

# Towards improving faecal sludge management in Kigali, Rwanda

Contributed by Jacques Nzitonda, Rwanda Utilities Regulatory Authority (RURA)



Figure 1 – Source: RURA

## Summary

The national coverage of improved sanitation in Rwanda stands at 89.6% (NISR, 2021). However, because of the absence of sewer networks and centralized wastewater treatment plants, On-Site Sanitation (OSS) facilities are the only types of sanitation used in Rwanda. Even in the capital city Kigali, households rely mainly on pit latrines as sanitation facilities at a proportion of 84.3% and only 1.9% use flush toilets connected to pits or septic tanks (NISR, 2018).

Rwanda has taken a strategic decision to improve well-being of citizens, and this is well reflected in the Vision 2050 that aspires to take Rwanda beyond high-income to high-quality livelihoods and living standards. To realize this Vision, a National Strategy for Transformation (NST1 2017–2024) was adopted to increase the proportion of the households with universal access to basic sanitation services by 2024. NST1 is designed in line with goal 6 of the Sustainable Development Goals (SDGs), going beyond access to toilets, to include safe management of faecal sludge

across the value chain (capture, containment, emptying, transportation, treatment and disposal/reuse). As part of this, the Regulator has adopted guidelines for Faecal Sludge Management and in the final stage of developing a Regulation for Faecal Sludge Management as a pre-requisite to attain SDGs targets and achieving NST1 and the Vision 2050 targets. In urban areas where the Water and Sanitation Utility operates, the Regulator aims to establish a system where sanitation fee will be paid together with water bills. The utility will therefore manage desludging services from OSS facilities given that the payment will have been paid in advance on water bills.

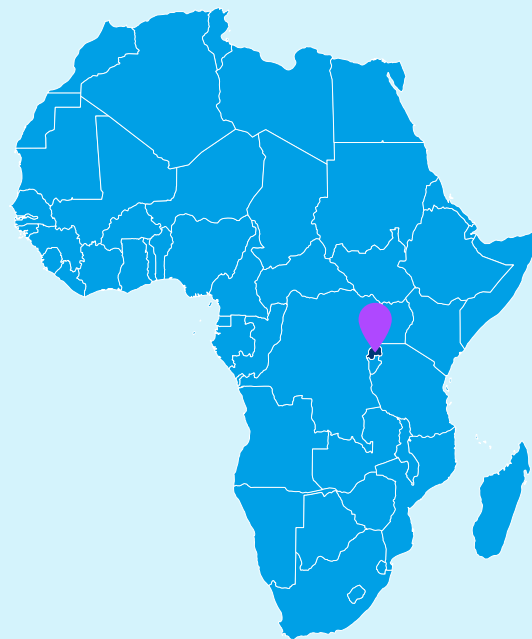
## Overview

### Geographical information

**Country:** Rwanda

**Country:** Kigali

**City population:** 1,200,000



### Problem

- No sewerage networks and centralized wastewater treatment plants.
- Dominance of OSS and expensive services for poor urban dwellers.

### Solution

- Adoption of guidelines for Faecal Sludge Management by the Regulator
- Development of the Regulation for Faecal Sludge Management to ensure that faecal sludge is well managed throughout the entire service chain, provided by mandated institutions and affordable to all.

## Problem

Apart from few estates with decentralized wastewater treatment systems, most dwellers in Kigali rely on OSS facilities. However, the desludging services provided by private operators are unaffordable for poor urban residents since they are not regulated. The cost is negotiated between service providers and residents who are in weak position given that the service is required when the pit/septic tank is full and without any other option. In addition, emptied sludge is disposed of in lagoons at the dumpsite and this also constitutes a potential hazard to public health.

The Rwanda Utilities Regulatory Authority (RURA) has recently developed a strong basis for sanitation regulation which can only be achieved through a proper management of faecal sludge along the entire sanitation value chain (capture–containment–emptying–transportation–treatment–disposal or re-use). However, faecal sludge management (FSM) involves a variety of actors in the service chain, namely households, the utility – Water & Sanitation Corporation (WASAC), private service providers, NGOs, and local and central government institutions. Nevertheless, all these stakeholders are not well coordinated to ensure effective FSM and are not regulated within one institution.

The construction of toilets (capture–containment) is the responsibility of households (citizens) and construction permit is issued by municipalities. However, inadequate enforcement of urban planning has led to the construction of residential dwellings with low quality sanitation facilities. The emptying, transportation and treatment services are provided by private operators and the utility that are licensed by RURA while the disposal and reuse is regulated by the Environmental Regulator – Rwanda Environmental Management (REMA).

## Solution

Last year the regulator adopted guidelines for FSM to ensure the safe and sustainable service delivery across the entire value chain and provided a common framework for monitoring and evaluation. The guidelines also stress the institutional framework as shown in Table 1 along the service chain and highlight the specific mandate of the utility in urban sanitation service provision, specifically emptying, transportation and treatment. They also highlighted that the utility can directly provide the services or contract private service operators but it remains accountable for the service provision. The institutional framework enumerates all institutions mandated or involved in FSM and highlights their roles and responsibilities as provided in various legal documents establishing these institutions.

Table 1: Envisaged FSM related responsibilities of existing stakeholders in the sanitation sector in Rwanda.

Stakeholders	Responsibilities			
	Capture & containment	Emptying & Transport	Treatment	Disposal/re-use
<b>Ministry in charge of Sanitation</b>	Policies and laws formulation, leading capacity development, coordinate national-level monitoring and evaluation for FSM			
<b>Ministry in charge of Health</b>	Health and hygiene related guidelines, hygiene awareness			
<b>Ministry in charge of Education</b>	Curriculum setting for the FSM for primary, secondary and tertiary education, promotion of hygiene and sanitation at school level			
<b>Ministry in charge of Local Entities</b>	Coordination of local entities in implementing FSM initiatives			
<b>Ministry in charge of Finance</b>		Budgeting, investments and financing on FSM projects and programs, mobilizing funds for FSM		
<b>Ministry in charge of Environment</b>	Formulation of Environment and Climate Change Policy and related laws and guidelines			
<b>Institution in charge of Regulation</b>		License and develop regulations for the provision for service, Tariff setting for FSM service chain, Monitor compliance with the quality of service standards, Issue licenses for sanitation		

<b>Institution in charge of Environment</b>	Set environmental standards and regulations (EIA, EA), enforce compliance with environmental laws and guidelines			
<b>Institution in charge of Standards</b>	Set effluent standards from FSM facilities (with relevant institutions)			
<b>Institution in charge of Agriculture</b>				Standards in waste recovery as composting or enriched organic fertilizers (with the support of institution in charge of standards)
<b>Utility in charge of Sanitation</b>		Provision of faecal sludge emptying, transportation services	Provision of faecal sludge treatment services, design and implementation of faecal sludge treatment systems	Waste valorization (e.g. biogas production, briquettes)
<b>Institution in charge of Housing</b>	Inclusion of OSS (septic tanks) in permitting		Allocation of areas planned for faecal sludge treatment systems	
<b>Institution in charge of Development</b>			Issuance of EIA certificates for construction of faecal sludge treatment plant	
<b>Universities et al</b>	Capacity development, research and innovation along the value chain			
<b>Private operators</b>	Toilet construction	Provision of FS emptying, transporting and valorization of end products		
<b>Development partners and NGOs</b>	Provision of sanitation facilities, provision of technical and financial support, advising in policy development, conducting awareness and behaviour change campaigns on safe FSM			
<b>Local entities</b>	Ensuring compliance of containment' standards enforcing standards for on-site facilities/buildings	Awareness and behaviour change campaigns on safe emptying and transportation	Awareness and behaviour change campaigns on safe treatment	Awareness and behaviour change campaigns on safe disposal and re-use
<b>Customers (individual compounds/ households, institutions such as schools, health centres, etc.)</b>	Finance OSS facilities, regular maintenance and monitoring of sanitation facilities	Payment for emptying, transportation and treatment services		

The guidelines highlight monitoring and evaluation of stakeholders' responsibilities and underline the need to ensure compliance in the whole sanitation value chain; the local authorities that issue construction permits will ensure that residents comply with infrastructure (capture and containment) standards before issuing the occupation permit; and the regulators (RURA and REMA) will enforce laws and regulations.

In the context of enforcing urban sanitation, RURA is finalizing a regulation that focusses on FSM to compel regulated players in the sanitation service chain to comply with their obligations. In the same line, RURA intends to set, in the next urban water tariff review, a sanitation tariff that will be paid together with the water bill. Although we are not expecting full coverage with sewered

sanitation in the city given the associated initial cost for investment, the utility (WASAC) will take over the overall management of non-sewered sanitation and be compelled to provide services when needed by clients since it would have collected the fee in advance. However, the utility has discretion to contract private operators for some or the whole service value chain.

The regulator is looking to having a well-integrated management of non-sewered sanitation, planned and scheduled emptying services after the mapping of all the containment technologies.

The sanitation tariff envisaged by the regulator aims to support citywide inclusive sanitation and guarantee that the service is affordable and paid in instalments or monthly bill for connected customers. In addition, for customers that collect water from public taps, the sanitation fee will be paid per jerrycan, or cubic metre consumed and therefore every urban citizen will have to pay this fee and consequently have the right to get sanitation service. So, the cost of service of desludging will therefore be borne by consumers.

The Government of Rwanda is already committed to subsidize investment and a faecal sludge treatment plant is already in advanced stages of procurement in Kigali in addition to other existing treatment plants.

## Lessons learned

It is important to map all the different stakeholder as well as their responsibilities. This will clearly highlight the mandate along the different sections across the entire value chain. Apart from mapping, is responsible and accountable training is critical for the service provider. RURA does this through manages the exchanges with other areas where there is need for more exposure, knowledge, and skills.

Lastly, for a well-integrated management of non-sewered sanitation, data collection is key. It is impossible to proceed without information. By mapping infrastructure, sanitation technologies, and transport infrastructure, it becomes easier to see whether other types of desludging equipment can be used so that at least it will be possible to serve each citizen.

## Further reading and references

- <https://www.statistics.gov.rw/statistical-publications/subjects>
- <https://www.kigalicity.gov.rw/about/overview>
- [https://www.rura.rw/fileadmin/Documents/Water/RegulationsGuidelines/Draft\\_Guidelines\\_for\\_Faecal\\_Sludge\\_Management\\_for\\_Rwanda.pdf](https://www.rura.rw/fileadmin/Documents/Water/RegulationsGuidelines/Draft_Guidelines_for_Faecal_Sludge_Management_for_Rwanda.pdf)
- <https://www.statistics.gov.rw/publication/eicv5-thematic-report-utilities-and-amenities>

## About the author

**Jacques Nzitonda** is the Director of Water and Sanitation at RURA since 2009 and a Civil Engineer with 20 years' extensive experience in water, sanitation and waste management. His specialization is mainly in public infrastructure, policy and regulation. Nzitonda has contributed to the development of water and sanitation at both national and regional levels. His experience includes assignments in the Eastern & Southern Africa: Kenya, Lesotho, Mozambique, Tanzania, Uganda, Zanzibar and Rwanda.

## About the institution / organisation

The **Rwanda Utilities Regulatory Authority (RURA)** is a multisector regulator mandated to regulate the sectors of telecoms, energy, transport and radiation, as well as water, sanitation and waste management. Established in 2001, RURA started its operations in 2003 and focusses on utility service provision in these sectors. Among its functions, RURA has the mandate to develop guidelines and regulations for the sound regulation of sectors.



[www.rura.rw](http://www.rura.rw)

### About the IWA Inclusive Urban Sanitation Initiative

IWA's Inclusive Urban Sanitation initiative responds to a huge and growing public need - safe sanitation in combination with access to safe drinking water and hygiene underpins good health. The aim of this initiative is reshaping the global urban sanitation agenda by focusing on inclusive sanitation service goals--and the service systems required to achieve them - rather than the traditional singular focus on expanding sewer networks and treatment works. This forms part of IWA's larger agenda to promote inclusive, resilient, water-wise, and sanitation-secure cities.

### About the Inclusive Urban Sanitation Stories

The Inclusive Urban Sanitation stories are documenting some of the policies, practices, and approaches that demonstrate how stakeholders especially those in urban areas (e.g., public sector, operators, academics, regulators, and other key actors) are taking part or contributing to Sustainable Development Goal 6 which require water and sanitation concepts and norms to look beyond technology and the usual focus on building infrastructure. Increased focus is on safety, inclusion, environment, public health, and multiple technology solutions tailored to different geographies and socio-economic contexts for building climate-resilient cities. The stories aim to inspire urban stakeholders to discuss ways for advancing inclusive urban sanitation, especially in low- and middle-income countries.

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