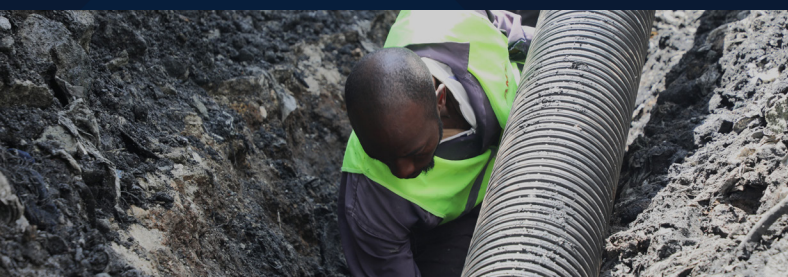


Scaling up simplified sewer systems, prepaid water dispensers and delegated management in Nairobi's informal settlements



Executive summary

This policy brief proposes ways of operationalising the newly co-produced WASH policy framework for Nairobi's informal settlements by scaling up simplified sewer systems (SSSs), prepaid water dispensers (PPDs) and delegated management structures. The framework, in its final stages of adoption, was co-developed by the Nairobi City County Government (NCCG), Nairobi City Water and Sewerage Company (NCWSC), Mukuru community and CSOs, including Akiba Mashinani Trust (AMT). While it provides a strong foundation for improving service delivery to disadvantaged residents, gaps remain in full implementation and infrastructure coverage.

Evidence from Mukuru informal settlement demonstrates that integrated deployment of SSSs, PPDs and community governance structures can significantly improve access to safe, affordable and reliable water and sanitation services. Since implementation of water, sanitation and energy plans under the Mukuru Special Planning Area (SPA) initiative, 22,000 households are now served with affordable water and accessible sanitation services. Additionally, progressive health outcomes have been registered, including five years of being cholera free.

This brief outlines a structured pathway for NCCG and NCWSC to scale infrastructure, strengthen institutional systems and replicate this model as a proof of concept for enhancing delivery of water and sanitation services across Nairobi's informal settlements.

Background

Nairobi's informal settlements continue to experience persistent water and sanitation challenges, including inadequate sewer connectivity, dependence on informal WASH service providers, high water costs and recurrent public health risks. Although a WASH policy framework has been developed to address these challenges, implementation has not yet reached the scale required to achieve universal access.

The experience in Mukuru demonstrates that SSSs, PPDs and delegated management models offer practical, scalable and cost-effective solutions that are suited to high-density informal settlements. As lead institutions in water and sanitation governance and service provision, NCCG and NCWSC are well positioned to transition the framework from policy to full operationalisation, ensuring sustainable and equitable WASH services.



Progress to date in Mukuru

Implementation of the water, sanitation and energy plan in Mukuru began under the Mukuru SPA initiative led by Nairobi Metropolitan Services (NMS), NCCG and Athi Water Works Development Agency (AWWDA). The initial phase focused on establishing backbone infrastructure necessary for expanded service delivery. This included the construction of 2.9 km of trunk sewers, 6.6 km of main sewers and the sinking of ten boreholes to strengthen water supply capacity. Following this foundational investment, SSSs and PPDs were identified as the most appropriate solutions for last-mile service delivery.

A pilot was conducted in the Mosque Road area of Mukuru Kwa Reuben, targeting 100 plot connections. Through this pilot, 1.44 km of SSSs were installed, connecting 94 plots to the sewer system, 1.66 km of water distribution lines were laid and ten PPDs were constructed, serving approximately 1,000 households. A community-driven delegated governance structure was simultaneously established to oversee operation and maintenance of both water and sanitation infrastructure, strengthening accountability and sustainability.

The success of the pilot demonstrated technical feasibility, strong community acceptance, improved affordability and enhanced service reliability. As a result, the model was expanded to ten additional villages within Mukuru. Through this expansion, 9.8 km of SSSs were constructed, connecting 1,401 plots (a plot being a structure housing ten households) to the sewer network, and 67 PPDs were installed.

The infrastructure currently provides water and sanitation services to approximately 22,000 households, representing 22% of Mukuru's total households. Importantly, since the implementation of SSSs, PPDs and delegated management structures, Mukuru has not experienced a cholera outbreak in the past five years, underscoring the significant public health outcome of the intervention.



Scaling up the Mukuru WASH model

The Mukuru experience provides empirical evidence that SSSs, PPDs and delegated management structures constitute an effective and scalable WASH service delivery model for informal settlements. The integrated approach simultaneously addresses infrastructure deficits, affordability barriers, governance gaps and public health vulnerabilities.

Yet, despite these progressive efforts, significant gaps in service delivery still pervade. The expansive Mukuru settlement comprises more than 100,000 households, with only 22% currently served with water and sewer connections as a result of the Mukuru SPA initiative. Without deliberate scale-up interventions, the gains achieved risk stagnation, exacerbating inequities in service access. Operationalising the county's WASH framework therefore requires structured infrastructural expansion, sustained maintenance, regulatory enforcement and institutional integration within NCCG and NCWSC planning and budgeting systems.



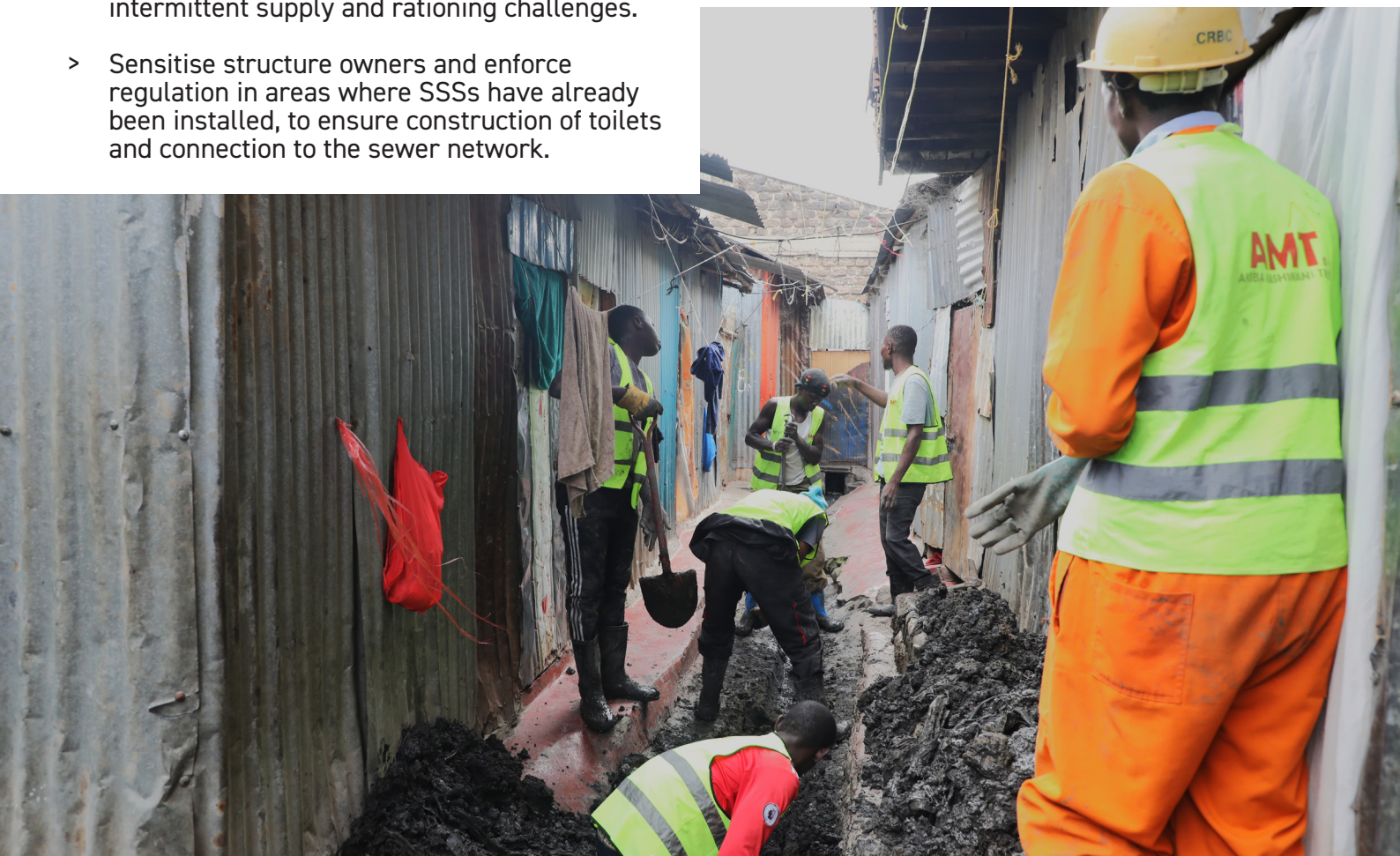
Recommendations

To improve coverage in Mukuru, NCCG and NCWSC should prioritise expansion of sewer and water infrastructure by taking the following actions:

- > Install an additional 18 km of main sewer lines to enable construction of 38.3 km of additional SSSs, with civil society organisations supporting last-mile plot connections.
- > Construct 603 additional PPDs to achieve 100% access to clean and affordable water for all 100,561 households in Mukuru.
- > Construct 50 centralised storage tanks to supply water to PPDs during low-supply periods and solarise the ten existing boreholes to mitigate unreliable electricity and ensure consistent pumping capacity – addressing intermittent supply and rationing challenges.
- > Sensitise structure owners and enforce regulation in areas where SSSs have already been installed, to ensure construction of toilets and connection to the sewer network.

- > Prioritise maintenance of trunk and main sewer lines through dedicated budget allocations.
- > Institutionalise and replicate the Mukuru model across other informal settlements in Nairobi. Embedding delegated management within formal utility frameworks, integrating expansion targets into county development plans and ringfencing pro-poor WASH financing will ensure sustainability and long-term impact.

The evidence is clear: SSSs, PPDs and community-led governance provide a viable pathway towards universal access to safe water and sanitation in Nairobi's informal settlements. Strategic action now will safeguard public health, reduce inequality and advance Nairobi county's commitment to inclusive urban development.



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