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## simplified sewerage

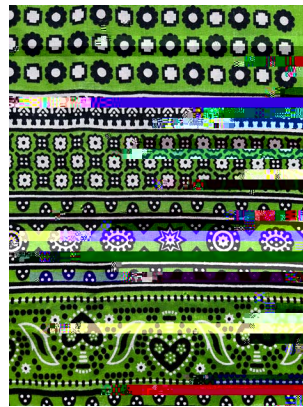
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## simplified sewerage in Mji

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## Abstract

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This working paper examines a simplified sewerage system in Dar es Salaam to explore its potential as coproduced pathway between citizens and the state toward service provision equality. Sanitation provision continues to lag behind in many cities in the Global South. Despite some noticeable utility efforts, a city-wide approach to address sanitation inadequacies at scale has largely been missing, with sanitation service deficiencies particularly pronounced in informal settlements. Dar es Salaam has been a fertile ground for various actors to experiment with innovative solutions that could help to fill the sanitation service gap. This includes a simplified sewerage system (SSS) in a low-income settlement where sanitation infrastructure and services are co-produced between low-income communities and state actors. The critical analysis of the SSS offered in this paper pays particular attention to the evolution of the scheme within the

wider development of the settlement to examine its scope to enhance the provision of and access to sanitation and address service provision inequalities. The analysis focuses primarily on the coproduction arrangements between actors across the service delivery cycle and their implication for the accessibility and affordability of sanitation services. This emphasises the importance of long-term community involvement across the entire service delivery cycle while highlighting a needed shift from treating low-income residents as convenient participants to meaningful long-term coproduction partners. Tackling existing power imbalances within the community and across co-production partners can prevent negative implications for the most vulnerable, foster inclusion and challenge the reproduction and reinforcement of existing inequalities over time.

In Dar es Salaam, and many other cities in the Global South, sanitation provision continues to lag behind. Only an estimated 12% of the city population are connected to a limited underground sewerage network and progress to extend it have been slow (EWURA, 2022). Lower-income settlements, which house approximately 75% of the population, are far away from the sewerage network and their residents engage in a range of alternative practices to meet their sanitation needs. A small percentage of city inhabitants (approximately 10%) have access to a septic tank or soak-away pit, while most rely on a type of pit latrines of varying quality. Many lower-income dwellers regularly deal with different levels of sanitation deficiencies due to unsafe, insufficient/irregular and costly sanitation services with negative impacts on their health, livelihoods and well-being. Despite growing evidence of action in sanitation leading to multiple benefits across all 17 Sustainable Development Goals (SDGs), sanitation remains neglected and under-resourced (Diep et al., 2020; Parikh et al., 2021). Until recently sanitation forecasts of the utility performance

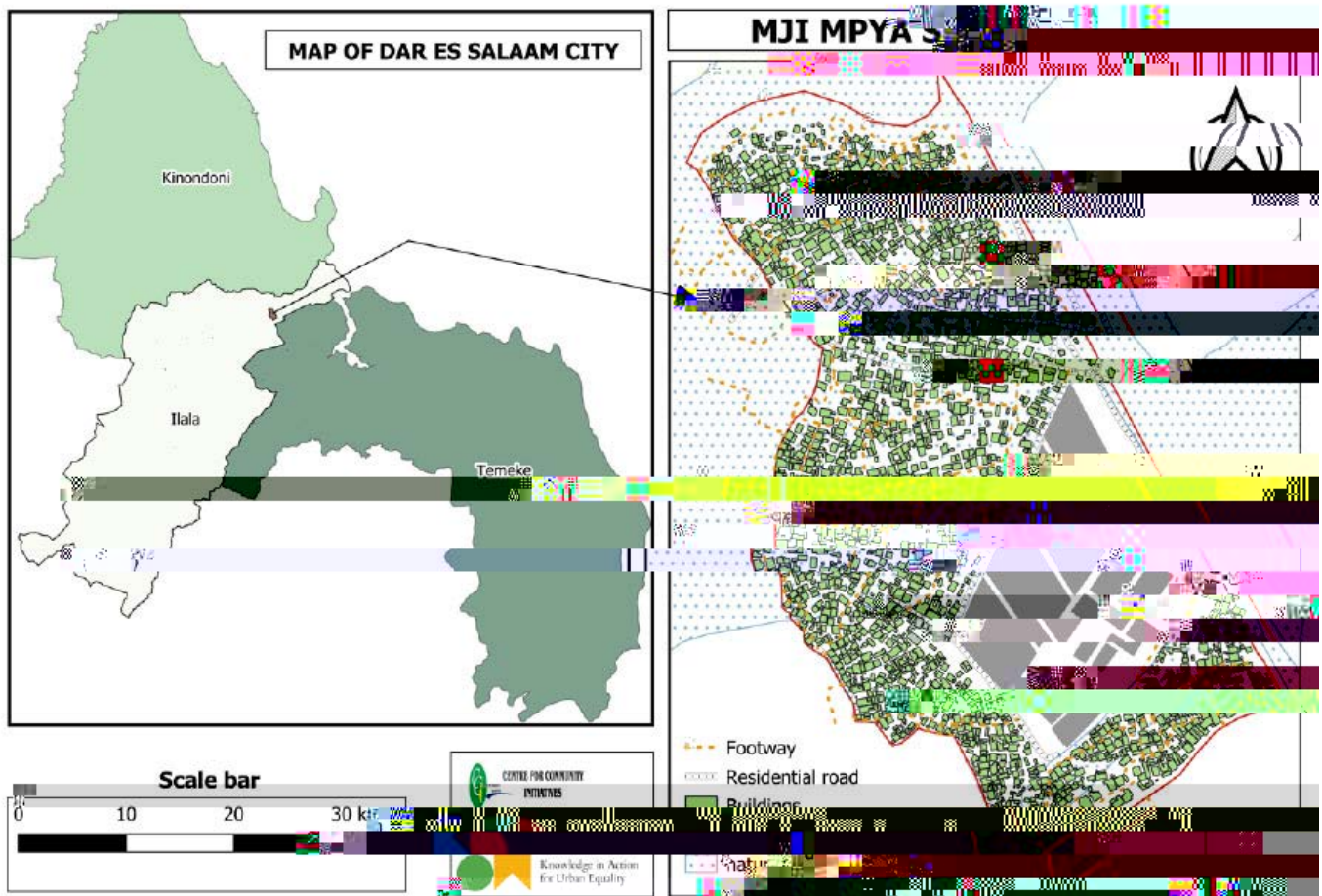
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service users or other members of the community, where all parties make substantial resource contributions" (Bovaird, 2007: 847). The significance of resource contributions and continuous interactions among parties is reiterated by Joshi and Moore but their definition of institutionalised coproduction focuses specifically on partnerships between citizens and the state (Joshi & Moore 2004). Either way, service coproduction highlights the continuous involvement of multiple actors with clear implications for governance. Some scholars use the concept of 'production' in coproduction to refer only to the service delivery phase.



Mji Mpya is a sub-ward established in 2014 following the 2012 census leading to the sub-division of an existing sub-ward. The informal settlement has an estimated population of 21,000 and is located approximately 6km from the city centre (see Figure 1). It houses mainly low-income residents involved in small enterprises and casual work earning less than £50 a month. Access to services varies across the settlement and sanitation facilities are largely on-site as there is no connection to conventional underground sewers. According to a household survey conducted by CCI in 2019, the majority of residents uses traditional pit latrines. A small but increasing number of households is connected to a simplified sewerage system and there has been experimentation with other innovative technologies including EcoSan toilets and a small, decentralised wastewater treatment system. Most residents are tenants, which means they lack direct control and rely on their landlords for onsite sanitation facilities and improvements.

When one of nine sewage stabilisation ponds was established in the area during the 1960s the settlement mainly consisted of farmland. The 1980s witnessed a population influx due to the establishment of nearby industries but this was largely confined to higher-lying areas in the South of the settlement. Access to services was generally poor during the 1980s and 1990s. In the absence of other water supply facilities, residents heavily relied on water from outside the settlement to meet their water needs. With increasing levels of urbanisation, shallow wells became contaminated with faecal sludge and industrial effluents due to inadequate sanitation and drainage and most wells have since disappeared. Nowadays, most residents access water from private and public boreholes while a small but increasing percentage of households has a utility connection. Since 1998 the area has experienced increasing flooding incidents and this can be associated with processes of urbanisation and consolidation, particularly in the lower-lying areas near the river and around the ponds (see Figure 2). The impacts of flooding are overall worsened by improper drainage, inadequate sanitation, and deficiencies in solid

1 EcoSan toilets are an alternative sanitation facility that separates urine and faeces and does not require water for flushing.



the fee started to inflate monthly charges to TSh17,000 and above per households. This adds up to more than twice the agreed amount and would allow 73 20-litre buckets per day flushed down each connected toilet. Importantly, neither of those charges reflect the actual amount of wastewater that households discharge through the system. A survey of 60 beneficiary households indicates that the majority uses between 3 and 9 buckets of water for sanitation per day (see Figure 4). Even when considering the maximum of 9 cubic metres for some households, charges should not exceed TSh3,500 per month based on the EWURA tariff.

The data collected by CCI and TFUP presented in Figure 4 formed the basis for tariff renegotiations in 2019 in which CCI and EWURA played a key role to arrive at a more affordable rate. The agreed TSh6,450 per month better reflects actual discharge amounts but some households still struggle with the payment. The fee is supposed to cover DAWASAs costs for maintaining the system, but this is not done systematically.

There are two mechanisms that have shaped the planning, implementation, and operation of the SSS. First and foremost, the scheme builds on several community-based initiatives that have enhanced the capacity of low-income communities to negotiate better access to services and enter into a coproduction arrangement with the state. In this case, sanitation improvements provide an opportunity to generate benefits not just for individuals but for an entire neighbourhood or settlement. Community-based action has been facilitated by CCI in collaboration with local TFUP groups with the aim of mobilising the community and building local capacity. This has been done through a number of ways. Firstly, community mapping and enumeration





generated local data to empower local residents in their demand for better services from the government (Glöckner et al., 2004; Hofmann, 2021; Mkanga and Ndezi, 2014; SHARE, 2012). Secondly, setting up savings groups has not only enhanced the financial capacity of low-income dwellers but also mobilised local communities as a key ingredient towards more democratic processes (DeVries and Rizo, 2015). Thirdly, the training of community sanitation technicians has built local capacity for the operation and maintenance of the system.

Community-based action and capacity building formed the basis for entering into dialogue with the municipality. CCI and TFUP strategically used the new technology of SSS to engage with local government officials (at sub-ward, ward and municipal level) and the utility to form new partnerships with these key stakeholders. Training and capacity building enabled community members to contribute to the construction and maintenance of the system. Household enumerations and participatory mapping provided the necessary baseline for the development of the scheme on the ground. Collaboration was a key process

motivated by the latter, CCI has explored different approaches to minimize the financial burden on participating households, for example by encouraging them to accumulate building materials to upgrade/build their toilet facility before connecting to one of the schemes. This can significantly reduce loan repayments, which those with an irregular income tend to struggle with.

The inclusivity of the system and its potential to address service provision inequalities is further challenged by existing power imbalances within the community and across co-production partners with negative implications for the most vulnerable. Not all residents have access and even those who do, do not benefit

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- hygiene services. *Enterprise Development and Microfinance* 26: 34–44. DOI: 10.3362/1755-1986.2015.005.
- Diep L, Pinheiro Martins F, Campos LC, et al. (2020) Linkages between sanitation and the sustainable development goals: A case study of Brazil. *Sustainable Development*: 1–14. DOI: 10.1002/sd.2149.
- EWURA (2014) The Dar es Salaam Water Supply and Sewerage Authority ('DAWASA') (Tarif Adjustment) (Amendment) Order, 2014. Dar es Salaam: EWURA.
- EWURA (2022) Water utilities performance review report for FY 2020/21. Dodoma: The United Republic of Tanzania Ministry of Energy.
- Glöckner H, Mkanga M and Ndezi T (2004) Local empowerment through community mapping for water and sanitation in Dar es Salaam. *Environment & Urbanization* 16(1): 185–198.
- GoT (2019) The Water Supply and Sanitation Act 2019. Dodoma: Government of Tanzania.
- Hofmann P (2017) Multi-layered Traqdnn P (20c Watet of Tanzania.



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