WSUP | Water & Sanitation for the Urban Poor

ESAWAS REGULATORS ASSOCIATION

Referee!

Responsibilities, regulations and regulating for urban sanitation

Discussion Paper | June 2020

Executive Summary

This Discussion Paper synthesises experience from Eastern and Southern Africa and Bangladesh to explore the evolving role of regulators in driving urban sanitation service improvements.

The paper argues that effective regulators and regulations are urgently needed to improve urban sanitation services to the poorest, and highlights some ways in which this can be achieved.

The paper features six case studies of diverse regulatory initiatives, ranging from sanitation surcharges and specific Key Performance Indicators (KPIs) to national-level institutional and regulatory frameworks. In each case, the paper aims to document how progress has been made, but also to critically assess future challenges to implementation. Key messages of the paper are:

Regulatory effectiveness is a core driver of improved sanitation services. Every football match needs a referee.
In the sanitation sector, the regulator's task is to ensure a balance between the quality of the service, the interests of consumers and the financial sustainability of service providers. In effect, the regulator must referee between two teams – the government and service providers – for the benefit of customers. This means deploying the necessary incentives and sanctions, while using discretion to keep the match moving forward towards a mutually beneficial outcome. The regulator must achieve this through decisions based on imperfect data – decisions which will inevitably be viewed as wrong by one side or the other.

The paper argues that a functional sanitation sector requires an effective regulator, just as any football match requires a referee. It is only some form of regulator who can deliver the flexibility required to get the best out of a complex system in low-governance capability countries.

Regulations are not enough. Clear responsibilities and active regulating are essential.
Effective regulation begins with clear responsibilities. A major issue has been the requirement for municipalities to act both as service provider and the enforcer of regulations. This makes them both a player and the referee — a clear conflict. It is notable that Kenya and Zambia are now moving towards consolidation of urban sanitation service provision responsibilities within water supply and sanitation utilities, a model also recommended by ESAWAS.

In many countries, sanitation standards are encapsulated in national laws and municipal by-laws. However, the translation of agreed standards into improved outcomes, delivering public health benefits to all, has proven difficult. The sanitation sector has a rich tradition of developing frameworks, plans, standards and regulations which are never implemented or enforced. This persistent failure underscores the importance of *regulating* – the ongoing process of managing the delivery of regulations.

Problems cannot be solved in one bold step. Active regulating involves incremental change, extensive consultation and testing.
None of the regulatory instruments featured in this publication have realised their potential impact. In some cases, it may be several years before the instrument is fully operationalised – the development of the planned sanitation surcharge in Maputo, for example, has been ongoing since 2013. However, our case studies show meaningful progress is now being made by WASREB (Kenya), NWASCO (Zambia) and AURA, IP (Mozambique) on their journey towards active sanitation regulating.

These regulators are fully aware that they operate within a wider urban sanitation system, and of their capability to drive change within that system. Regulatory reforms like WASREB's KPI 10 can usefully be viewed as systems interventions – the introduction of these reforms requires an iterative process of testing, monitoring and adaptation in response to system feedback. This is why regulatory reform must be incremental, underpinned by extensive stakeholder management and consultation – to rush these processes risks distorting the system in unhelpful ways.

A Regulating Ladder could support countries in their journey towards active regulating.
Building on this understanding of regulation as an incremental process, we propose a 'regulating ladder' – mirroring the Unicef/WHO JMP sanitation ladder – to inform assessments of where countries stand on their journey towards active sanitation regulating. The ladder brings to light the distinction between passive regulations compliance and 'active regulating': where independent regulatory authorities are deploying a wide range of tools to drive sector improvements, in what is described as a 'safely managed regulatory service'. We leave it to the reader to judge where each of our case study locations lie on this ladder — though all are moving in the right direction.

Contents

Introduction

This Discussion Paper synthesises experience from four WSUP focus countries (Bangladesh, Kenya, Mozambique and Zambia) and regional initiatives from Eastern and Southern Africa to explore the evolving role of regulators in driving urban sanitation service improvements.

The case studies documented in this publication are wide-ranging – from county-level Standard Operating Procedures (SOPs – effectively pre-regulations) to comprehensive national regulatory frameworks for on-site sanitation (OSS) and faecal sludge management (FSM). In each case, meaningful progress has already been made towards strengthening the regulatory environment for urban sanitation. However, a number of the instruments described are yet to be implemented or enforced - some have been on the cusp of implementation for a number of years, and in each case, the potential of the instrument is yet to be fully realised. This publication therefore aims to document how progress has been made, but also to critically assess future challenges to implementation.

A key message, manifest in the case studies, is that frameworks, regulations and standards are not enough. The translation of these instruments into improved services – and ultimately the realisation of the human right to sanitation – is an incremental process, requiring active and sophisticated regulating, ideally by an independent regulatory entity. Bearing in mind this important distinction, we propose a 'regulating ladder' – mirroring the Unicef/WHO Joint Monitoring Program (JMP) sanitation ladder – bringing to light the distinction between, for example, passive regulations compliance and active regulating. Such a ladder can support a nuanced understanding of the relative functionality of sanitation regulation in a given country – regulatory effectiveness being central to achieving at-scale sanitation service provision in pursuit of Sustainable Development Goal (SDG) 6.

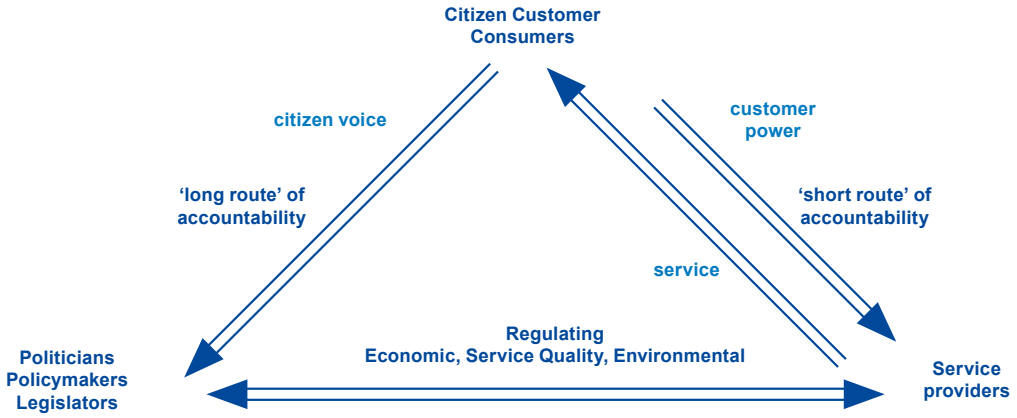
Image: Kaptagat, Nairobi.

The role of the regulator in urban sanitation

Safe and equitable water and sanitation service provision depends on effective regulation to formalise the sector and provide clear guidelines for those working within it. WSUP's own experience has demonstrated that effective regulation is a critical component of a functional urban WASH sector (WSUP, 2017a). The importance of regulators in supporting at-scale service delivery is explicit and vital: they have the responsibility for monitoring and reporting progress towards universal access for water and sanitation, under SDG6.

The task of regulators has been described by ESAWAS (The Eastern and Southern Africa Water and Sanitation Regulators Association) as to *'ensure a balance between the quality of the service, the interests of consumers and the financial sustainability of the providers'*. This work is particularly complex in sub-Saharan countries, where a public service approach to sanitation is new, and where the sector has frequently been relegated to unchecked and uncoordinated informal providers. A starting objective of regulation in these contexts is to create a formal market for sanitation services across the sanitation chain, to raise standards, and to promote coordination between the various actors

Figure 1: The Regulating Accountability Triangle. Source: World Development Report, 2004.



involved, including SMEs, city sanitation authorities and households.

Figure 1 expands on the ESAWAS definition of the regulator's role. The Regulating Accountability Triangle underlines the balancing act that must be performed between i) policymakers, legislators, and the government policy they determine; ii) service providers, who depend on the financial viability and sustainability of the services they provide; and iii) consumers, with their right to affordable, quality services.

In this conception, the regulator's fundamental task is to balance the financial sustainability of service providers with affordability of services for low-income consumers, through appropriate tariffs, charges and subsidies.

The regulator as referee

A useful analogy for the role water and sanitation regulators must perform is that of a referee in a football match. Franceys and Gerlach (2008) extend this analogy, arguing the regulator must referee between two teams – the government and service providers – for the benefit of customers, who in this analogy are the crowd. The referee's task is to keep the game flowing towards a mutually beneficial "score draw" – maintaining the rules of the game, deploying the necessary incentives and sanctions, while all the time using their discretion to keep the match moving forward for the benefit of all.

A functional sanitation sector requires an effective regulator, just as any football match requires a referee. In the author's view, it is only some form of regulator who can deliver the flexibility required to get the best out of a complex system in low-governance capability countries: deciding on the way forward, seeing the results and making the necessary course adjustments over many years.

The 3 Rs: responsibilities, regulations, regulating

Case studies in the publication are structured as three core sections: responsibilities, regulations and *regulating*. Below we outline the interdependency of these concepts, and why each is a condition for overall regulatory effectiveness. For our definitions of these terms, see Box 1.

Why regulations are not enough

In many of the countries where WSUP operates, sanitation standards are encapsulated in national laws and (more typically) municipal by-laws, which define what is required of all households and of the various stakeholders. However, the process of moving from agreed standards — even when sufficiently inclusive and guaranteed in law — to improved sanitation being used in practice, delivering public health benefits to all,

Box 1: Definition of the 3 Rs

Responsibilities: Which institution or stakeholder should be doing what in delivering the progressive realisation of the human right to sanitation? Are there any gaps?

Regulations: What are the standards to be achieved and the rules that need to be obeyed to achieve effective sanitation for the protection of public health?

Regulating: The ongoing process of managing the delivery of the regulations: balancing affordability and user willingness-to-pay against financial viability of service providers and overall sustainability of services.

has proven to be a difficult one. One example of agreed standards failing to translate into improved outcomes is Ghana, where landlords have been required in law to provide a toilet for compound residents since the 1970s, but where the by-law has rarely been enforced (WSUP, 2019).

This failure to adequately implement existing standards and regulations is a common one. The reasons for the failure are multiple: they typically include governance-related challenges (for example, inadequate municipal capacity to oversee the standards), coupled with the practical challenges of ensuring compliance, particularly in low-income contexts. These challenges may potentially be related to unaffordability of improved sanitation for low-income households; and lack of physical resources to empty pits and transport waste to treatment facilities. In some contexts, there may be a tacit acceptance that agreed standards are unachievable in very low-income, informal housing areas, or cannot be legally enforced in illegal settlements, with the result that no attempts are made to ensure improved service delivery.

The craft of regulating

The persistent failure to translate agreed standards into improved outcomes underscores the importance of 'regulating' – which can be defined as the ongoing process of managing the delivery of regulations. The UN Special Rapporteur articulates the goal as being the 'progressive realization' of the human right to water and sanitation (2017), recognising that it will not be possible to deliver such a valuable right immediately. The role of regulating — a regulator's task — is to act as the intermediary between the clear targets, standards and laws set by policy and lawmakers, contrasted with the reality of formal and informal service providers with insufficient resources, and their customers with limited effective demand. This requires the regulator to be pragmatic as well as optimistic regarding what is achievable at any time, using the powers of their office to incentivise, penalise and nudge service providers to provide good services and customers to pay for improved services priced at an affordable level.

Regulating needs clear responsibilities

In economists' terms, sanitation can be characterised as a private good at the toilet level, but with public good characteristics, including externalities at the treatment and recycling level, and the potential for a market in emptying and transport. Here the concept of public good is important, as it describes situations where householders and private service providers are likely to underinvest relative to the benefits to society as a whole. At one level, sanitation is clearly a municipality task – similar to solid waste management – with city authorities typically responsible for passing the by-laws that define the standards, licensing operators, and adopting overall responsibility for managing treatment facilities.

Clarity of responsibilities for urban sanitation at the city and national level – both delivery and regulation – is evidently key to the prospects of success. In sub-Saharan Africa and elsewhere, a major issue has been the requirement for

municipalities to act both as service provider and the enforcer of regulations. In the above analogy of the football match, this makes them both a player and the referee - a clear conflict.

Experience suggests that faced with this scenario, municipalities have generally not been able to deliver the flexibility and balance between incentives and penalties that is required for progressive realisation. In response, the experiment of a quasi-independent regulator exercising oversight of utility-provided services – previously shown to be an effective model for improving monopolised water supply – is now being extended to sanitation. As detailed in the case studies, it is notable that both Kenya and Zambia are moving towards consolidation of urban sanitation responsibilities within water supply and sanitation utilities, a model also recommended by ESAWAS.

About the case studies

The opening six case studies are ordered in what could be seen as a progression from institutional development of the enabling environment - addressing the *responsibilities* - through the development of *regulations*, to the overall task of *regulating* (see Table 1). The case studies have been prepared based primarily on published WSUP and national government documents and stakeholder interviews. These cases, and this paper, must not be considered as representative of all the issues relating to the '3 Rs' – they have been selected to document and inform the activities of WSUP's national stakeholders, all of whom are edging towards their own solutions, very appropriately learning by doing.

Image: Paying a water bill in Maputo, Mozambique **Credit:** Ernanio Mandlate.

In the final case study we take a step back and explore the 3 Rs through the lens of the ESAWAS 'Regulation Strategy and Framework for Inclusive Urban Sanitation Service Provision Incorporating Non-Sewered Sanitation Services' (2019).

The paper concludes with a suggested ladder of regulations, responsibilities and regulating – mimicking the water and sanitation ladders of the JMP – to help map steps along the journey towards active regulating.

Table 1: Overview of country case studies.

Regulatory instrument	Focus	Location
Institutional & Regulatory Framework for Faecal Sludge Management (FSM)	Broad assignment of institutional responsibilities	Bangladesh
Standard Operating Procedures (SOPs) for pit emptying services	A first step towards regulation	Kisumu, Kenya
Sanitation surcharge	The regulator's role in consulting for and testing innovative cross-subsidy solutions	Nakuru, Kenya
Sanitation surcharge	Adopting new regulatory responsibilities	Mozambique
Framework for Provision and Regulation of Urban Onsite Sanitation and Faecal Sludge Management	A well-developed framework moving towards active regulating	Zambia
Pro-poor Key Performance Indicator	A pioneering step of active regulating for pro-poor service improvements	Kenya

1. Bangladesh: Institutional & Regulatory Framework for Faecal Sludge Management

Broad assignment of institutional responsibilities

1.1 Context

Bangladesh has made striking progress in addressing the challenge of open defecation through the Community-Led Total Sanitation approach, particularly in rural areas.[1] However, the effective use of on-site sanitation solutions in urban areas is made more difficult by the high population density, with limited land availability causing difficulties in access for mechanical septic tank and pit emptiers, as well as lack of space for drainage fields for septic tank and grey water effluent soakaways. The necessity for households to share latrines in low-income areas leads to pits rapidly filling and requiring regular emptying if the toilets are not to become unusable. The solution tends to be short-circuiting of pits, tanks and soakaways: untreated human waste is commonly discharged directly to open drains, presenting an obvious public health risk through exposure to faecal pathogens.

'Raw sewage generated from these areas are now flowing through storm drains. This is causing massive environmental pollution and creating serious health hazards, the effects of which are being felt within the city and beyond (PSB, MoLG, 2017).'

Starting from an already high level in 2020, Bangladesh's urban population is projected to double by 2050. Relative to its GDP per person, the country has a significantly lower average Country Governance Index (CGI) ranking than the other case study countries featured in this report. Regulatory effectiveness is also less developed. To date the challenge of faecal sludge management has been *'Inaptly managed'* according to the government's own assessment. This is only now beginning to be addressed, by NGOs working to support SME and community-level initiatives in pit emptying; and by government, initially through a consideration of the institutional roles and responsibilities for FSM.

Image: Waste treatment plant in Chattogram, Bangladesh. **Credit:** Green Ink Media.

1.2 Responsibilities

In 2010 the Rapporteur on Human Rights to Water and Sanitation stated that *'Independent and effective regulation of water supply and sanitation does not currently exist in Bangladesh and is urgently needed to ensure compliance with the numerous laws and policies in place'* (Albuquerque, 2010). To address these issues, the Asian Development Bank (ADB) supported a

Table 2: Breakdown of urban population with safely managed sanitation in Bangladesh. Source: JMP, 2019.

Proportion of population with improved sanitation:	82%
Proportion of population with improved facilities (including shared) which are:	
Sewer connected	14%
Septic tanks	22%
Latrines and other	46%

[1] Joint Monitoring Report (JMP)

Technical Assistance programme to reform the sector, initially focused on improved urban water supply, but expanded to include sanitation following stakeholder inputs. The ADB's Project Completion report stressed the need to address *'the interconnections amongst economic and other aspects, such as quality, coverage, reliability, affordability of service, in the regulation'* (ADB, 2016). A Water Supply and Sanitation Regulatory Commission (WSSRC) was designed with appropriate responsibilities. A final draft of the WSSRC Bill was presented at the National Forum for Water Supply and Sanitation in April 2016, with the assumption of a relatively quick enactment of the Bill.

Development of the Institutional & Regulatory Framework (IRF)

While seemingly a step forward, the formation of the WSSRC now appears to be on hold. In the interim the Ministry of Local Government formed an 'IRF-FSM development committee', working under the leadership of ITN-BUET and the Policy Support Branch of the Government of Bangladesh, with the involvement of sector partners including UNICEF and WSUP. The committee was created to draft a much needed institutional and regulatory framework for faecal sludge management.

As defined by the Policy Support Branch, the primary objective of this framework is *'to facilitate implementation of FSM in all City Corporation areas. Specifically, this framework would identify ways and means of implementing FSM services in the City Corporations; and define specific roles and responsibilities of various institutions and stakeholders, particularly that of the City Corporations, for effective implementation of FSM'* (PSB, 2017).

The formation of the IRF took over two years of consultations with sector actors and stakeholders, from the community to Ministry level, the resulting documents being signed into law in May 2017. Consisting of four Frameworks that cover Dhaka, the nine City Corporations, Pourashavas (collections of multiple smaller urban areas) and rural areas, the Institutional and Regulatory Framework for Faecal Sludge Management (IRF-FSM) is now the blueprint for institutional responsibility for FSM throughout the country.

The IRF stipulates that total responsibility for FSM in urban contexts sits with the City Corporation – though they can take assistance from or collaborate with the water and sewerage authorities and the private sector. The document implicitly recognises that City Corporations do not yet have the capacity and structure to perform this role effectively, noting City Corporations *'particularly the newer ones, have limited capacity, both in terms of resources and trained manpower'* and that at present *'there is no separate unit/division in city corporation organogram for FSM'*. Importantly, the IRF does not allow for any separate regulatory input to supervise and oversee FSM – the total responsibility in this area assigned to City Corporations encompasses both service provision and regulation.

1.3 Regulations

The IRF refers to *'compliance with existing rules and regulations (for example, disposal of liquid effluent, and quality of end products such as compost), without adversely affecting health and safety of emptiers, the public and the environment.'* In addition, the Local Government Division is required to develop a wide range of new standards and guidelines, including for emptying, transportation, and treatment of faecal sludge; operation and maintenance of faecal sludge treatment plants; disposal of effluent from faecal sludge treatment facilities; quality control and standardisation of treated products and by-products; and protocols for securing licences for using and/or marketing any organic fertilizer produced at faecal sludge treatment facilities. The Framework also empowers the City Corporations to enforce minimum standards for sanitation facilities by serving notice to property owners where facilities do not exist or fail to meet the required standards.

1.4 Regulating

City Corporations are also tasked under the IRF with fixing fees and charges for collection and transportation of faecal waste. The Framework envisages the introduction of a discharge incentive to encourage operators to dump the collected waste at the faecal sludge treatment plant. *'The financial incentive here is used to encourage socially desirable behaviour i.e., to encourage sludge collection and discharge at the treatment plant and reduce illegal discharge'* (PSB, 2017).

The discharge incentive is an excellent policy in principle; however, it will place additional strain on already limited local government finances to support sanitation. This and wider arrangements outlined under the IRF are based on the belief that FSM services will be turned into viable businesses in the future, generating a taxable surplus to support capital expenditure and subsidies (although it is acknowledged that substantial national government support will be needed to fill the budget gaps of the City Corporation, particularly in relation to major capital expenditures).

The planned future reliance on service revenues raises the question of how to balance financial viability for service providers with affordability of services for the poorest households, for example through cross-subsidy approaches. Here as for the development and enforcement of wider regulations (see 1.3), the absence of separate and independent regulatory input will make the task more challenging. Sector experience has demonstrated the difficulties faced by public water utilities in setting appropriate tariffs for water supplied through a pipe – a relatively more straightforward process than safe sanitation service provision – with a burgeoning consensus that some form of regulator is needed to balance affordability and equity with the ultimate requirement to deliver a sustainable service.

The absence of a regulatory entity means the IRF in its current form poses major challenges to government institutions, most notably the City Corporations, for whom FSM remains a relatively new concept. These actors are now expected to oversee FSM service delivery across the sanitation chain in coordination with households and the private sector, while monitoring and enforcing the standards they have set themselves. The City Corporations are well aware of their limitations, and can be expected to receive support from partner organisations in building their capacity to deliver; however, building capacity with respect to FSM responsibilities is a long way from the active discipline of regulating.

1.5 Conclusions and next steps

The IRF-FSM is an important step forward in clarifying institutional responsibilities for FSM service provision in Bangladesh: previously FSM fell between the gaps and no authority could be held accountable for its provision. However, it is highly questionable if the Framework in its current form will address the regulatory gap. Critically, the IRF does not allow for any separate regulatory input: at present the service provider is also responsible for setting the standards, monitoring results and managing many of the services.

Implementation of the IRF remains at a formative stage. Although responsibilities have to a large extent been clarified, regulations for FSM are still to be determined. In order for citywide FSM to now be introduced – and delivered at the same time as comprehensive sewerage systems, to be managed in Dhaka by DWASA, the Water & Sewerage Authority – some form of overall sanitation *regulating* will undoubtedly be required. The balancing of competing financial requirements, determining tariffs, charges and subsidies, and incentivising efficiency in the supply chain are all highly complex tasks which demand some form of autonomous regulation. To help ensure increased attention to FSM in Bangladesh translates into benefits for all citizens, the earlier envisaged Water Supply and Sanitation Regulatory Commission now appears even more urgently required.

2. Kenya: Standard Operating Procedures for pit emptying services in Kisumu

A first step towards regulation

2.1 Context

There is limited access to sewerage services in Kisumu, Kenya's third largest city. The city's mandated water and sanitation service provider, the newly renamed Kisumu Water and Sanitation Company (the original 'sewerage' being changed to 'sanitation'), only has three functional septic tank emptying trucks to evacuate and transport faecal sludge from formal houses connected to septic tanks, and can only provide services to 10% of the city. Around 75% of households rely on pit latrines, many of which fill up quickly or even collapse due to loose soil and a high water table. Until recently, it was almost exclusively informal, small-scale manual pit emptiers emptying these full and overflowing latrines, who operated illegally, often at night, disposing of the waste along roads and in rivers during the rainy season.

This case study describes the recent development of Standard Operating Procedures (SOPs), which aim to create space for high-quality private sector service providers to operate, while minimising health risks for operators and the general public. As the first of their kind in Kenya, these SOPs are setting the standards for many other towns and cities beyond Kisumu. In terms of the cases described in this paper, the SOPs represent the development of realistic and safe approaches to latrine emptying and transport before these activities are codified in by-laws and regulations.

2.2 Responsibilities

Under the devolved Kenyan public health system, the Kisumu County Public Health Office is responsible for on-site sanitation. There are standard municipal by-laws requiring houses to have septic tanks or pit latrines, but there are no governmental regulations for latrine emptying, transport and treatment. The National Environment Management Authority (NEMA) is responsible for overseeing the transport and disposal of pit latrine waste, but has no standards that govern the transportation of human waste in barrels, which is the common practice for formal manual pit emptiers.

Image: Safety information displayed at a pit emptying in Kisumu

KIWASCO intends to recycle and reuse sewage sludge from their wastewater treatment facilities, which also receive faecal sludge from pit latrines. WSUP worked with the County Department of Health and Sanitation to create an enabling environment and a County environmental health and sanitation policy. A key finding from this process was the absence of policies and

Table 3: Breakdown of urban population with safely managed sanitation in Kenya. Source: JMP, 2019.

Proportion of population with improved:	79%
Proportion of population with improved facilities (including shared) which are:	
Sewer connected	20%
Septic tanks	12%
Latrines and other	47%

legislation for pit emptying services in Kisumu. Subsequently, WSUP supported the Department to develop SOPs for the management of faecal sludge.

2.3 Regulations

Designing the SOPs

The SOPs for emptying, transportation, treatment and disposal of sludge are an interim statement of required standards that are *expected to improve and evolve over time*. The aim is not to put informal providers out of business, but rather to formalise their services - stimulating fair competition and raising pit emptying standards all round.

The SOPs are designed to help emptiers and provide them with a clear licensing process which integrates environmental standards for safe transport and discharge, and minimises the risks of pit emptying to operators and the general public. To be effective, the SOPs need to be attainable for small businesses. One of those businesses, Gasia Poa - which WSUP supported to expand into sludge removal - was involved in the formulation of the SOPs, helping to ground the process and make it responsive to the real challenges that operators face.

Requirements of the SOPs

As a starting requirement, the SOPs in Kisumu require that FSM-related enterprises have three licences: one to operate a business; one to transport waste issued by NEMA; and a Hygiene and Operational License from the County Public Health Office. The SOPs also specify personal safety and emptying equipment, best practice for transporting and disposing of waste in KIWASCO's Nyalenda wastewater treatment plant, and guidelines relating to customer acquisition and relations. In future, it is envisaged that all employees must be immunised against typhoid, Hepatitis B and cholera, have health insurance, and be trained by the County Public Health Office.

The SOPs give Public Health Officers the opportunity to train pit emptiers in safe working practices and allow emptiers the licence required to operate during the day. The faecal sludge is permitted to be transported to and disposed of at KIWASCO's wastewater treatment works, at which waste ponds have been upgraded to improve screening for solid waste. NEMA have also agreed that sealed barrels are an acceptable means of transporting human waste, as long as clearly labelled vehicles are used on agreed routes, with all operatives using appropriate personal protective equipment.

2.4 Regulating

Financing safe sanitation

Ongoing oversight is required even before the SOPs are formalised as by-laws. Without active regulating to clamp down on illegal practices, formal providers are not positioned to compete with informal providers; the latter can charge lower prices because they circumvent licensing procedures and cut corners through unsafe emptying and disposal practices - for example, by dumping sludge in a local watercourse or burying it on site. This results in pronounced negative environmental and public health impacts.

However, the challenge of extending and enhancing services and making the SOPs sustainable has yet to be fully addressed. Financial modelling conducted by WSUP indicated that formalised private emptiers could break even with 23 emptying jobs per month; private businesses have found that demand for their services is typically not this high, in part because they charge $60-$70 per emptying - two to three times more than the $20-$30 charged by the informal emptiers (these costs are the average quote for an annual emptying, depending on the size of the compound's shared toilet and the season, as pits fill up faster when it rains). Landlords are responsible for paying, but at times tenants organise payment themselves.

Whether landlord or tenant, all consumers find it hard to justify paying three times more for a service when they perceive the end result as fundamentally the same – an empty pit. In time, the regulating process may have to examine whether the public good of proper faecal sludge management might be better ensured through some level of cross-subsidy – for example the sanitation surcharge now being tested in Nakuru (see Case Study 3), or the introduction of a discharge incentive.

Monitoring

To support the implementation of the SOPs, County Public Health Office staff have been issued with checklists so they can observe pit latrine emptying exercises and easily assess

whether activities meet minimum operating standards. The checklists also allow site supervisors to ensure their own operations comply with requirements.

For now, the process is also being supported by Community Health Volunteers who have been trained in the implementation and enforcement of the SOPs. The volunteers were described by a WSUP respondent as functioning "like a spy network, very useful":[2] as part of their role, they are assigned to monitor eight to ten households where they check latrines, which pits require emptying and whether anyone is emptying illegally.

Stakeholder collaboration around the SOPs

The County Public Health Office, WSUP and other stakeholders believe that the SOPs have *"brought some sanity into pit-emptying"*,[3] and engaging the County Government in the process has raised the profile of FSM politically. The process changed the conversation about pit emptying in Kisumu and has reportedly enabled compliant enterprises to develop their businesses further. WSUP has trained the County Public Health Office staff to effectively enforce the new standards and will continue to monitor progress. Initially, there was some resistance from Public Health Officers, NGOs and informal providers, but the training raised awareness and other agencies have already adopted or plan to adopt the SOPs.

If effectively enforced, the SOPs will significantly raise the professional standards of pit emptying in Kisumu, ensure a level playing ground for all FSM businesses to compete fairly, and reduce the health risks of emptying for operators. This transition cannot be taken for granted: training and enforcement must be given due priority for any regulation to be effective.

2.5 Conclusions and next steps

The SOPs are only a starting point. They are what could be described as 'pre-regulations': a foundational part of determining relevant and sustainable regulations, but not the total solution to the challenge of regulating. In Kisumu, the development of the SOPs has been an effective and useful introduction to the challenges of FSM

Image: Toilet in Kisumu, Kenya.

as Kenya moves away from an emphasis on sewerage, which is potentially unaffordable and undeliverable in many low-income areas.
On a practical level, it emerged during the SOP design process that using barrels to transport faecal waste after manual emptying *"makes no business sense"*.[4] Challenges therefore remain regarding aggregation, transportation, and finding a sustainable model for sludge holding facilities. Active regulating to balance social, technical and economic issues should be able to support this next stage.

The SOPs are a good example of meaningful initial regulatory reforms which have been adopted at the city level. In a highly decentralised country like Kenya, the next step is to develop similar codes of practice in other urban centres: for example, WSUP is currently supporting Nakuru County Public Health Office to develop its regulations and procedures for sanitation management. Significantly, the knowledge and experience gained in developing and enforcing the SOPs in the city of Kisumu is feeding into the County Government's draft Kisumu County Environmental Health and Sanitation Policy, which could potentially influence other Counties facing similar FSM challenges. With national regulator WASREB also taking an active role in on-site sanitation and FSM and preparing national guidelines, this experience in Kisumu could ultimately contribute towards the establishment of national FSM regulations and by-laws in Kenya.

[2] Personal Communication, WSUP, 27/09/19
[3] Ibid
[4] Ibid

3. Kenya: developing a pro-poor sanitation surcharge

The regulator's role in consulting for and testing innovative cross-subsidy solutions

3.1 Context

A key role of a conventional economic regulator that oversees monopolistic networked service providers is ensuring predictable financing of asset management plans. This can be achieved by building credit worthiness, setting effective tariffs, harnessing alternative funding flows, adjusting those asset management plans, and creating an environment for repayable finance.

The 2019-2030 Strategy reports that KES 53 billion (US$ 522) will be needed annually for urban sanitation to reach the Vision 2030 target (an increase from an earlier estimate that suggested $280m per annum). With a current GDP per person of $1,710, it is difficult to see how such an amount can be solely financed through user charges like pit-emptying, transport or discharge fees. This case study focuses on the development and testing of a sanitation surcharge in Nakuru: itself a response to the urgent need to identify alternative revenue streams that can contribute to reducing the sanitation financing gap.

Image: A toilet in Githima, Nakuru. **Credit:** Brian Otieno.

3.2 Responsibilities

In Kenya, sanitation and FSM are the partial responsibility of many government institutions at the national and local level. The Constitution of Kenya 2010 created two levels of government - the national government and 47 county governments. The Constitution assigned the national government responsibility for the ownership, use and regulation of water resources, consumer protection and national public works while the county governments were assigned water service provision, sanitation, catchment management and county public works. At the national level, sanitation has been moved to the new Ministry of Water, Sanitation and Irrigation while at the local level it is the responsibility of public utilities owned by the county governments.

Funding through general taxes is unlikely, as the Treasury is currently running a budget deficit (7.7% of GDP in 2018/19[5]) and has not been releasing budgeted funds to county governments, to the extent that counties cannot pay salaries. Local taxes, which the counties are now empowered to raise, are avoided for political reasons. As framed by a Kenyan respondent, '*they have abdicated, totally abdicated, or disappeared through corrupt systems; county level taxation won't happen in our lifetime, there*

Table 4: Breakdown of urban population with improved sanitation in Kenya. Source: JMP, 2019.

Proportion of population with improved:	79%
Proportion of population with improved facilities (including shared) which are:	
Sewer connected	20%
Septic tanks	12%
Latrines and other	47%

[5] https://af.reuters.com/article/idAFKBN1X91W9-OZABS accessed 28.11.19

is no motivation even to collect by counties, so move on.[6]'

The last remaining option is the utilities. The public utility serving Nakuru (NAWASSCO), following initial pushes from WASREB, has been investigating the option of adding a sanitation surcharge to the water tariff. This would demonstrate that it is possible to raise resources for on-site sanitation from those who can afford it, while supporting those who are less able to pay. Currently, the aspiration is for the County Government and eventually the National Treasury to provide additional funding.

Meanwhile, WASREB has had to take on the role of a convenor, fulfilling its responsibilities to innovate, pilot, consult and influence the roll-out of new policies, which then set the stage for revised guidelines, standards and regulations. Considering that WASREB did not include on-site sanitation in their 2018-2022 Strategic Plan, this is a remarkable commitment to undertake, and on-site sanitation is now included in the 2019-2030 National Water and Sanitation Service Strategy: a demonstration of responsive regulating. The 2016 Water Act gives WASREB the mandate to monitor the implementation of the strategy and to make appropriate recommendations.

3.3 Regulations

Developing a surcharge and supporting guidelines for utilities

'Regulation' here refers to the legal ability of water companies to apply a surcharge (a 'Sanitation Development Fee') to the water tariff in order to support the development of sanitation services.

The regulation and draft supporting guidelines were developed following a detailed willingness to pay (WTP) study of customers already paying a water tariff (WSUP, 2018a) and stakeholder consultations with representatives from five urbanised counties, six utilities, WASREB, line Ministries and other relevant actors (USRIK & WASREB, 2018).

This broad approval process was necessary given the development of regulatory guidelines on how utilities can manage and spend the collected surcharge. The WTP study, commissioned by WSUP and conducted by Aquaya, found that 75% of respondents indicated they were willing to pay some amount, although the amount fluctuated depended on various factors. However, median WTP was 100 KES ($1) per month, corresponding to 9% of the median water bill (WSUP, 2018a).

Surcharge revenue deliberations

WASREB is expected to specify that none of the resulting revenues can be spent on sewerage; they are likely to be used to support the capital expenditure required for vacuum tankers or reuse facilities. Those involved in the deliberations believe that it is unlikely revenues will be used for toilet and containment facilities, these being the responsibility of landlords. Nor will they be used for treatment, as "*the gap in the value chain is not in containment or treatment.*" Revenues could potentially be utilised to purchase vacuum tankers to lease to private sector operators – "*then the sanitation chain begins to work... with affordable charges.*"[7]

At the end of 2019, the surcharge and accompanying regulations had yet to be implemented. However, the initiative received such a positive response that it is now to be developed as national guidelines. These will have to be approved by the Board of WASREB, and subsequently by the County Government, before the Board of NAWASSCO can formally apply to implement the guidelines. In the meantime, NAWASSCO is establishing the required structures within its Low-Income Unit to implement enhanced on-site sanitation service provision.

[6] Personal communication, WSUP, 20/09/19
[7] Personal communication, WSUP, 20/09/19

3.4 Regulating

A standard regulating task is to seek out innovations, which are then verified through consultations and trials. WASREB explains how the idea for this particular sanitation surcharge developed: "*When we started regulating there were no sanitation regulations; we were making progress in water but sanitation was lagging behind by far, around 2010/11 a study [was] done about the financing gap on universal service by 2030 and we saw a huge hole.*"[8] The regulator recognises that the allowance for sewerage maintenance built into the existing tariff currently "*mostly goes to water in practice*" (ibid).

WASREB believes that internally generated funds are an important element of overall funding for sanitation. One of the variables affecting people's WTP highlighted in the 2018 study was concern as to whether the money raised through a surcharge would be used for sanitation. The ability of a regulator to monitor expenditure, report publicly on utility activities and enforce correct use of the surcharge funds will therefore be crucial for strengthening public trust and contribute to more effective internal revenue generation.

The utility's finance department is no longer the only body that is involved in these activities and, it is presumed, other key stakeholders will become part of any discussions regarding tariff and regulation reviews. These discussions will likely include requirements around ring-fencing of on- and off-site sanitation revenues and costs in the utilities' accounts.

3.5 Conclusions and next steps

The Government of Kenya has adjusted its target of attaining 80% sewered sanitation in urban areas by 2030, now aiming to provide 40% of the urban population with sewered services and 40% with a controlled non-sewered sanitation chain. Sanitation requires approximately $500m per year in addition to the $350m required for water in urban areas. Present investment in urban sanitation is approximately $100m (MWS, 2018).

WASREB was involved in the setting of those targets, will incorporate them into its own revised strategy, and is very aware of the significant need for finance. The Aquaya study indicated that if the surcharge were to be applied across all of Kenya's 91 utilities at the median WTP of $1 per household per month, this could potentially raise up to 1.6 billion KES annually - around $16 million. While this represents a relatively small proportion of the total sanitation financing gap, it is a starting point, and a positive sign that funds can be raised in a manner that bypasses the bureaucracy of initiating a new tax.

In practice, and notwithstanding the positive indications in WTP surveys, there will likely be resistance among some consumers - with water tariffs barely able to reach cost-reflectivity, people may not want to pay more for sanitation. It will take time for similar surcharges to be adopted by all utilities in Kenya, assuming that the regulator will not make such funding mechanisms mandatory.

However, regulating is the art of the possible, and cannot expect to deliver a perfect solution immediately. The introduction of the surcharge will be a learning process, as articulated by WASREB: "*It will be a step towards the bigger goal, and in the process, we will be learning to redefine it better as it is one of the pillars of the policy framework. This step will make the country learn and see how to raise finance for sanitation".*[9]

Aquaya's willingness-to-pay study in Nakuru, quoted above, found that '*WTP was on average higher among respondents who expressed higher levels of trust that money raised would be spent correctly; among respondents who perceived higher levels of own-benefit from slum sanitation improvement; among respondents who expressed higher levels of solidarity with slum-dwellers; and among respondents who were satisfied with their current water and sanitation services*.' Three out of those four points are directly under the influence of the service provider, who is in turn responsive to the requirements of the regulator. The next step, therefore, is regulating appropriately.

[8] Personal communication, Wasreb, 23/09/19
[9] Personal communication, Wasreb, 23/09/19

4. Mozambique: regulatory reforms connected to a planned sanitation surcharge

Adopting new regulatory responsibilities

4.1 Context

With an average income per person of $1,250 (PPP), Mozambique is the poorest of the four countries explored in these case studies, and has a significantly lower average Country Governance Index Ranking. Urbanisation is presently at 37% - representing 12 million city and town dwellers - but is projected to reach 55% by 2050, with a projected urban population of 37.5 million people.

Image: A bairro in Maputo. **Credit:** Terra Firma.

4.2 Responsibilities

Urban sanitation service provision in Mozambique is the responsibility of municipalities, as defined in the 1997 Local Government framework laws and associated regulations. Municipalities are responsible for sewerage and storm water drainage as well as solid waste management. To date, the focus of municipal sanitation efforts has been on solid waste management and the maintenance of small mixed rainwater/sewerage networks located in downtown areas of major cities (World Bank, 2019).

Mozambique has had an effective water regulator for two decades, monitoring performance and determining water tariffs. Initially established to support the various privatisation initiatives in the urban water sector, the responsibilities of the then Water Regulatory Council (Conselho de Regulação do Abastecimento de Água - CRA) were gradually extended by government to oversee all major urban water supply, capital investment and services being delivered by FIPAG (Fundo de Investimento e Património do Abastecimento de Água) as asset holder; then extended again to be responsible for water in small towns and all sanitation.

DNAAS (Direcção Nacional de Abastecimento de Água e Saneamento) acts as the lead policy agency within the Ministry of Public Works and Water Resources, and operates a delegated management framework with AIAS (Administração de Infraestruturas de Água e Saneamento), the national agency responsible for managing investments in water supply for small towns, and for sewerage and drainage infrastructure in all urban settlements in Mozambique.

In 2019 the government decreed that CRA should become a 'Public Institute', directly funded by government - rather than through levies on water tariffs as previously - and renamed the

Table 5: Breakdown of urban population with safely managed sanitation in Mozambique. Source: JMP, 2019.

Proportion of population with improved:	62%
Proportion of population with improved facilities (including shared) which are:	
Sewer connected	3%
Septic tanks	20%
Latrines and other	40%

Autoridade Reguladora de Águas, Instituto Público (AURA, IP). The change gave the regulator additional responsibilities and powers relating to the setting of service delivery standards, including faecal sludge management and all wastewater and wastewater drainage systems. This makes AURA, IP the regulator for municipalities in their work on wastewater drainage and sanitation, responsible for defining technical standards and regulations, in addition to services and costs. It is reported that government believes the change in status and responsibilities will give future private sector investors greater confidence (Caldeira, 2019).

4.3 Regulations

Promoting safe sanitation service delivery

Within this new framework for institutional responsibilities, standards and regulations are still being determined across the sanitation chain. Over a period of years WSUP has supported small businesses in pit-emptying and sludge disposal, trialling a variety of approaches which will help to inform new regulations, including a joint initiative with the World Bank to develop FSM services and sanitation infrastructure (see WSUP, 2017).

A significant issue in Maputo is lack of access: in many of the city's densely populated low-income areas, it is difficult to access housing plots to deliver desludging services at an affordable cost. It is common for informal pit emptiers or family members to fill the service gap by manually emptying latrines and disposing of the sludge in a new pit within the housing plot, exposing children and neighbours to hazardous material. In response, stakeholders are working closely with CMM (the Maputo Municipal Council, Conselho Municipal de Maputo) to reduce the number of sanitation facilities that cannot be properly desludged and to raise awareness about appropriate standards. The Municipal Drainage and Sanitation Policy was signed into law in August 2017 and includes provision for such sanctions. Enforcing sanctions against households and operators involved in insanitary emptying practices is pursued as a last resort.

Introducing a sanitation surcharge

Since 2013 AURA, IP has been liaising with CMM and other stakeholders to develop plans to introduce a sanitation surcharge - a cross-subsidy by which higher consumption

Image: Sanitation system manager in Matola, Mozambique. **Credit:** Ernanio Mandlake.

domestic and commercial and industrial consumers pay an additional amount on their water bill to support sanitation services in low-income areas. Similar surcharges have already been introduced in the Mozambican cities of Beira and Quelimane. In Maputo, the surcharge will be collected by the utility AdeM (Aguas da Região de Maputo) and spent by the municipality, CMM. Under the new regulatory responsibilities, collection and expenditure of the surcharge will be regulated by AURA, IP who will also exercise oversight of how resulting funds are to be spent by CMM. FIPAG, as the asset owner and AdeM's client, will receive a percentage (to be confirmed but likely to be set at 10%) of the revenue collected via the surcharge.

4.4 Regulating

WSUP has been working closely with CMM and the regulator for several years to pave the way for the sanitation surcharge to be introduced. Activities have included: a detailed financial analysis to help the regulator set the surcharge at an equitable level that is politically acceptable, and which can generate sufficient revenue for CMM to leverage more funding for large-scale service improvements; assistance in developing the regulatory framework, including the definition of eligible services to be supported through the surcharge; and support to the regulator in developing the Key Performance Indicators (KPIs) which CMM will report against.

A key challenge will be ensuring that the revenues from the surcharge are spent on sanitation improvements. Here the priority of target communities and the municipality may be to improve surface water drainage before subsidising pit emptying (in the words of a WSUP respondent, *"getting water out of the bairro is critical"*).[10] Proponents of the surcharge argue that funds should also be deployed to support recurrent costs of the city's new faecal sludge treatment works [under the World Bank-funded Mozambique Urban Sanitation Project, the city's Wastewater Treatment Plant at Infulene is being upgraded to provide for discharge and anaerobic treatment of faecal sludge from OSS facilities].

One step not currently included in the regulatory agreement, but which could assist with future monitoring and distribution of funds, is the creation of a dedicated account for the sanitation surcharge revenues. However, the existence of such an account would not guarantee the appropriate use of the revenue, and other actions would still be necessary. A common regulatory approach in this scenario is for the service provider - in this case CMM - to prepare sanitation asset management plans which can form the basis for an agreement with the regulator, guiding how the municipality can draw upon the collected surcharge. The clear outputs specified in the plan must then be achieved and verified if funding flows are to continue.

The sanitation surcharge was included in the Municipal Sanitation and Drainage By-Law, approved in December 2016; and published in the Mozambique National Journal of Laws in August 2017. The regulatory agreement between AURA and CMM is now being finalised prior to rollout. It is proposed that the surcharge will be levied at 15% of the bill for water consumption for domestic and public tariffs, and 20% for commercial and industrial tariffs. The surcharge will not be charged to households consuming at or below the social or lifeline tariff block.

4.5 Conclusions and next steps

As in the case of the proposed sanitation surcharge in Nakuru (see Case Study 3), revenues generated from the surcharge in Maputo will not be sufficient for the necessary capital investments to upgrade and extend the sewerage system and on-site sanitation infrastructures. A cost-reflective sanitation surcharge is likely to increase customer bills significantly, and public subsidies may be required if customers are to accept these higher costs. Large sanitation infrastructure projects, for example, can be considered as public goods and will have to be supported from general taxes in addition to specific water tariff-based taxes.

The regulator must also consider how to safeguard equity and ensure low-income customers are spared affordability challenges as a result of the new surcharge. This is made more complex by the increasing block tariff (IBT) system currently deployed in Maputo: it is common in low-income areas for multiple households to consume water from a single connection, which pushes their monthly consumption over the household social tariff allowance. Under the proposed plans, this would make them eligible to pay the surcharge. This issue with the water tariff will need to be addressed by the regulator, who must also ensure the resulting revenues are spent in a way that benefits low-income households - "*real equity will depend on how effectively the available resources are actually spent*."[11]

These challenges notwithstanding, the introduction of the surcharge is widely considered by stakeholders in Maputo to be an important first step towards bridging the sanitation financing gap, with the potential to generate a tax base that can support subsidised FSM services for low-income customers. Even apart from the financial flows that will result, the surcharge has already been of value for the detailed consultation it has necessitated between the regulator and the municipality, which have helped to achieve clarity around institutional mandates for sanitation more broadly (WSUP, 2019).

Through the process of developing the tariff, AURA, IP has demonstrated the value of the regulator as relationship facilitator, uniquely positioned to overcome mistrust and clarify misunderstandings between various institutions. Viewed collectively, the planned alignment of investments resulting from the surcharge with service provider performance plans, and with the regulatory framework to be agreed between AURA, IP and CMM, could significantly strengthen the sanitation sector in Maputo.

[10] Personal Communication, WSUP, 26/09/19
[11] Ibid

5. Zambia: Framework for provision and regulation of urban on-site sanitation and faecal sludge management

Moving towards active regulating

5.1 Context

Zambia has both the highest income and Country Governance ranking of the four countries considered in these case studies. With its urban population set to triple by 2050, Zambia is making significant progress in establishing regulations, standards and responsibilities for on-site sanitation (OSS), as well as developing an overarching regulatory process.

5.2 Responsibilities

The Water Supply and Sanitation Act 1997 established the National Water Supply and Sanitation Council (NWASCO) to do '*all such things as are necessary to regulate the provision of water supply and sanitation services.*' The Act emphasises NWASCO's role of licencing '*commercially viable institutional arrangements*' for the provision of water; NWASCO subsequently spent its first 15 years focusing on supporting Zambia's eleven Commercial Utilities (CUs) to deliver improved water services.

The Act was also explicit in stating that sanitation means '*the disposal, on-site or off-site, of human excreta as well as the collection of sewerage... and the treatment and disposal of wastewater*', with these activities following the standards established under the Standards Act, the Public Health Act and the Environmental Protection and Pollution Control Act. Consequently, NWASCO introduced a sanitation surcharge in 2007 to improve access to adequate sanitation services. CUs that are able to cover their full operations and minor maintenance costs may include an additional 2.5% charge on monthly water bills, with the revenue collected to be spent on NWASCO-approved sanitation projects.

Image: FSM operator in Lusaka, Zambia.

NWASCO is one of three national regulators in Zambia with a role in supporting on-site sanitation. In addition to NWASCO's focus on water supply and sanitation service provision, the Water Resources Management Authority (WARMA) regulates water resources management; with the Zambia Environmental Management Agency (ZEMA) responsible for regulating environmental protection.

Development of the OSS and FSM Framework

In 2017 NWASCO commenced developing a framework to improve regulation of OSS, with

Table 6: Breakdown of urban population with safely managed sanitation in Zambia. Source: JMP, 2019.

Proportion of population with improved:	69.8%
Proportion of population with improved facilities (including shared) which are:	
Sewer connected	25%
Septic tanks	9.8%
Latrines and other	35%

support from GIZ and stakeholders from Local Authorities and CUs. Development of the Framework followed 2017 directives by the Ministries of Water Development, Sanitation and Environmental Protection (MWDSEP) and Local Government (MLG) to ensure regulation of urban on-site sanitation. The initiative was reinforced by the 2017-18 cholera outbreak; and further preceded by the inclusion of on-site sanitation in NWASCO's 2016-2020 Strategic Plan, reflecting NWASCO's desire to integrate OSS service provision within its purview. WSUP experience from the demonstration of FSM plants in two Peri-Urban Areas of Lusaka – Kanyama and Chazanga (see WSUP, 2014) – fed into framework development.

As the culmination of this process in 2018, NWASCO published the sophisticated 'Urban Onsite Sanitation and Faecal Sludge Management: Framework for Provision and Regulation in Zambia'. The objective of this document was to create a regulatory framework to underpin the proper functioning of the whole sanitation chain, including on-site sanitation and faecal sludge management.

The Framework therefore highlights the need to establish and enforce standards for sanitation service delivery, service provider management, and sanitation facility design, construction and operation.

The Framework tasks the Ministry of Local Government, with sector stakeholders, to develop national guidelines to support the design of urban sanitation plans that reflect equitable and inclusive sanitation standards, alongside a ranking and reward system which will allow cities that progress in improved sanitation provision to be publicly recognised.

5.3 Regulations

With responsibilities clarified, the mandated entities are moving forward in developing the necessary guidelines, regulations and standards to rollout the Framework. An essential step has been the development of a sanitation by-law, led by Lusaka City Council (LCC) and closely supported by GIZ. The by-law has taken two years to develop and will address critical areas including mainstreaming new technologies in on-site sanitation facilities; and regulating the FSM service chain to ensure safe emptying. The by-law will provide a template for Local Authorities across Zambia to replicate.

ZEMA is developing a wastewater quality monitoring programme that incorporates provisions for environmental and public health assessments; ZEMA has developed effluent standards, but faecal sludge standards are not yet in place. In future, it will issue licenses for the operation of sewage treatment facilities and the disposal of treated sewage into the environment.

Meanwhile, the Zambia Bureau of Standards (ZABS) is concentrating on developing standards for sanitation technologies, as well as codes of practice and building codes.

Building on these enhanced standards and codes, NWASCO's focus is on tools such as performance indicators and guidelines for on-site sanitation services, wastewater and faecal sludge management facilities. On-site sanitation will also be incorporated into the NWASCO Information System (NIS) and a performance monitoring system for emptying services and FSM.

NWASCO will continue to facilitate strategic partnerships between CUs and other service providers in order to increase access to sanitation services. NWASCO will also maintain responsibility for designing standard contracts and guidelines that CUs can use to establish delegated management models and service level agreements, including service areas for private sanitation service providers.

NWASCO is preparing guidelines to help CUs account for their sewerage and water services

costs separately. This will be followed by a pricing strategy for sanitation, which is expected to increase the number of CUs levying a sanitation surcharge, along with targets for progressive cost coverage that will ensure financial viability.

5.4 Regulating

As roles, responsibilities and rules have now been clarified in the Framework, the task of regulating – or balancing demands, needs and interests of different stakeholders – takes on an increased significance.

The first aspect to be addressed in the Framework is the revision of the structure and level of sanitation tariffs so they can at least cover operations and minor maintenance costs, as well as developing incentive mechanisms to encourage investment in sanitation. The sanitation surcharge will likely increase to cover the costs of treating faecal sludge. In parallel, NWASCO will be working with the CUs to prepare asset management plans and Business Plans for sanitation service provision.

Under the new Framework, NWASCO will issue a licence to CUs to cover both on-site and off-site sanitation across their entire district. To quicken the pace of change and in a bid to aggressively tackle water-borne diseases such as cholera, NWASCO changed the operating licenses of all 11 CUs, effective from July 1, 2019, requiring them to provide on-site sanitation services in their respective jurisdictions.

The first, and easiest, step was renaming and rebranding of the CUs from 'Water and Sewerage Companies' to 'Water and Sanitation Companies.' The second step is for every CU to collect data about the status of sanitation facilities and services in all towns in their jurisdiction for NWASCO's initial benchmarking at the end of 2019.

"*But of course, there is quite a lot of investment that needs to be done. So, it's not likely that such kind of services will start being offered July 1 (2020); this is something that is new. But it's about starting*" explained a NWASCO staff member (Lisulo, 2019).

Image: Pit latrine in Chazanga, Lusaka.

5.5 Conclusions and next steps

The national code of practice for the whole FSM service chain was completed by the end of 2019 and involved multiple stakeholders, with the Zambia Bureau of Standards at the forefront. FSM is now recognised by the government as a key aspect of sanitation service provision – one which demands sustained support if it is to develop to the standard required to deliver improved sanitation nationally.

Importantly, MWDSEP, ZEMA and Local Authorities are now very aware of the challenge of enforcing these standards. It is also acknowledged that government agencies themselves need to have the capacity and finance to perform enforcement activities.

NWASCO refer to the need for '*continuous regulatory enhancement to respond to the changing environment*' (NWASCO, 2018), demonstrating how NWASCO's growing maturity as a water regulator has allowed them to move forward in sanitation regulation.

Participants in an international sanitation forum were asked: '*Can regulation really make a difference*?'. NWASCO (2019b) reports the utilities answered, '*Yes, because the regulator pushes you to continue improving*'. As always for regulators, there are many issues to push while balancing multiple interests and potential solutions. The next step is for service providers to respond to these regulatory requirements, incentives and sanctions, and deliver safe and accessible sanitation for all.

6. Kenya: Pro-poor Key Performance Indicators

Active regulating for pro-poor service improvements

6.1 Context

Of the 21 million people living in the service areas covered by the 88 Kenyan Water Service Providers (WSP), an estimated 8 million people reside in one of over 2,000 urban low-income areas (LIAs). Most LIA residents depend on informal services which fail to comply with the regulatory standards, or to meet the basic constitutional threshold which guarantees access to safe water as a human right. The country faces a tripling of the urban population by 2050, with the majority, by present trends, continuing to live in low-income areas. Kenya's 'Regulatory Effectiveness Rank' is higher than its average Country Governance Index (World Bank, 2019).

WSPs are owned by county governments, their assets held by Water Works Development Agencies (previously Water Service Boards), and they are monitored by WASREB, the Water Services Regulatory Board. WASREB was created by the 2002 Water Act as a semi-autonomous, professionally-staffed regulator and was established in March 2003. WASREB began to collect data from the WSPs so it could monitor their activities and track their performance according to nine Key Performance Indicators (KPIs). Its annual 'Impact' report ranks all 88 WSPs, the majority of which serve urban areas. As there is no competition for these monopolistic service providers, this annual competitive ranking of their performance is a powerful regulatory tool.

This case study investigates the development of a tenth KPI focused upon pro-poor service provision in LIAs. The regulator, WASREB, is also using KPI 10 as a means of directing WSP efforts more towards sanitation, particularly on-site sanitation and the whole sanitation chain.

Image: Water pipe and waterbody in Biafra, Nairobi. **Credit:** Brian Otieno.

6.2 Responsibilities

Governments typically address their water and sanitation policy approaches over time, including through the amendment of regulatory responsibilities. These responsibilities are dynamic, with the regulations themselves needing to be as adaptable to support the actual act of regulating.

WASREB's statutory mandate, for example, is now explained under Section 72 of the Water Act 2016. The regulator sets, monitors, reviews and enforces rules and regulations to ensure water and sewerage services provision is affordable, efficient, effective, and equitable. WASREB therefore determines and prescribes national

Table 7: Breakdown of urban population with improved sanitation in Kenya. Source: JMP, 2019.

Proportion of population with improved:	79%
Proportion of population with improved facilities (including shared) which are:	
Sewer connected	20%
Septic tanks	12%
Latrines and other	47%

standards and sets license conditions for WSPs; recommends water and sewerage tariffs; monitors and regulates licensees; and enforces license conditions. WASREB additionally monitors and reports to the public on performance of the licensed water utilities.

The key responsibility in the context of this case study is WASREB's annual reports on WSP performance. Additionally, WASREB reports on the investment and financing plans to deliver efficient and effective water services alongside the progressive realization of the right to water for all, including those in marginalized areas.

6.3 Regulations

Nine KPIs

In this case, regulations refer to the KPIs, the set goals and the indicators (standards) used to measure whether the sector is prioritising equity, effectiveness and efficiency in the provision of water services.

Service providers are required to measure and report on nine KPIs to WASREB, divided into three categories:

Quality of service: Water Coverage, Drinking Water Quality, Hours of Supply.

Economic efficiency: Personnel expenditure, O+M Cost Coverage Revenue, Collection Efficiency.

Operational sustainability: Non-Revenue Water, Staff Productivity, Metering Ratio.

However, to date there has been no specific indicator relating to services for people living in low-income areas. This is despite service provision contracts issued by the regulator requiring utilities to serve all residents in their area of jurisdiction equally, including the poor. Through support to WASREB and utilities regarding pro-poor service delivery, WSUP realised that some utilities showed short-term interest in serving low-income populations and lacked the commitment to sustain and scale-up services beyond externally funded programmes. Following the end of the funded construction work, operational disinterest led to water and sanitation infrastructure becoming gradually dilapidated, with targeted households losing access to their newly acquired services.

Image: Biafra, Nairobi.

Designing KPI 10

Given WASREB's commitment to improving services for low-income communities and following a prolonged period of discussion, it was agreed that a new KPI would be developed that would define standards for services provided to low-income customers.

Taking as a starting point the existing KPIs' low-income foci, WASREB consulted with large- and medium-sized utilities, customers and sector institutions before drafting, validating and testing the new KPI. WSUP supported through mapping the LIAs, estimating their resident populations and trialling data collection for all low-income areas served by the nine largest utilities in Kenya. This was followed by population mapping for 83 of the 88 utilities that have urban LIAs within their service areas.

28 utilities submitted completed information in 2016/17, with subsequent analysis of the data provided in WASREB's Impact Report No. 10 (2018). This was a first for Kenya, as the utilities were ranked based on the quality of service provided to low-income customers. In 2019, 36 utilities submitted data, and by the end of 2020 over 80 WSPs will be reporting on KPI 10 and will therefore be accountable for their investment in pro-poor services.

Turning pro-poor services into a regulatory requirement

The significance of this development is immense: serving low-income customers will no longer be a choice for utilities, but a regulatory compliance

issue, with their performances compared publicly.

KPI 10 requires utilities to institutionalise LIA service provision - from obtaining corporate commitment from the board of directors to designing subsidies and tariffs that will benefit poorer customers. This will require significant positive steps to be taken by many utilities: for example, WSPs will need to make significant operational adjustments to identify LIAs and include them in their mandated service areas. As such, WASREB is hopeful that KPI 10 will provide a turning point towards ensuring that those living in low-income areas receive the services that they are entitled to under the Kenyan constitution.

6.4 Regulating

Unlike municipal by-laws which, however good, were notably ignored in low-income areas by residents and municipalities alike, the new approach of setting performance indicators incentivises WSPs to perform well in the annual performance review. No managing director, chairman of the board or local politician wants to see their utility performing poorly. The pressure on management and staff to deliver is particularly intense as the reports are publicly available.

Regulating is also flexible, particularly compared to by-law codification. These performance standards and targets are not set in stone, becoming unloved and unread as they lose relevance with age. Instead, they are dynamic standards which the regulator can continually tighten over time as the sector improves; being able to adjust standards and targets on a regular basis, reacting to new situations, is very much at the heart of regulating. Regulation can therefore smooth the path for the progressive realisation of the human right to water and sanitation.

Bringing on-site sanitation into the equation

Until recently, sanitation institutions in Kenya were focused on extending sewerage in urban areas and the clear target, even as recently as WASREB's 2018-2022 Strategic Plan, was '*to increase coverage rate of sewerage system to 80% for urban populations*' with a target of 30% sewerage coverage by 2022.

Similarly, the new Ministry of Water, Sanitation and Irrigation's 2018-2022 Strategic Plan stated that '*350,000 new sewer connections will be required annually in urban areas for universal access to be reached by 2030'*. The '*improvement of on-site sanitation facilities in major urban and satellite towns*' is mentioned once but there is no reference to faecal sludge management. The Ministry aims to eliminate open defecation, with sewerage emphasised as the solution.

Table 8: KPI 10.

Sub-indicator	Guidance
Pro-poor strategy/workplan/budget	Detailed strategy, with targets and outputs Funding level Funding spent/obtained
Pro-poor unit	Targets aligned with WSP Reporting arrangement Staffing population
Pro-poor mapping	Up-to-date GIS map/database, with connections Mapping of network Mapping of population
Water coverage and per capita consumption	Connection type (domestic vs shared) Implication on per capita consumption per type of connection
Sanitation coverage	Overall coverage (sewerage/on-site) Role of municipality/Ministry of Health Mapping of sewer network
Continuity of services	Hours of supply Kiosk data analysis (queuing/sales)
Non-revenue water	WSPs should aim to reduce NRW to 20%
Subsidies	Adequate connection subsidies Adequate pro-poor tariffs (impact of shared connections) Waiver of flat rate for new connection

However, WASREB has recognised the cost and implementation challenge of extending sewerage to this ambitious extent. Acknowledging their previous oversight of on-site sanitation solutions, they have now committed to collecting necessary baseline data, alerting all WSPs that they will need to be able to report against specific indicators in 2020. From 2022, all water utilities will also be initiating programmes to develop a faecal sludge sanitation chain in cooperation with county governments' urban development plans.

Through its contribution to the development of the 2018 National Water and Sanitation Services Strategy, (2019-2030), WASREB has directly incorporated the new targets into its next generation of performance standards.

While maintaining the 80% overall sanitation target (and enabled by the flexibility of the Vision 2030), the revised targets are to achieve a minimum of 40% sewered sanitation and 40% non-sewered sanitation by 2030.

Flexible mandates for regulator

WASREB's Peter Njaggah, Director of Technical Services, reflected that while the legal framework that established WASREB's mandated referenced sewerage and not on-site sanitation, "*the spirit of those who prepared [the framework implied] they meant both. We are not constrained by that status, we don't find a problem as no one is complaining when we go further... One of the successes is that we have been able to [make] the distinction between sewerage and sanitation. Many utilities are changing their names and mandates, to 'water and sanitation' away from 'water and sewerage'. This is not by any government directive... the companies want to do it, they see and understand the sanitation need and their potential role in solving it, recognising that sewerage can be so expensive*.' Additionally, '*the cholera outbreak has been a big wake-up call*."[12]

The national strategy now requires WASREB to '*develop regulation and indicators for monitoring the progress in sanitation management for on-site and off-site, issue and enforce guidelines for the development of sanitation for utilities'* as well as leading on the implementation of '*redistributive financing to accelerate sanitation in low-income areas'*.

6.5 Conclusions and Next steps

In the conclusion of the 2018 Impact Report No. 10, WASREB emphasises the need to '*pay attention to non-sewered sanitation*.' Recognising the pro-poor nature of this issue, they not only emphasise the '*importance of regulatory touch points along the entire value chain of non-sewered sanitation*' but also explain that '*a pragmatic approach is needed to regulate service delivery from an inclusive perspective*.' This illustrates the value of regulating – it can be pragmatic, sit within a legal framework, and demand inclusivity from service providers.

WASREB and the Kenyan sanitation sector have now restarted their pro-poor sanitation journey. Enhanced performance indicators will drive improvements as service providers respond to the stimulus of transparency. A decade on from WASREB's uncertain start (*'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 reportedly stated in 2006 (GIZ, 2019), a senior manager of one of the larger water companies commented: *'we love them and we hate them, they are bringing out our inefficiencies, there is no hiding."*[13]

GIZ (2019) describe how '*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*.' An appropriate way to end this case is to use the words of WASREB's CEO in his Foreword to the 2019 Impact Report: 'Time for Social Justice, Human Dignity'.

[12] Personal Communication, Wasreb, 23/09/19
[13] Personal Communication, NCWSC, 21/04/19

7. Eastern and Southern Africa Water and Sanitation Regulators Association (ESAWAS)

Sharing regional emerging practice in regulating affordable sanitation

7.1 Context

The Eastern and Southern Africa Water and Sanitation Regulators Association (ESAWAS) has members in Kenya, Mozambique, Rwanda, Tanzania, Zambia, Lesotho, Zanzibar, Burundi, Malawi and Uganda. Recognising a multi-country concern regarding inclusive urban sanitation services, ESAWAS commissioned a regulation strategy and framework that incorporated the full value chain of non-sewered sanitation.

Published in April 2019, the document aimed to present a regulatory framework and associated strategy that would support water and sanitation regulators to deliver their mandates, particularly in light of the fact that somewhere between 2.1 and 2.6 billion people in low- and middle-income countries continue to rely on on-site sanitation technologies. Within ESAWAS member countries, urban sewer network coverage ranges from 4.2% to 27.4%, averaging 10.5%, leaving over 50 million people dependent on non-sewered sanitation solutions, many of whom reside in low-income areas (ESAWAS, 2018).

The ESAWAS framework is recommended as an accompaniment to the case studies detailed in this publication. The language of the document reflects a core message of this publication, illustrated by the case studies, that pragmatism and incrementalism are the hallmarks of regulating. The ESAWAS document notes: '*a pragmatic approach is needed to regulate service delivery from an inclusive perspective that acknowledges sewered and non-sewered technology modes and the importance of regulatory touch points along the entire value chain of non-sewered sanitation. The inclusive urban sanitation service provision and regulation approach needs to be incremental in nature, moving the entire system toward the SDG targets, without being excessively burdensome or costly.*'

Image: A communal sanitation block in Mozambique.

7.2 Responsibilities

ESAWAS sets out what might be considered the optimal roles and responsibilities of key institutions in the sanitation chain:

Ministry responsible for water and or sanitation: sanitation policy

Water and sanitation utilities: providers of sewerage, wastewater treatment, faecal sludge emptying, transport and treatment

Water and sanitation regulators: regulation of water supply and sanitation including sewerage services, faecal sludge emptying, transport and treatment

Ministry responsible for the environment: policy on regulation of environment including treated faecal sludge and effluent

Environmental agency: regulation of effluent and faecal sludge quality

Water resources agency: regulation of effluent discharge into raw water sources

Local government i.e. **municipalities, counties, and cities**: regulation of on-site sanitation facilities (not service provision)

Central to this allocation of roles is the extension of utility mandates to include OSS where feasible. ESAWAS believes that '*an institution/utility which has a role of providing water supply services is better placed to also provide sanitation services; and correspondingly a regulator of water supply should also regulate sanitation services'*; further recommending '*that provision of regulated sanitation services be delegated to autonomous agencies or to private sector organisations'*.

Referencing WHO Guidelines on Sanitation and Health (WHO, 2018), ESAWAS further sets out the case for the utility as integrated service provider for water and sanitation: '*In some urban areas, sewerage is managed by a utility, while non-sewered sanitation is the responsibility of local government. Such fragmentation of responsibility for sanitation can lead to poor planning, exclusion of poorer communities and, ultimately, reduced cost-effectiveness. Where an adequately performing utility company exists, consideration should be given to extending its mandate to cover both sewered and non-sewered sanitation*'. Of the case studies detailed in this publication, this view most strikingly reflects the direction of travel in Zambia, where the new framework for urban on-site sanitation stipulates that Commercial Utilities will adopt responsibility for both on-site and off-site sanitation across their entire district (see Case Study 5).

The Framework goes on to provide substantial detail for individual areas of responsibility, including service provision – outlining the service provider, the service, what is provided, and sanitation technologies for deployment at each stage of the sanitation chain; and regulation, specifying the need to recognise the regulator, who is regulated, and what is regulated across the sanitation chain.

7.3 Regulations

ESAWAS recommend the development of a legal framework and regulatory instruments to support full-chain sanitation service provision, including the development of licenses, standards, regulations, rules, guidelines, permits, delegated management and standard operating procedures to address licensing authorities and regulators; service providers; involvement of the private sector; and regulation of worker health and safety. The Framework goes on to discuss enforcement approaches (sanctions/penalties and incentives) for compliance and non-compliance.

ESAWAS also specify the requirement for a sanitation facilities database – similar to the initiative now being adopted by NWASCO in Zambia (see Case Study 5), and linked to technology mapping and citywide sludge characterisation, performance indicators, monitoring and reporting for OSS and FSM. These inputs in turn can support business planning, including targeted investments to address social equity; to promote inclusion for women, girls and vulnerable groups; and to promote affordability for the poor. It is also critical that sanitation planning at the city level reflects the need for disaster preparedness, climate-proofing and future responsiveness during emergencies (for example droughts, floods and earthquakes).

Within the model framework proposed by ESAWAS, licences are issued by the regulatory agency, environmental agency or the water resources authority to the regulated sanitation utility. Permits and management contracts are issued by the regulated utility to a devolved entity - whether private sector, NGO or CBO - as permission to provide the regulated service on the utility's behalf. In this case, a permit or a delegated management contract may be issued. Licences also include operating conditions and remedies for failure (such as fines or suspension of the licence).

Finally, ESAWAS emphasise the need for specific measures to support at-scale pro-poor service provision, of which KPI 10, introduced by WASREB in Kenya, can be considered a strong example (see Case Study 6): '*In particular, specific provisions may be defined in order to encourage or facilitate services to the poor, such*

as coverage targets (obligations to extend services), social connections, or the ability to offer differentiated service levels to different groups. Providers have to meet certain basic requirements before obtaining a license.'

7.4 Regulating

Although the regulations detailed under the Framework are comprehensive, ESAWAS emphasise their realisation is contingent on supporting infrastructure, and will in most cases be incremental: '*since most urban areas do not have facilities for treating faecal sludge, the law should provide for transitional measures for faecal sludge disposal*'.

This regulatory pragmatism is again reflected when discussing financing (tariffs, charges, subsidies, capital funding development) from collection to disposal, which note that the sanitation regulator has to '*take into consideration cost recovery and affordability'*.

A further recommendation of interest relates to the internal organisation of regulatory institutions: '*The introduction of the sanitation regulatory framework and implementation of the recommended strategies will require a reorganisation of the internal set-up of most regulators. Since sewerage and non-sewered sanitation are closely linked, it is recommended that duties and responsibilities between the two be closely coordinated under a single sanitation unit. However, since non-sewered sanitation has been neglected for a longer time, it is not recommended to combine the two in one job portfolio. Depending on the extent of sanitation services, the recommendation is to have dedicated staff responsible for non-sewered sanitation*'.

Additional activities suggested by ESAWAS include awareness creation and hygiene promotion along with the production of publicity and educational materials on sanitation. Generally, such activities are the task of utilities and licensees rather than regulators – but in the particular context of a fragmented household sanitation and faecal sludge management chain, a pragmatic solution might require the regulator to provide these activities.

7.5 Conclusions and Next steps

Given individual regulators' growing body of experiences and documentation, no country can say they lack the knowledge and resources to regulate non-sewered sanitation. The principles are now available, with ESAWAS at the forefront of expanding the knowledge base. Starting to regulate this previously unserved area is now a question of putting the principles into practice.

ESAWAS members are making progress regulating non-sewered sanitation service provision, with five of them having clear legal mandates, including Mozambique (see Case Study 4) and Zambia (see Case Study 5). The other five ESAWAS Members are making efforts to revise key legislation to enable the regulator to assume the mandate for sewered and non-sewered sanitation regulation, as is the case in Kenya (see Case Study 6).

In addition to the existing Framework, ESAWAS is developing three key guidelines to assist their members in enacting their mandates: **Sanitation Services Tariff Setting Guidelines**, for determining sustainable and affordable tariffs for sewered and non-sewered services at each step of the sanitation chain (the guideline also incorporates sanitation surcharges, drawing on experiences from Zambia); **Inclusive Urban Sanitation Service Provision Guidelines** to promote safe and sustainable service delivery with consideration for technology, community participation, cost-effectiveness, gender intentionality, disability and social inclusion (the Guidelines includes elements of the SOP adopted in Kisumu – see Case Study 2); and **Citywide Inclusive Sanitation Planning Guidelines** that encompass long-term planning, technical innovation, institutional reforms and financial mobilisation. In a further significant initiative, the extension of the regional benchmarking framework is underway to incorporate non-sewered sanitation services and pro-poor KPIs (borrowing from KPI 10 in Kenya – see Case Study 6).

9. Conclusion

Like the referee, regulators cannot please everyone

In evaluating regulatory effectiveness, it is important to remember the imperfect conditions in which water and sanitation regulators must perform their vital function. The reality is that *most decisions the regulator makes will be based on inexact data*. Actual service levels achieved? How many people are being served? And where do they live? Over what service area is the service provider being held accountable? What is the value of the fixed assets being used? In real terms or in nominal terms?

Taking tariff setting as one example: every regulatory tariff setting is a *best available approximation*. The adjustment can never be 'right', but it can always be a step in the right direction. Fundamentally subjective judgements the regulator must make include the figure for inflation to use in any indexation of fixed assets; over what period should fixed assets be depreciated in order to fund capital maintenance; and the costs of future investments to put into any tariff adjustments, when it is known that optimism bias can lead those numbers to be wrong by between 50% and 70%. In the specific case of sanitation, the accuracy of cost predictions will be influenced by a wide range of factors including the eventual take-up of the services, whether toilet building takes place or pit emptying is actually paid for.

Within these parameters it is incumbent on the regulator to harness the best available data, however imperfect it may be. The regulator must then make decisions which — like the fate of a referee in a football match — others are likely to find wrong in one way or another, but which are required to drive the sector forward, improving services to customers and strengthening the financial viability of services.

Image: Sewer line connection in Githima, Kenya. **Credit:** Brian Otieno.

Regulatory effectiveness is about pragmatism and incremental change

Viewed as a collective, the case studies in this publication demonstrate the myriad ways in which regulatory authorities are working to drive improvements in urban sanitation provision. None of the regulatory instruments featured have fully realised their intended impact. In some cases, it is likely to be several years before the instrument is fully operationalised – the development of the planned sanitation surcharge in Maputo, for example, has been ongoing since 2013. The sanitation sector has a rich tradition of developing frameworks, plans, standards and regulations which are never implemented or enforced: the value in documenting these initiatives at this point in time is not to present fully actualised regulatory reforms, but to spotlight challenges to future implementation, and to highlight the meaningful progress now being made by WASREB, NWASCO and AURA, IP on their journey towards active sanitation regulating.

These regulators are fully aware that they operate within a wider urban sanitation system, and of their capability to drive change within that system (see WSUP 2019). Regulatory reforms like WASREB's KPI 10 can usefully be viewed as systems interventions – the introduction of these reforms requires an incremental, iterative process of testing, monitoring and adaptation in response to system feedback. This is why regulatory reform must be an incremental process, underpinned by extensive stakeholder management and consultation – to rush these processes risks being counterproductive and distorting the system in unhelpful ways.

Pragmatically, there is also only so much that one regulator or service provider can drive forward at any given time. Here WASREB's journey is particularly instructive: WASREB's decision to drop the sanitation coverage indicator earlier in its existence could be seen as a weakness, but it allowed water utilities to begin to make real progress on enhancing water supply and water revenues. And now with pro-poor indicators in place and an understanding of the role of sanitation — with a complete faecal sludge management chain supported by the potential future introduction of a sanitation surcharge —WASREB is putting the building blocks in place for sanitation services to move forward at scale.

The regulators have developed these instruments while also continuing the more commonly understood task of an economic regulator: moving tariffs towards appropriate cost reflectivity. Zambia's NWASCO has clear and understandable targets to move from 100% operating and minor maintenance cost coverage to 150% for water services – a level which will allow for capital maintenance and some return on the capital employed. This will begin to allow space for commercial financing (albeit likely with government guarantees) to reduce the interest charge for future investment in water services. With additional external finance available, it should then be possible for government to focus its taxation-based subsidies on developing sanitation investment yet further – another example that regulation is a step-by-step process towards the realisation of the human right of sanitation.

The Regulating Ladder

Building on this understanding of regulation as an incremental process, we propose a 'regulating ladder' to inform assessments of where countries stand on their journey towards active sanitation regulating (see Figure 2 below, described overleaf).

Figure 2: The Sanitation 'Regulations and Regulating' Ladder.

Regulatory level	Definition	Explanation
Safely managed regulatory service (***Active*** regulating)	Proactive pro-poor Regulator facilitating service provision across the sanitation value chain (utilities and municipalities) – supporting planning, funding & financing, monitoring and ensuring license compliance, while enabling fair water tariff cross-subsidies	Sophisticated deployment of regulatory tools including consultations; Customer groups; Citizen Report Cards; Surveys; Benchmarking and League Tables; Performance-based Public Service Contracts; Asset Management Planning based price-setting; Incentive based Economic Regulation through water tariff supporting sanitation
Basic regulatory service (***Passive*** regulations compliance)	Licensing, monitoring and compliance-focused regulator overseeing municipal compliance; Licensing and by-law compliance-focused municipal officers	Licensing, monitoring and compliance enforcement procedures developed and beginning to be enforced, though only partially, with some regulatory oversight
Limited regulatory service	By-laws, policy standards and SOPS reflecting SDG 6.2	Municipal compliance procedures developed; enforcement officers trained
Unimproved regulatory service	By-laws and standards not designed to protect the whole sanitation management chain: Responsibilities partially defined Standards & SOPS partially defined & developed By-laws to be updated	Limited FSM inclusivity in responsibilities Unincorporated SDGs, human rights and national goals
No regulatory service	'Blank space on map' for informal/slum housing areas; 'blank space' on institutional map for FSM	Decades old by-laws not applied

In addition to the need to ensure that responsibilities are clearly defined with respect to on-site sanitation and FSM, the ladder highlights the difference between passive regulations compliance — what is termed here as a 'basic regulatory service' — and active regulating, whereby independent regulatory authorities are actively deploying a wide range of regulatory tools to drive improvements, in what is described as a 'safely managed regulatory service'.

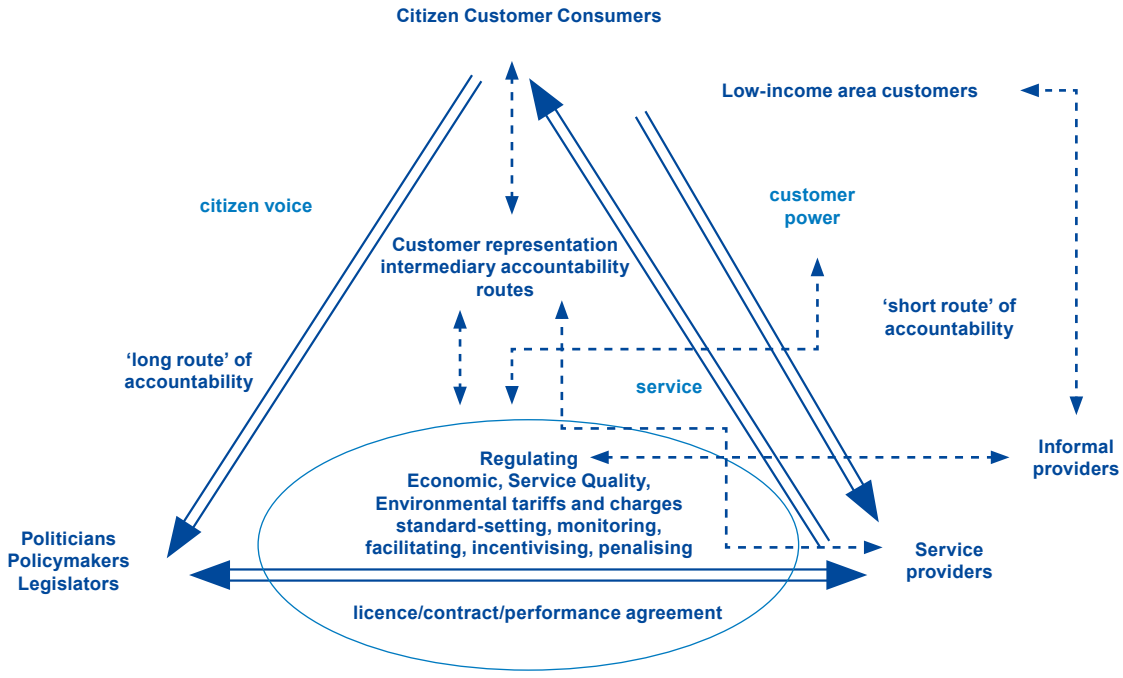
We leave it to the reader to judge where each of the cases might lie on this ladder. We suggest that multiple countries could be seen to be delivering a 'safely managed regulatory service' for water (though this is not being explored in this document), while not yet at that level for sanitation – but all are moving in the right direction.

A final thought: learning from VAR

In the introduction we referred to the analogy of regulation and the role of a referee in a football match. Since that analogy was first conceived, the world of football has begun to embrace VAR - the 'video assistant referee'. Who can be called upon to judge transgressions of offside or goals scored at a level of millimetres? This, in the context of the analogy, is the referees trying too hard to get it 'right' when the ideal is to be much more flexible. The reality is they will always get something 'wrong', according to one half of the crowd or the other.

In the experience of WSUP and ESAWAS, regulatory effectiveness is a pre-requisite for achieving at-scale urban sanitation improvements. The ever-increasing number of stakeholders and objectives in the enhanced accountability triangle illustrate the challenge that regulators face (see Figure 3 below). Without judging football and the rules it has chosen, the regulatory analogy requires an understanding that regulating is a rough and ready process of "learning by doing": experimenting, innovating, always consulting, always involving customers at an appropriate level, but moving the game forward to a mutually desired score draw – and perhaps a promotion in the performance league tables.

Figure 3: The enhanced Regulating Accountability Triangle. Source: Franceys and Gerlach, 2008.



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