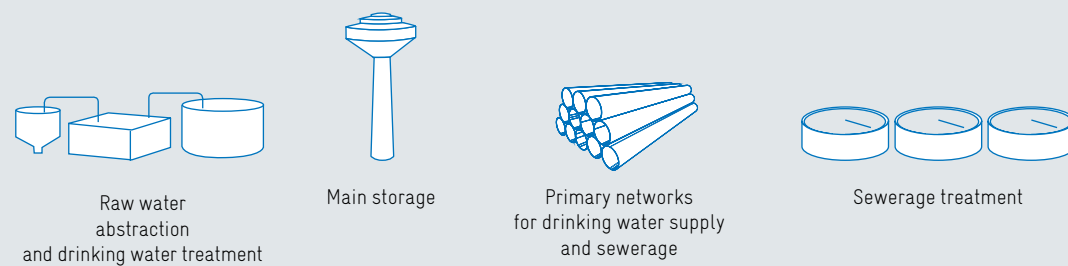
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FIRST MILE AND LAST MILE INFRASTRUCTURE – TWO DISTINCTIVE COMPONENTS OF URBAN WATER AND SANITATION SYSTEMS

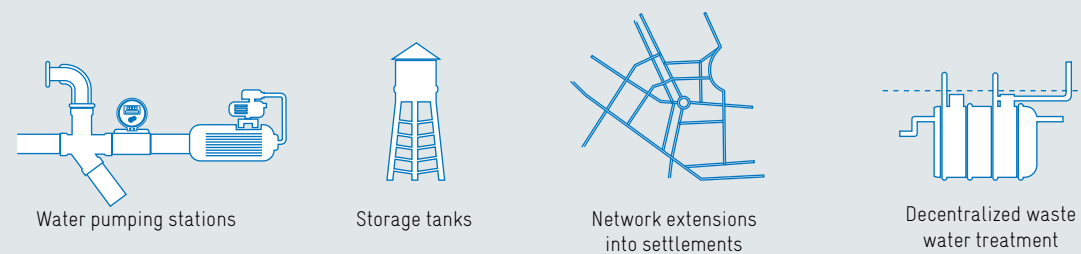
In the context of this publication, the **last mile infrastructure** captures the gap in the service delivery chain between **first mile infrastructure** – which can be found in planned middle- and high-income areas of cities and towns – and the users of water and sanitation services in adjacent low-income areas. The latter can be found within and outside the administrative borders of towns and of service areas of utilities.

FIRST MILE INFRASTRUCTURE



First mile infrastructure refers to large-scale infrastructure and facilities required for water supply, i.e. water abstraction, raw water treatment, main storage and primary networks for drinking water supply, and for sewerage, i.e. sewer networks and central wastewater treatment facilities.

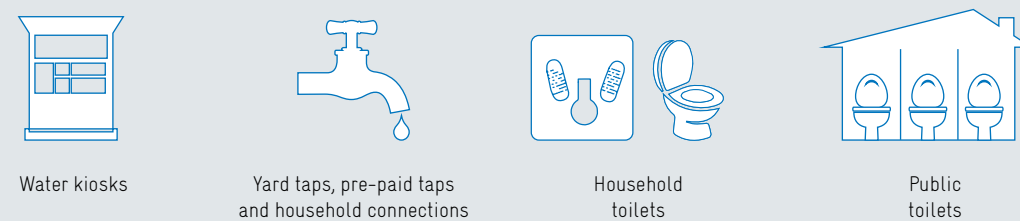
Secondary Infrastructure



Complementary to this, last mile infrastructure comprises of a **secondary infrastructure** and **customer interface (outlet)** that in effect links **first mile infrastructure** with **last mile infrastructure** and provides access to water and sanitation services. **Secondary infrastructure** connects a low-income area to the existing drinking water supply network to ensure water availability (e.g. via small pumping stations, storage tanks, network extensions). It also secures the safe collection and disposal of sludge and wastewater (e.g. through sewer extensions, collection systems and decentralized treatment facilities).

LAST MILE INFRASTRUCTURE

Customer interface / outlets



Customer interface / outlets used for drinking water supply are water kiosks, yard taps, pre-paid taps and household connections – also within a mixed system. Typical sanitation technologies include public sanitation facilities, shared (on-plot level) and individual household sanitation facilities such as Ventilated Improved Pit (VIP) Latrines, Double Vault Urine Diverting Dry Toilets (UDDT) and pour-flush toilets connected to decentralized treatment units or a sewer.

1.0 INTRODUCTION: WATER AND SANITATION FOR MILLIONS

This paper responds to the persistent question of how to extend access to safe drinking water and adequate sanitation to the large and growing number of people living in urban low-income and often informal areas. Drawing on experience gained in Kenya and Zambia over the last decade, it offers the lessons learnt by German Development Cooperation (GDC) and its partners that prove that the sector is capable of funding and implementing a successful *scaling up* approach. Millions as yet unserved people can be reached with safe, affordable and sustainable services in an acceptable time frame. But this requires all stakeholders to engage in challenging the assumptions, and too often the misperceptions, that prevail in policy and practice.

Stuck in a rut: the status quo of access to water and sanitation in Sub-Saharan Africa

The water sector has witnessed a prolonged quest for workable solutions to scale up access to water and sanitation to a rapidly growing number of unserved people in Sub-Saharan Africa and other regions. However, two *International Water Decades for Action* later, the answer has proven elusive.

True, investment in urban water and sanitation systems has increased tremendously over the past years. Many African governments have embarked on far-reaching sector reforms. And yet, the outcome of these efforts up to now has been disappointing: in most countries in Sub-Saharan Africa 30% to 50% of the urban population remain without access to a safe and affordable water supply and adequate sanitation. Those 150 to 250 million people affected by the service gap often live in low-income and sometimes unplanned areas, where poor living conditions exacerbate the consequences of inadequate access; they are far more likely to suffer from waterborne diseases, higher infant mortality, income losses and lower productivity.

Statistics on the number of unserved people depend on which definitions are used to measure *access*. These vary widely from country to country, as well as between institutions. However, a set of minimum criteria for what can be counted as *access* is now enshrined in the UN's Human Right to Water and Sanitation. Some of these criteria, such as water quality, are neither considered by global monitoring programmes² nor verified on the ground. Global data is therefore often misleading and draws an overly optimistic picture of the availability and functionality of water and sanitation services, let alone the *user experience* on offer.

Despite this lack of reliable data in many countries, it is evident that the current trend towards uncontrolled urbanization leads to an ever-growing service gap. As the need for investment increases, so does the challenge to provide access at scale in urban areas. In the face of this, governments and donors should remain realistic³: the previous decades have proven that full drinking water coverage through household connections is not feasible in the medium term. It is even more unrealistic to believe that sewer systems could be built for the majority of the urban population in the decades to come. Accepting this reality is a prerequisite for effective future support to the water sector and reaching those who do not yet have access to formal services.

2) The MDG for water and sanitation is monitored by the WHO/UNICEF Joint Monitoring Programme. Please refer also to the publication *MDG Monitoring of urban water supply and sanitation: Catching up with reality in Sub-Saharan Africa* (GTZ, 2007).

3) The Kenyan Water Sector Policy of 1999 indicates that the goal of the previous water policy (1974) was to reach universal service coverage by 2000. In reality, by then a smaller percentage of the population had access than in 1974.

A different tack – experience from Kenya and Zambia

The purpose of this paper is to show how the trend of increasing numbers of unserved people can be reversed in the foreseeable future with a pragmatic but comprehensive scaling up approach. The experience from two partner countries of GDC, Kenya and Zambia, proves that access at scale is not only possible, it can be achieved within a reasonable time frame and in a cost-efficient manner. Tried and tested solutions to roll out water and sanitation services to low-income areas and ensure their long-term service-ability exist.

This paper will focus on the principles and practical interventions that helped create a supportive framework for reaching access at scale in Kenya and Zambia, both in large cities and small towns. Building on robust and well-managed infrastructure systems, it shares strategies and tools designed to *close the last mile* of physical access. In outlining the approach taken in these two countries it also illustrates that scaling up is key to linking infrastructure to sustainable sector development in general.

The results of the GDC's scaling up approach speak for themselves: more than 2.7 million residents of urban low-income areas gaining access in these two countries within seven years make a strong case for abandoning *business as usual*.

Investments in large-scale infrastructure for managing water resources and covering the *first mile* of water and sanitation services are complementary and important preconditions for scaling up. However, the widespread overemphasis on large-scale infrastructure projects and their limited implementation modalities are not delivering for the large numbers of the urban poor. Ignoring the need for change only serves to perpetuate the criticisms of development cooperation in the wake of the aid effectiveness debate.

Sharing our experience is an attempt to encourage Development Partners (DPs) and governments to reconsider their approach when seeking to increase urban service coverage. The following chapters are intended to stimulate further discussion on how to reach the *difficult to serve* urban low-income areas and deliver water and sanitation at scale.

Chapter 2 summarizes the challenges to reach access at scale in the Sub-Saharan water sector. *Chapter 3* then introduces the scaling up approach developed in Kenya and Zambia. It illustrates the political and institutional framework conditions which prepared the ground for extending access to a large number of low-income people and sets out the key elements of the scaling up approach. It also discusses the results of the ongoing scaling up process. *Chapter 4* concludes with the lessons learnt that should be considered when investing in pro-poor water and sanitation services.



Utility operated water kiosk, Zambia

2.0 CHALLENGES TO REACH ACCESS TO WATER AND SANITATION AT SCALE IN SUB-SAHARAN AFRICA



Population growth and urbanization drive the rapid expansion of low-income areas

Water and sanitation service coverage⁴ in urban areas of many countries in Sub-Saharan Africa has stagnated or only seen marginal improvements over the past years. The reasons for this can be broadly grouped into five clusters of challenges and risk factors, which will be discussed in turn:

- ✚ external environment, i.e. trends beyond the influence of the water sector
- ✚ financing of urban water and sanitation infrastructure
- ✚ policy and legal frameworks
- ✚ orientation and attitudes of utilities as the formal service providers
- ✚ the approach of DPs to investments in urban water and sanitation infrastructure.

2.1 External Challenges: Urbanization and Population Growth

Sub-Saharan Africa is in the midst of a twofold transition: the region is experiencing strong population growth and rapid urbanisation. According to the UN⁵, by the year 2030 Sub-Saharan Africa's population will by far exceed that of Europe and North America combined. Between now and 2030, the number of the region's urban dwellers is projected to increase from 300 million to more than 620 million people, and almost double again by the year 2050 to more than 1.1 billion⁶.

A large share of the urban population currently live in low-income settlements, and most rural-urban migrants continue to settle in unplanned areas characterized by high population density and inadequate public services such as water supply and sanitation. Formerly planned areas frequently turn into settlements with an unplanned character as infrastructure development is outpaced by the high influx of new residents. Local and national governments are overburdened with expanding public services to meet the needs of the growing urban population, with a devastating impact on living conditions.

2.2 Financing of Urban Water and Sanitation Infrastructure

Against this backdrop of urbanization and the emergence of informal settlements, decades of chronic underinvestment have led to a situation where water and sanitation infrastructure expands at a much slower pace than the population of many cities and towns in Sub-Saharan Africa.

While urban low-income settlements often remained unconnected to existing networks, inadequate operation and maintenance led to a deterioration in the overall physical condition of infrastructure. As a result, the number of unserved residents is increasing steadily – as does the financing gap in the sector⁷, despite increasing investment in countries where reforms have been carried out.

4) Service coverage refers to the percentage of the resident population covered in relation to the total resident population.

5) UN Habitat (2014): The state of African cities 2014. Nairobi.

6) UN Department of Economic and Social Affairs (2014): World Urbanization Prospects Highlights. Now refers to 2014 figures.

7) According to the Kenyan Sector Investment Plan, the present financing gap stands at around EUR 400 million annually and is expected to grow to over EUR 800 million per annum by the year 2024 in order to reach the policy goals of the national *Vision 2030*, which envisages universal coverage of drinking water and sanitation. The sector investment in 2013 amounted to only EUR 240 million.

Mobilizing more funding remains a challenge for the sector, though it could be argued that finding better strategies to use and allocate available funding is the more important one. Two aspects emerge as requiring attention to meet the rising demand for water and sanitation services: investments must be better targeted to reach the unserved, and there needs to be agreement on a realistic and affordable minimum service quality and appropriate technology that meet human rights standards but can make best use of low-cost solutions.

2.3 Policy and Legal Framework

Political decisions at sector level and the resulting legal provisions governing the delivery of water and sanitation services can pose severe challenges to delivering access at scale.

Insufficient focus on low-income areas

Too frequently, low-income areas are not regarded as economically (and politically) attractive by utilities and ministries alike; potential customers are not considered important and at the same time often have neither a voice nor any appropriate channels to demand improvement of their service situation. Political decisions tend to be guided by misperceptions of the ability and willingness to pay for better services amongst lower-income consumers, particularly those living in informal settlements. As a result, and despite the fact that investments are actually most effective in urban low-income areas, the potential for sector self-financing is not fully exploited.

Lack of information

Countrywide up-to-date baseline information on the population and access situation in low-income areas, on sector performance and on the sustainability of infrastructure is not available. As a consequence, decision makers are not able to set the right priorities and select the right areas for investment.

Wrong mode of service delivery

Informal and small-scale service providers are tolerated despite their detrimental effect on sector development. This is doubly problematic as minimum standards for service quality, regardless of now being clearly set out in the Human Right to Water and Sanitation⁸, are not (and in some cases cannot be) sufficiently recognized and enforced. Also, more often than not, there is no strategy to replace wholly unregulated informal service providers (ISPs), which in many instances are the only available means of access.

Decision makers in ministries but also DPs occasionally transfer a rather romantic picture of rural communities to entirely different urban settings. They frequently do not understand that to operate and extend urban water and sanitation systems efficiently requires a degree of scale and professionalism on the part of service providers. Here



Informal water vendor in the low-income area Mathare, Nairobi, Kenya

8) GTZ (2009): The Human Right to Water and Sanitation - Translating Theory into Practice. Eschborn.

ISPs and other small-scale service providers (e.g. community based organizations and NGOs) can hinder sector development where they refuse to integrate into professionally managed, larger systems.

Project-driven sector development

Sector development and investment planning more often resemble an aggregation of projects than a strategic plan to progressively reach policy goals. Stand-alone projects, no matter how numerous, cannot *close the last mile* in a sustainable way, nor can or should they replace coherent national sector development planning.

Insufficient acceptance of low-cost solutions

An over-reliance on standard household connections has left utilities unable to catch up with increasing demand in low-income areas. Despite evidence that this focus on household connections has proven counterproductive⁹, many decision makers continue to regard them as the only option for expanding services. However, the physical, spatial and social environment in low-income areas as well as limited financial resources often do not allow for the construction of conventional water supply networks and sewer systems. Precarious household finances may leave consumers unable to pay a regular water bill. In brief, the situation typically encountered in currently unserved urban areas calls for transitional, shared water and sanitation facilities and appropriate low-cost solutions.

2.4 Orientation of Utilities

The majority of utilities do not focus sufficiently on the delivery of services to urban low-income areas. While this can be partly attributed to a lack of pro-poor orientation of the sector framework, it also stems from factors rooted within the utilities:

Insufficient guidance for utilities

Utilities are often not subjected to clearly defined obligations, standards and accountability mechanisms. As a result, they have too much leeway in determining their own priorities and service areas, with low-income areas and on-site sanitation services going ignored. In line with the prevalent preferences of political decision makers, utility managers tend to be biased in favour of household connections as the only appropriate customer interface and service level, regardless of actual demand.

Lack of pro-poor orientation of utilities

Most utilities do not define a clear internal responsibility for expanding and operating water and sanitation infrastructure in low-income areas. Adapted strategies, structures and procedures for service provision in low-income areas are not put in place.

2.5 Approach of Development Partners

In addition to the challenges posed by the sector framework and utilities, the modalities and approaches applied by many DPs when supporting large-scale infrastructure investments do not fit the particular requirements of last mile investments¹⁰. Serious

9) In Sub-Saharan Africa, drinking water coverage through household connections has decreased from 42% in 1990 to 34% in 2012, according to the WHO/UNICEF Joint Monitoring Programme (2014).

10) See pages 4-5 for an explanation of *first mile* and *last mile* investment/infrastructure.

problems arise when the fundamental differences between these two types of investment are not sufficiently acknowledged and the conditions and pressures that go along with receiving external financial support are not adjusted accordingly.

Design of large-scale investments

Well-designed and well-managed *first mile* infrastructure for raw water abstraction, treatment and distribution is a prerequisite for reaching low-income areas, making investments in large-scale infrastructure very important. Unfortunately, the design of such projects is often driven by stakeholders who tend to be overly focused on cost-intensive construction measures, such as treatment plants, storage tanks and bulk lines. This happens to the detriment of smaller and less prestigious project components, such as the construction of water kiosks. Thus, in terms of reaching significant numbers of unserved people, large-scale investments can be doomed to failure at the drawing board stage. The small and medium-sized investments needed to make an impact at scale, however, require a profound knowledge of the technical, social and operational complexity of the *last mile*.

Last mile investments are neglected as an accompanying measure and second priority

Last mile investments – as add-ons to large-scale projects – are frequently not given the right priority by both the implementing consultants and the utilities and are not tailored to actual need in the targeted low-income areas.

Many investment projects are managed by parallel structures (e.g. project implementation units) and external consultants, de-linked from the utility and community. While this may be standard practice for large-scale construction, it bears a high risk of failure for any last mile components for two main reasons:

- ✚ From the consultant's point of view, last mile components are less financially attractive than major construction works: small and medium-sized investments entail higher transaction costs and a smaller turnover volume. At the same time they require greater management inputs from financing and implementing agencies to steer the investment measures successfully. Clearly, this creates an incentive for the consultant to treat last mile investments as lower priority tasks.
- ✚ Meeting customer demand in low-income areas, where utilities often have a poor reputation, requires a tailor-made technical design and careful, locally embedded planning and marketing of last mile infrastructure. With a perceived history of *poor service for poor people*, utilities need to work hard on generating acceptance of new infrastructure amongst the target communities. To make last mile investments effective, the implementation process must be led by the utilities rather than third parties and involve the prospective customers throughout.

Disbursement pressure jeopardizes last mile investments

While disbursement pressure can be handled within large-scale investments, such pressure has devastating consequences for the effectiveness of last mile infrastructure. As indicated above, the success of last mile investments hinges largely on time-consuming participatory planning, on activities to create local acceptance and on detailed operational procedures. The risk of failure of last mile investments increases in proportion with stronger time and disbursement pressure.



Informal water services contravene the human right to water and sanitation

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3.0 HEADING TOWARDS ACCESS AT SCALE – LESSONS FROM KENYA AND ZAMBIA



Utility operated water kiosk, Kenya

More than a decade ago, the Zambian and Kenyan governments embarked on a different path, focusing explicitly on scaling up access in the countries’ low-income areas within the framework of water sector reforms. In this successful endeavour German Development Cooperation – both technical cooperation implemented by GIZ and financial cooperation implemented by the German Development Bank, KfW – has been involved as a partner right from the beginning.

The reforms in Zambia (implemented since 2000) and Kenya (since 2004) encompassed the following key elements:

- separation of water resources management and water services delivery
- separation of core functions (policy-making, regulation and service provision) to introduce checks and balances
- recognition of the key sector principles cost recovery, pro-poor orientation
- ring-fencing of utilities, autonomy of sector institutions and formalization of service provision
- establishment of autonomous regulatory authorities
- socially responsible commercialization and professionalization of utilities.

Developing a suitable scaling up approach

Scaling up essentially refers to the process of achieving sustainable access to water supply and sanitation services at broad scale. In Kenya and Zambia, it meant finding a way to reach millions of unserved people living in urban low-income and often informal areas. Success would be not only measured by numbers alone. It would capture the extent to which these efforts could meet the actual demands of the target group, provide an acceptable quality of services (in line with minimum standards) and, ultimately, whether they would be sustainable.

Developing a suitable scaling up approach meant having to manage and overcome many of the challenges and risks outlined in the previous chapter. *Figure 1*, right, outlines the different steps and interlinking components that had to be addressed. These include laying the foundations for scaling up (reformed sector framework, utilities as main service delivery agents) as much as setting up key institutional mechanisms for implementation (information systems and financing mechanism). Ultimately, there are practical toolkits with concrete solutions and standards for meeting the technological, social and organizational requirements of last mile interventions.

The remainder of this chapter offers an insight into how this was actually done in Kenya and Zambia, discussing the successes and ongoing challenges. It also outlines the role of GDC in creating an enabling environment for scaling up through long-term international and national technical GIZ advisors working in close partnership with the relevant national sector institutions.

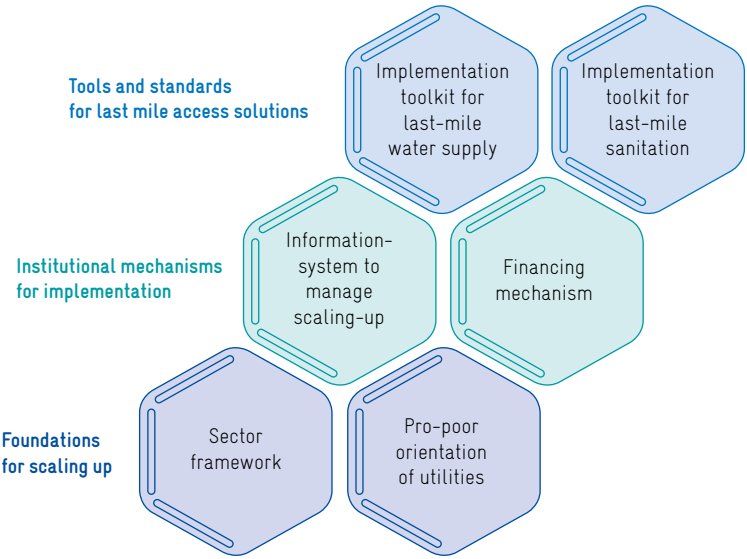


Figure 1:
Elements of the scaling up approach

Although pro-poor orientation was introduced as a key principle, the reforms in Kenya and Zambia did not automatically lead to the expansion of access in urban low-income areas, which are home to more than 10 million people. Rather, they laid the foundations for the development and successful implementation of the scaling up approach. The explicit focus on scaling up water and sanitation has turned out to be essential to make the reforms a catalyst for a significant increase in coverage. Within just seven years, nearly 2.8 million people could be reached with small and medium-sized water supply investments in urban low-income areas. More than 135,000 have gained access to adequate sanitation within five years, and the numbers keep growing.

GIZ contribution¹¹:

- Elaboration of strategies and implementation concepts for scaling up
- Adaptation of sector policies and strategies to pro-poor focus
- Design, implemetation and evaluation of pilots of low-cost technologies / adapted access solutions
- Dissemination and feeding of pilot results into policy-making processes
- Development of organizational and governance structure of regulatory authorities
- Development and testing of regulatory tools (e.g. licences, tariff application guidelines, service provision agreements, minimum service levels etc.)
- Alignment of regulatory tools to pro-poor policy (e.g. tariff guidelines including cross-subsidies and lifeline tariff, introducing award for best performing utility in low-income areas)
- Establishment and operationalization of sector performance information systems and annual public reporting mechanisms
- Demarcation of service areas of utilities, adjustment of service area to acknowledge growth of low-income areas beyond existing (administrative) boundaries
- Study tours to visit regulators and sector ministries in neighbouring countries / knowledge sharing with relevant networks
- Support to the establishment and operation of Water Watch Groups and Water Action Groups

3.1 Sector Framework

The sector frameworks that have been established in Kenya and Zambia are an important pre-condition for successful scaling up of access. Changes have been introduced from policy right through to service delivery, with salient points discussed below.

Policy must become pro-poor...

In both countries, the sector policies and strategies now explicitly prioritize the expansion of water and sanitation coverage in urban low-income areas.

...but operationalizing policy goals is key for scaling up.

Defining this focus on low-income areas as a political priority was not sufficient. Political goals had to be translated into concrete actions through:

- ✚ establishment and strengthening of national institutions (regulator and financing mechanism in particular) and utilities which play a key role for the extension of services to low-income areas
- ✚ countrywide collection and updating of baseline information on service coverage in low-income areas
- ✚ development and testing of adapted technical access solutions (last mile infrastructure) and business models that suit low-income areas, and
- ✚ agreement on process and technical design standards for rolling out such last mile infrastructure.

Scaling up relies on consistent national standards and organisational structures

A key concern is to maintain a constant high quality in the implementation of last mile infrastructure and to secure countrywide uniformity. Operating at a national scale and with a multitude of utilities and local consultants and contractors thus requires consistent standards and the use of utilities as designated service providers. This in turn increases the cost-efficiency of the scaling up process (as solutions do not need to be developed on a case-by-case basis) and mitigates corruption risks during implementation (e.g. by using standardized bills of quantity).

Scaling up requires acceptance of transitional access solutions

In Zambia and Kenya, decision makers have recognized the need for transitional access solutions (i.e. low-cost technologies and shared facilities) and for a mix of different customer interfaces in low-income areas, e.g. water kiosks can be operated alongside household connections. One of the two most important considerations which determined this policy decision in Kenya and Zambia was a desire to maximize the number of people with additional access given the limited funding available in the sector. The other was the prospect of reaching people even in *difficult to serve* densely populated low-income areas and being able to ensure a safe and affordable minimum service level.

Formalized utilities implement and operate last mile infrastructure

The legal framework in Kenya and Zambia stipulates that licensed and thereby formalized utilities are obliged to ensure the provision of services within clearly defined service areas. Utilities may delegate certain tasks, such as the operation of water kiosks or public sanitation facilities, to local private operators, but retain overall responsibility. ISPs, which may range from push-cart vendors to private operators of boreholes and small networks with household connections, are unregulated and even illegal (e.g. if they exceed a certain number of connections). By contrast, utilities can be held to account where they fail to meet their service obligations. Even where they are not the direct supplier, they must supervise the service delivery process and enforce compliance with service standards and regulated tariffs.

Operations are overseen by independent regulation

Regulation has proven conducive to the scaling up process. Standards enforced by the National Water Supply and Sanitation Council in Zambia and the Water Services Regulatory Board in Kenya ensure that utilities perform their important role in the scaling up process.

- ✚ Low-income areas have been included in official service areas, making service provision in these areas an obligatory part of the licences issued to utilities.
- ✚ Regulatory authorities have set and are enforcing minimum service standards for service provision and socially acceptable tariffs, including cross-subsidies, which secure the affordability of services for all customers.
- ✚ Feedback channels have been established that give existing customers as well as unserved residents in low-income areas a voice in the service delivery process. In Kenya, consumers are represented by local Water Action Groups; Zambia has equally active Water Watch Groups.
- ✚ Regulators promote transparency and comparative competition between utilities with regard to service improvements in low-income areas through regular sector performance reports aimed at the general public.

The sector framework is becoming increasingly conducive to scaling up sanitation

The expansion of drinking water supply to low-income areas has generated considerable experience on scaling up in Zambia and Kenya, which has subsequently been used to test and standardize the technologies and business models to tackle sanitation. The scaling up of adequate sanitation is driven by:

- ✚ an increasing recognition of sanitation as a national priority
- ✚ a deepening of the dialogue between ministries responsible for water and for public health on inter-sector linkages and joint responsibilities with regard to sanitation and hygiene
- ✚ an increasing acceptance by the ministries responsible for water and other sector institutions that the sector should – in addition to conventional sewer systems – expand on-site sanitation, as well as the need to consider the full sanitation chain and find adequate solutions for faecal sludge management
- ✚ the acknowledgement that utilities, though legally not responsible, should play a major role in promoting public and household sanitation.

GIZ input:

- 2-3 international, long-term advisors, embedded within the Ministry responsible for water (12-year postings)
- 3-4 national embedded long-term advisors (also over 12 years)

11) The indicated GIZ contribution (technical cooperation) refers to both Zambia and Kenya, but the GIZ input (number staff) is indicated per country.

- GIZ contribution:**
- Development and establishment of organizational structure of Trust Funds
 - Development of internal procedures, guidelines (e.g. on the use of funds) and accounting and reporting system
 - Development of standards for low-cost solutions to be funded by the Trust Fund (e.g. water kiosks, yard taps, public sanitation facilities, household toilets, decentralized treatment facilities) including technical designs and operational procedures
 - Development of a call-for-proposal procedure and proposal assessment, selection and funding criteria
 - On-the-job training and coaching of Trust Fund managers and technical team
- GIZ input:**
- Financing of office / IT equipment for Trust Fund staff (at beginning)
 - 1-2 long-term, embedded international advisors (over 6-9 years)
 - 3-4 long-term, embedded national advisors (over 6-9 years)

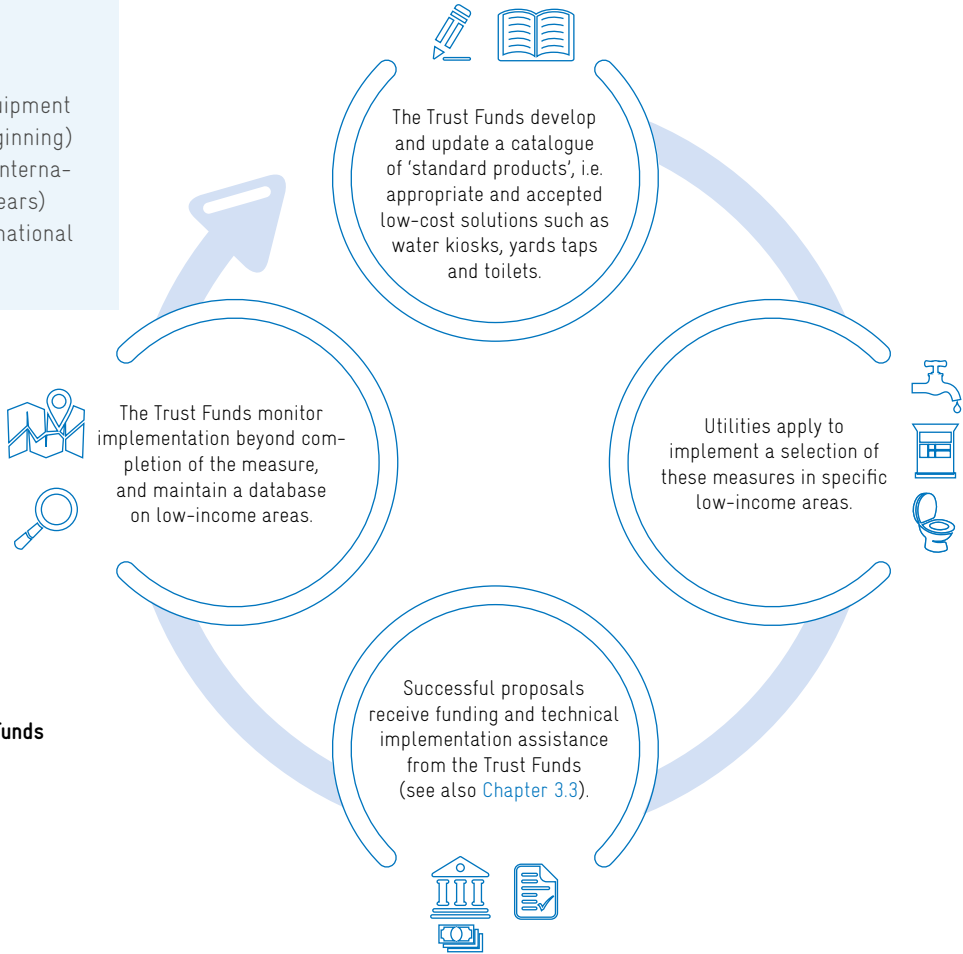


Figure 2:
Implementation cycle of Trust Funds

3.2 Trust Funds as Innovative Financing Mechanisms

The Devolution Trust Fund (DTF) in Zambia and the Water Services Trust Fund (WSTF) in Kenya have played a pivotal role in the development and implementation of the scaling up approach in the two countries. Pro-poor policies had been firmly anchored in the sector framework and commitment secured at the highest levels. The next and crucial step was to develop a suitable mechanism to address the interlinked funding and implementation challenges that prevented reaching access at scale. Kenya and Zambia both opted for performance-based financing of service extension to low-income areas. To this end they established basket funding mechanisms that would also deliver technical, social and operational implementation support to the utilities.

These Trust Funds have been tasked with promoting last mile infrastructure development and strengthening the capacities of utilities for sustainable operation of infrastructure in urban low-income areas (illustrated in Figure 2). As the interfaces between financial and technical cooperation, the Trust Funds have arguably acted as the main driver of the scaling up process.

The WSTF and DTF were established by the two countries' water supply and sanitation acts as nationally embedded autonomous institutions. They are accountable to their Board (through which the sector ministry is represented), parliament and DPs, and are subject to regular external audits. Lean staff structures keep the overhead costs low¹²: DTF has five, and the urban section of its Kenyan counterpart (WSTF-UPC¹³) six staff members, recruited on a merit basis.

Figure 3 provides a generalized overview of the Trust Funds as financing mechanisms and their relationship with other important stakeholders in the scaling up process.

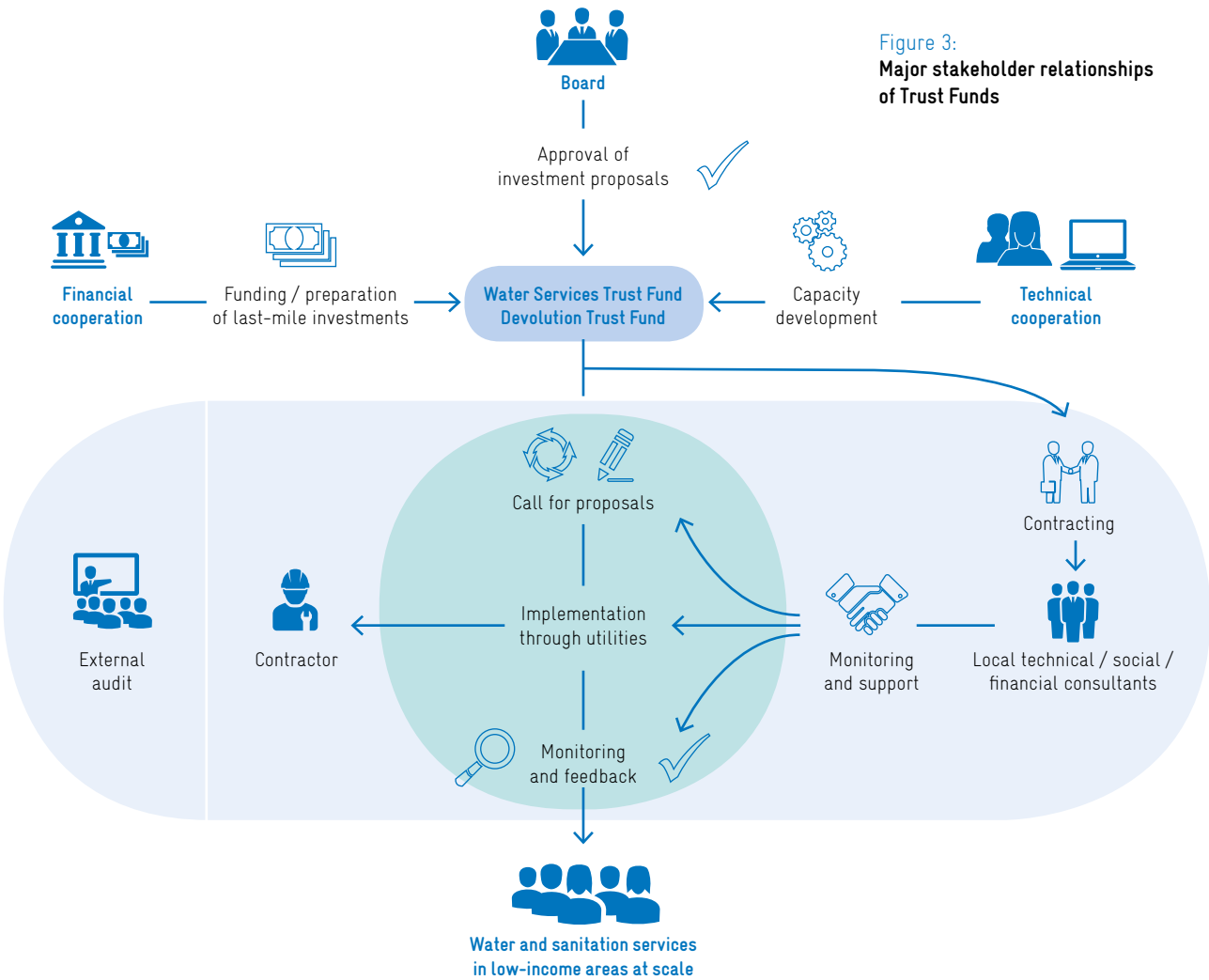


Figure 3:
Major stakeholder relationships
of Trust Funds

12) Overhead costs vary with turnover. The focus on lean organisational structures and on flexible staffing numbers is important to cater for the fluctuating availability of funds.

13) In the context of this paper only the urban financing window (Urban Projects Concept, UPC) is relevant as it promotes the development of water and sanitation last mile infrastructure in urban areas. The UPC has six members of staff, while the WSTF as a whole, including the rural and water resources financing windows, has 55.

Mobilizing funding for last mile infrastructure

The financing mechanism mobilizes funding from DPs (and government) for last mile infrastructure investments. In Zambia, DPs including the German Federal Government contributed about EUR 22 million to the DTF in the form of grants, with the Government of Zambia contributing about EUR 460,000 in the years 2007 to 2012. The urban financing window of the Kenyan WSTF received a total amount of EUR 23.8 million from DPs including the German Federal Government between 2009 and 2014.

Securing value for money: competitive allocation of funding to utilities

The allocation of funding to utilities for last mile investments is guided by the following principles:

- Funds are allocated on a competitive basis, i.e. utilities have to submit investment proposals under a call-for-proposal process.
- Investment proposals are assessed against transparent and ex ante defined quality criteria covering technical, social and financial aspects and the cost per beneficiary ratio (value for money).
- Funding decisions are informed by an assessment of the investment proposal and the baseline information on service coverage in a particular area (available from the information system, see [Chapter 3.4](#)) to ensure demand orientation. The Board also considers the absorption capacity of utilities.
- The call-for-proposal process and limited disbursement pressure due to long-term funding agreements with DPs allow for a flexible disbursement of funding (geographically and in time).
- The Trust Funds focussed initially on *standard products*, particularly water kiosks, yard taps and public sanitation facilities. Limiting the scope and variety of proposed investments makes proposals comparable, reduces complexity and therefore allows for a larger number of investments to be implemented at any given time. Later calls in both countries expanded the catalogue of ‘standard products’ and increasingly also considered proposals to build or rehabilitate infrastructure that serves to increase water availability in low-income areas, e.g. construction of networks and storage tanks to increase supply to existing water kiosks or yard taps in a low-income area.

The average cost over all calls for proposals for last mile infrastructure water supply is 14 EUR/beneficiary in Kenya and 10 EUR/beneficiary in Zambia¹⁴. For sanitation, the average cost for a last mile system is 24 EUR/beneficiary in Kenya¹⁵ and 100 EUR/beneficiary in Zambia¹⁶.

14) Status as of 09/2014. This includes capital cost for last mile infrastructure (secondary infrastructure, customer interfaces) and overhead cost of Trust Fund. It does not include the cost for large-scale (primary) infrastructure.

15) 24 EUR/beneficiary include subsidies of ca. 16 EUR per toilet built, construction of decentralized treatment facilities, the costs of technical cooperation and all other project-related costs. It does not include the remaining financial contribution of the households for the construction of the toilets.

16) Full project costs for sewer-based sanitation including construction of network and decentralized wastewater treatment plants in low-income areas.

Monitoring implementation and operation of last mile infrastructure

DTF and WSTF manage political, fiduciary and operational risks, such as embezzlement of funds or capture of investment measures by local politicians. They also secure the sustainability of last mile infrastructure investments through comprehensive monitoring via field monitors and independent assessments.

- Trust Fund staff undertake frequent field visits to verify progress as self-reported by the utilities. Strict verification of and reporting on the progress of implementation secures compliance with the investment proposal as well as the process and technical standards that must be adhered to.
- After completion of a measure, the infrastructure built is GPS-referenced and documented to register the new assets.
- The operation of infrastructure by the utility is then monitored from completion onwards. Within the framework of the WSTF’s *operations monitoring*, all infrastructure financed by the Trust Fund is checked and reported on annually. This helps to secure the sustainability of the infrastructure and to assess changes in demand. In Zambia, each new asset is subject to the DTF monitoring scheme and utilities report quarterly for a period of two years after completion. Before the infrastructure is handed over to the regulator’s monitoring scheme, the DTF undertakes an ex post evaluation.

When the DTF conducted a first overall *condition of infrastructure survey* in 2014, roughly 70% of DTF-financed infrastructure was found to be still operational. Even higher (84%) functionality is reported from Kenya, indicating a high effectiveness of the investments.

Results are encouraging: performance of financing mechanisms

The outcomes with regard to the expansion of access to safe drinking water to date illustrate the effectiveness of the scaling up processes in Kenya and Zambia ([Figure 4](#)).

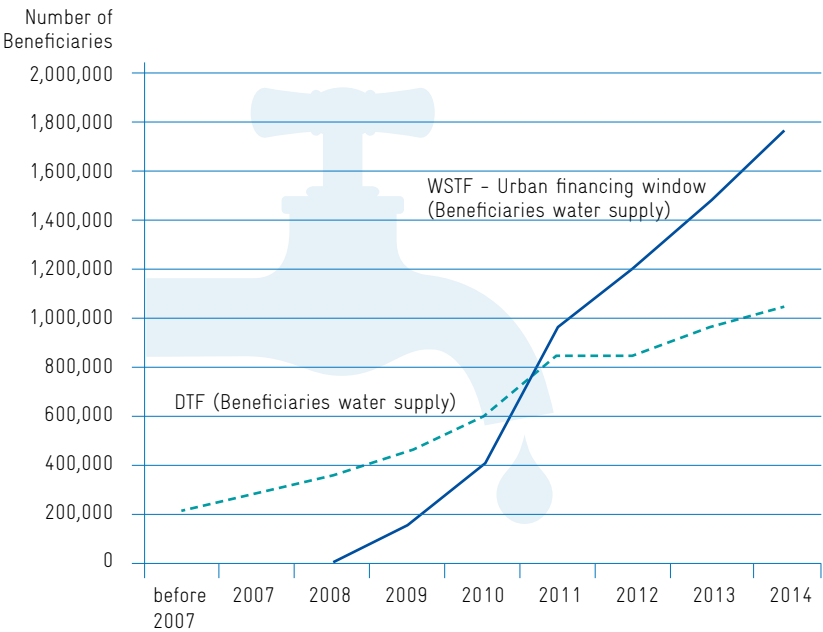
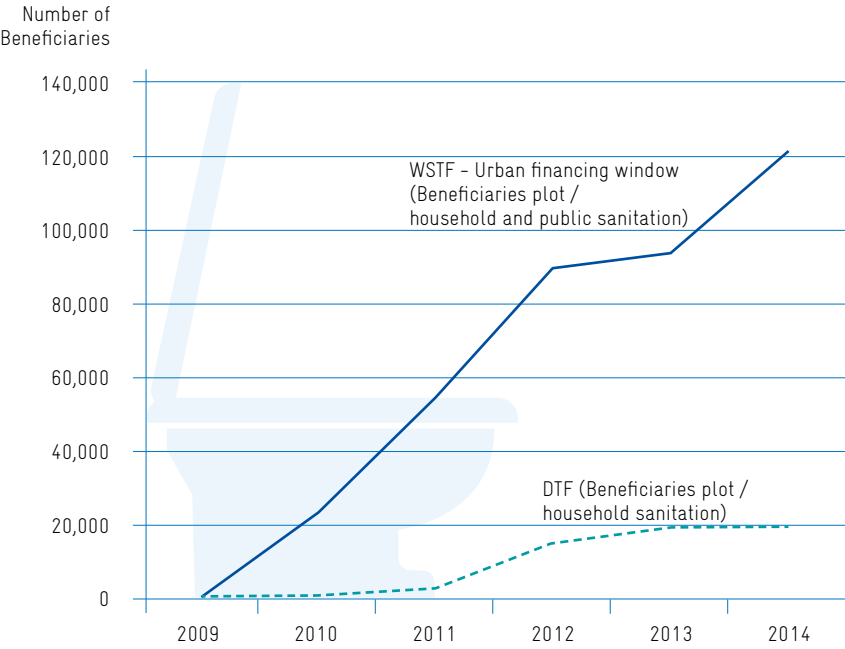


Figure 4:
Outcomes of DTF and WSTF on access to urban water supply

Progress with regard to scaling up of access to water supply through water kiosks and yard taps in urban low-income areas is substantial. In Kenya about a fifth of the urban low-income population have been reached since 2008 (according to 2011 data). In Zambia about one third of the population of urban low-income areas could be reached (according to the 2005 baseline).

Scaling up sanitation, though lagging behind, is beginning to produce results, with the lessons learnt during first attempts now feeding into the current approach (Figure 5):

Figure 5:
Outcomes of DTF and WSTF
on access to sanitation



The photos on both pages show examples of last mile infrastructure operated by utilities in Zambia and Kenya with funding from the Trust Funds DTF and WSTF.



Water kiosk, Kenya

In Zambia a first call for sanitation was implemented between 2010 and 2013. The four participating utilities implemented sewer-based sanitation systems, including decentralized wastewater treatment technologies, and provided sanitation services for 15,600 people. A sophisticated project implementation cycle was developed and adopted. That approach however has proven to be resource and time consuming as it involved intensive planning and project implementation. In 2013, a second call targeting 30,000 people was launched. The uptake illustrates the potential and demand for scaling up, which is however constrained by limited funding available through the DTF: seven utilities applied for funding for 19 projects to reach a total of almost 200,000 people. The second call will also allow for dry on-site sanitation and appropriate faecal sludge transfer stations, which is assumed to be more economical and requires less implementation time.

In Kenya, the WSTF initially focused on supporting the construction of public sanitation facilities, reaching approximately 100,000 people by 2014. WSTF in cooperation with three utilities recently developed and successfully piloted a concept to promote household sanitation through subsidized construction of toilets at plot level, training of manual emptiers and construction of decentralized treatment plants. During the pilot 2,000 toilets were built, serving 20,000 people. Households are offered a choice of toilets and receive a fixed subsidy only once the toilet is built according to prescribed standards by a tradesman contracted by the household. In the first call for proposals in 2014 more than 40 utilities expressed an interest in participating in the scaling up of household sanitation. The current aim is to reach at least 600,000 people by 2016.

	Parameter	DTF	WSTF-UPC
Institutional Performance	Start of operation	2003	2006
	Number of staff	5	6
	Commitments from DPs and government (million EUR)	22.5	23.8
	Disbursements (million EUR)	19.0	21.3
	Operational efficiency (disbursements / overhead cost)	16% Target 9.5%	10%
Outcome	Number of external audits	2 per year	1.5 per year
	Number of calls for proposals		
	Water supply	8	6
	Sanitation	2	5
	Access outcome (No. of beneficiaries)		
	Access to safe drinking water supply	1,040,000	1,750,000
	Access to adequate sanitation	15,000	120,000 ¹⁷
	Investment measures implemented (No.)	74	245
	Water supply		
	Water kiosks (No.)	467	572
	Yard taps (No.)	-	530
	Water network (km)	264	1,699
	Water tanks	856 (m³)	113 (No.)
	Water meters (No.)	57,794	25,761
	Sanitation		
	Household toilets (UDDTs, Flush, VIP Latrines) (No.)	741	2000
	Public sanitation facilities (No.)	0	56
	Wastewater treatment installations (No.)	10	0
	Sewerage network (km)	8.5	11

Status 12/2014



Public sanitation facility, Kenya



Ubsup toilet facility, Kenya



School sanitation facility, Zambia

17) 100,000 people were reached through public sanitation facilities, 20,000 through household toilets.

GIZ contribution:

- Broad technical and management advice to utilities (e.g. on billing systems, water loss reduction, energy efficiency) including establishment of kiosk operation and maintenance schemes
- Support to establishing pro-poor units within utilities
- (On the job) training and coaching of utility staff
- Mechanism to mitigate corruption risks at utility / implementation level

GIZ input:

- 1-2 international, embedded long-term advisors (3-6 years)

3.3 Comprehensive Support to Utilities

Prior to the reforms, utilities in Zambia and Kenya had little experience and few incentives to operate in low-income areas. Under the guidance of the Trust Funds they have become the main implementing agencies for scaling up and delivering on pro-poor aspirations. Utilities now professionally plan, build and operate last mile infrastructure in accordance with standardized processes and technical specifications. For a start, this allows realizing economies of scale, a precondition for efficiency and sustainability of the infrastructure.

In Zambia, all eleven utilities responsible for serving the urban population participate in the scaling up process. Parts of the supply chain for drinking water have been successfully delegated on a contract basis to small-scale service providers (so-called Water Trusts), which operate in low-income areas.

In Kenya, so far about 70 of the approximately 100 utilities (covering all major cities and secondary towns) have implemented last mile investments within the scaling up framework. Most of these utilities have had to develop pro-poor internal policies (e.g. social connection policies) and dedicated organizational structures with a clearly defined responsibility for expanding and operating last mile infrastructure – essentially pro-poor units within the utility.

The Trust Funds play an important role in helping utilities acquire the know-how and capacity to serve customers living in low-income areas. Trust Fund staff are at hand to assemble, guide and coach a project coordination team within the utility, and then supervise the implementation process in order to minimize corruption risks. Trust Funds draw on the assistance of a variety of social, technical and financial consultants contracted to work closely with utility staff on specific tasks. That way they can provide comprehensive support throughout the various steps of the call-for-proposal cycle, helping utilities:

- 🔧 to qualify for funding and fulfil eligibility criteria for investment proposals
- 🔧 to plan and implement last mile investments in compliance with rules and regulations regarding works execution, procurement and reporting
- 🔧 to develop the know-how and competence of their staff to operate last mile infrastructure and enhance customer acceptance
- 🔧 to secure the participation of the communities in the targeted service areas during planning, implementation and operation of last mile investments.

3.4 Information Systems to Manage the Scaling up Process

Detailed and verified information on the countrywide access situation and the outcomes of investments in low-income areas are crucial for the management of the scaling up process and decision-making. In Kenya and Zambia, information systems have been developed that are used regularly by regulatory authorities, DPs and decision makers in utilities and national institutions.

Information systems

- 🔧 ensure transparency in the scaling up process
- 🔧 provide a countrywide picture of the current (and future) demand and access levels
- 🔧 inform decision-making on the choice of technology and investment priorities
- 🔧 enable the monitoring of the progressive achievement of access goals
- 🔧 enable feedback on the sustainability of infrastructure (*operations monitoring*).

In Zambia, a comprehensive baseline study was implemented at the beginning of the scaling up process in 2005. The baseline provided evidence for more than 550 urban low-income areas with a population of about 3 million people, i.e. 70% of the urban population. Here, four out of five people were found to live in areas close to utility networks, yet the majority were not being served by the utilities. It provided the starting point on which subsequent management of information on pro-poor investments has been built.

In Kenya, baseline information was collected in 2011/2012 and fed into the updatable database *MajiData*. This database, which covers more than 2000 low-income areas in 276 cities and towns across the country, shows about 8 million people living in these areas, and numbers continue to rise. The information now available on the individual low-income areas is taken into consideration during preparation and evaluation of investment proposals by utilities and the WSTF respectively. It used for the design of investment measures, including demand calculation (e.g. number of kiosks required). MajiData is now also linked with the information system of the Water Services Regulator, who in 2014 started to request utilities to report annually on the service provision in the low-income areas covered by MajiData. This enables the regulator to fulfil its mandate of creating transparency on the status of the sector, and on progress made in terms of access to water and sanitation services. For the urban window of the WSTF an additional information system was developed to support the financial management and collection of data on implementation progress and sustainability (operation) of infrastructure. This database also generates information (e.g. cost-beneficiary ratio) and reports, which are submitted to stakeholders.

GIZ contribution:

- Defining the information system's framework (developing access definitions, identifying a host, recruiting a team for data collection and management)
- Setting up an IT solution and system design
- On-the-job training on the use of system
- Recruitment of data collection team and procurement of equipment
- Pre-test to check and adjust the methodology of data collection
- Collection of data for baseline and spot checks of data reliability/screening of data
- Review and redesign of the system
- Continuous on-the-job training on management

GIZ input:

- Partial financing of baseline studies
- 1-2 short to medium-term international advisors (1-2 years)
- 3-4 long-term, embedded national advisors (1-2 years)

Figure 6:
Screenshot of MajiData
user interface, Kenya



- GIZ contribution:**
- Development of standardized technical designs of customer interface (including architectural drawings, plumbing plans, technical plans, bills of quantity)
 - Technical support to develop business models and social marketing tools (e.g. posters)
 - Identification of utilities for pilot phase
 - Implementation and evaluation of tests / pilots of innovative access solutions
 - Technical advice on standards to scale up workable / accepted access solutions

- GIZ input:**
- Technical advice and financing of pilots of innovative access solutions

Figure 7:
Cover, Urban Water Supply Toolkit,
DTF, Zambia

3.5 Implementation Toolkits for Last Mile Access Solutions

Enabling utilities to effectively implement investments funded by DTF and WSTF required – at the beginning of the scaling up process – testing and piloting low-cost technologies and management models to deliver water and sanitation services in low-income areas. GIZ financed pilot studies in order to demonstrate the feasibility of broad application and to show that demand existed. The experiences gained from the pilot implementation of water kiosks, yard taps and public and on-site sanitation facilities were fed into the development of a comprehensive set of standards, manuals and tools. These would then provide hands-on guidance during all stages of planning, construction and operation of last mile infrastructure. Assembled into toolkits, they are now being used as key implementation instruments.

Toolkit for Peri-Urban Water Supply



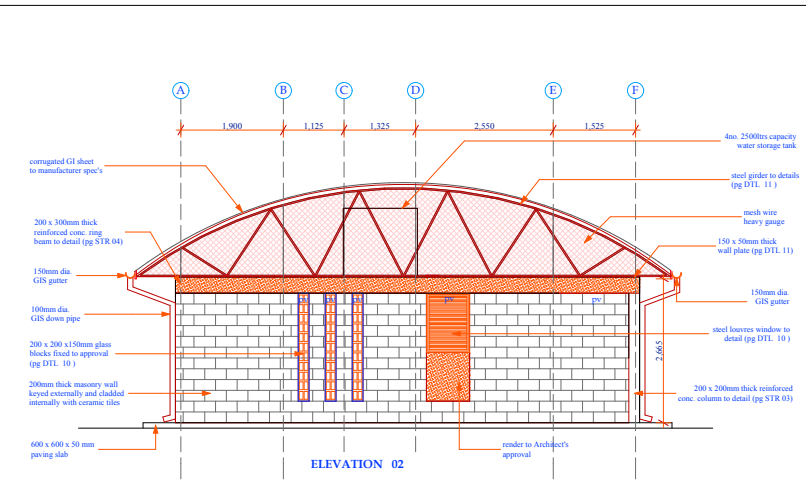
Currently, implementation toolkits for last mile access exist for urban water supply, urban public sanitation and urban household sanitation (e.g. [fig. 7 and 8](#)). The toolkits support the staff of the Trust Funds, staff of the water utilities, local consultants, community members and operators of public sanitation facilities / water kiosks through:

- standardization of the design of last mile infrastructure,
- a comprehensive approach to implementation, covering social marketing / behaviour change, technical specifications (bills of quantities, technical drawings), and models for the financial management and operation of infrastructure.

The toolkits are regularly updated by the technical teams of DTF and WSTF based on feedback on their application in the field received from the utilities and Trust Fund staff.



Figure 8:
Technical Drawing, Toolkit Public
Sanitation Facilities, WSTF-UPC, Kenya





4.0 LESSONS LEARNT AND OUTLOOK

The comprehensive scaling up approach developed in Zambia and Kenya has resulted in significant improvements of the access situation in urban low-income areas. A clear pro-poor orientation is permeating all sector levels. The combination of innovative financing mechanisms, a pragmatic stance on service options and the emphasis on continuous capacity development activities to support sustainable operation of last mile infrastructure have delivered impressive results in a relatively short time span: more than 2.7 million people have been reached with last mile investments in safe drinking water supply within seven years, and more than 135,000 gained access to adequate sanitation within the last five years.

Unlike too many other access statistics, these figures have been verified through specifically developed information systems and take into account agreed minimum service criteria. For consumers, the positive impact has been tremendous: households make substantial savings, incidences of waterborne disease demonstrably decline, hygiene improves and the burden of fetching water, usually the task of women and children, is significantly reduced¹⁸. At the same time, the scaling up approach has proven cost-efficient and sustainable: the total cost of technical assistance, capital for the last mile investment and operation of the financing mechanism (i.e. Trust Fund overheads) amount to an average last mile investment cost of 10-14 EUR / beneficiary for water supply¹⁹. Comparative costs for sanitation are falling to 24 EUR / beneficiary – both representing good value for money.

Persistent challenges for scaling up in Kenya and Zambia

As the scaling up processes are in full swing, some misperceptions in particular have turned out to be quite persistent:

- ✚ The underestimation of ability to pay for services in low-income areas is still widespread, despite contrary evidence.
- ✚ Some decision makers still question whether the size of a utility actually matters for effective operations. While the number and size of utilities in Zambia already allows for operational efficiency, the Kenyan sector framework does not yet cater for the clustering of the more than 100 utilities. This precludes urgently needed economies of scale.

Stakeholders engaged in scaling up are contending with many challenges – some old, some new:

- ✚ Despite their success in expanding coverage in urban areas, the Trust Funds still lack attractiveness for DPs and national funding. As the growing financing gap cannot be bridged by solely relying on funds from DPs it will also require a higher level of self-financing.
- ✚ The Kenyan case demonstrates the ongoing difficulties with ISPs: although no longer legally recognized, reality shows that it is difficult to integrate ISPs in formal utility systems or to replace them entirely.
- ✚ Baseline information is critical to start a scaling up process and guide the prioritization of last mile investments and technology choice. However, experience has shown that continuous updating of the data is difficult to achieve.

18) WSTF (2009): Survey on the impact of formalised water kiosks on living conditions in Athi River and Ongata Rongai. Nairobi.

19) Excluding investments in large-scale, *first mile* infrastructure.

Lessons to share

The real innovation of the Kenyan and Zambian approach lies in abandoning the conventional (large-scale) project approach with its limited implementation modalities in favour of explicitly pro-poor financing mechanisms, which emerged as the main drivers of the scaling up process. The Trust Funds have been instrumental in channelling investment funding to those utilities showing promise and commitment to serving all their customers. Beyond providing comprehensive implementation support they also facilitate continuous institutional learning and knowledge transfer. The advantages of this approach in terms of speed, efficiency and quality of the scaling up process and, ultimately, sustainable sector development are summarised in the box below.

Financing mechanism v. conventional project approach

- Repeating call cycles leads to institutional learning: utility managers, Trust Fund staff and local consultants develop and constantly re-apply new knowledge on how to serve low-income areas.
- Technical solutions, business models and social marketing methods are updated based on experience.
- National technical and process standards are applied uniformly to last mile investment measures by all utilities, and again can be improved continuously.
- The mix of access solutions allows for the flexible use and adaptation of technical solutions as user demand and expectations gradually shift towards higher service levels. The monitoring of investment cost, beneficiaries and sustainability secures a measurable and visible contribution to national and international access targets.

Reflecting on the experience in Kenya and Zambia, a number of further important lessons can be drawn that offer useful insights for anyone wishing to develop a scaling up approach in different settings.

- ✚ Scaling up works best if embedded in a national water sector reform and if implemented through national structures (i.e. utilities and financing mechanism). This way it contributes to sustainable sector development.
- ✚ Successful scaling up requires prioritising investments in the *last mile*. There needs to be a strong focus on low-cost infrastructure, including standardized customer interfaces, i.e. water kiosks, yard taps, public sanitation facilities and a (limited) choice of household toilets.
- ✚ The acceptance of different service levels, transitional and mixed access solutions reduces the investment gap to connect the unserved people in urban areas considerably. A clear definition and enforcement of minimum service standards is imperative in order to protect the beneficiaries.

- ✚ Scaling up is a long-term process that requires an adequate time horizon: three to four years in order to develop the institutions and instruments for scaling up, and 20 to 30 years to reach full service coverage in urban low-income areas.
- ✚ As the scaling up process progresses, both demand and supply of water and sanitation climb up the service ladder: the willingness to pay for service solutions of higher quality and convenience increases and the Trust Funds and utilities are able to provide services of a higher complexity. Utilities increasingly develop a commercial interest in providing services in low-income areas and improve their reputation among residents in these areas.
- ✚ Due to its complexity in the implementation, the scaling up approach requires constant learning on the part of all stakeholders and a willingness to continuously adjust and further improve both the overall concept as well as any specific tools. While the concept and tools in Kenya and Zambia are quite matured already, there will always be room for enhancement.
- ✚ GIZ works closely with the Trust Funds' financing partners in Kenya and Zambia. This close collaboration of financial and technical cooperation is critical to combine the funding of last mile investments with the concept and capacity development activities that are necessary to scale up services. Close coordination between financial and technical cooperation also helps to manage political, fiduciary and operational investment risks. The latter requires long-term advisors working with the financing mechanisms and providing on-the-job training.
- ✚ The impact and efficiency of the Trust Funds can be further increased by investing more. If the financial contributions to the Trust Funds would double, the relative share of the technical cooperation cost could be reduced by a third.

Outlook

Scaling up water and sanitation services in urban low-income areas, even informal settlements, not only closes the last mile of physical access, but also the gap between infrastructure development and sustainable sector development. As the results described in this paper show, the scaling up approach developed in Zambia and Kenya addresses all dimensions of sustainability: cost efficiency and long-term serviceability of the infrastructure, demand-orientation and environmental health.

Successful last mile infrastructure investments must be much more than an *accompanying measure* of larger investment projects. Only a scaling up process that is embedded in national and local sector institutions and that is supported by – and can feed back into – sector policy and strategies can reach the urban poor in a sustainable manner. Implementation of last mile investments by professional national organisations, such as the WSTF, DTF and utilities, entails reduced management costs and financial and technical cooperation support. DPs in particular are encouraged to consider these advantages.

ABBREVIATIONS

DP	<i>Development Partner</i>
DTF	<i>Devolution Trust Fund (Zambia)</i>
GDC	<i>German Development Cooperation</i>
GIZ	<i>Deutsche Gesellschaft für Internationale Zusammenarbeit</i>
ISP	<i>Informal Service Provider</i>
KfW	<i>Kreditanstalt für Wiederaufbau (German Development Bank)</i>
MDG	<i>Millennium Development Goal</i>
NGO	<i>Non-governmental Organization</i>
UDDT	<i>Urine Diverting Dry Toilet</i>
UN	<i>United Nations</i>
UPC	<i>Urban Projects Concept (urban financing window of Water Services Trust Fund)</i>
VIP	<i>Ventilated Improved Pit (Latrine)</i>
WSTF	<i>Water Services Trust Fund (Kenya)</i>

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FURTHER INFORMATION

More information on the work of the Trust Funds can be found at www.drfwater.org.zm and <http://wstf.go.ke>

For further information on MajiData Kenya, visit www.majidata.go.ke

Published by:
Deutsche Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH
Postfach 5180
65726 Eschborn, Germany
T +49 6196 79-0
F +49 6196 79-1115
E info@giz.de
I www.giz.de

Eschborn, Germany, February 2015

Authors:
Steffen Blume, Daniel Nordmann,
Dirk Schäfer, Roland Werchota

Co-Author:
Michael Rosenauer

Editors:
Daniel Nordmann & Jadranka Saravanja

Concept and design:
© creative republic
Thomas Maxeiner Kommunikationsdesign,
Frankfurt, Germany
T +49 69-915085-60
E t.maxeiner@creativerepublic.de

Images:
© GIZ & Water Services Trust Fund Kenya
© Shutterstock (page B, 8, 28-29)

Illustrations:
© creative republic

Print:
Werbedruck, Petzold, Gernsheim