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From African pipe dreams to incremental sanitation improvements through experimentation


By Pascale Hofmann, Nelly Leblond, Ana Leao, Astrid Mujinga, Tim Ndezi and Ibrahim Bakarr Bangura

In February 2023 the team of the research project OVERDUE – tackling the sanitation taboo across urban Africa embarked on a knowledge exchange visit to India to learn from the Indian Institute for Human Settlement’s Tamil Nadu Urban Sanitation Support Programme (TNUSSP).

The first days included two field visits in Chennai, one to a public/community toilet (PT/CT) in Kottivakam and the other to one of the city’s 13 sewage treatment plants (STP), Sholinganallur.
The commitment of public authorities to sanitation – both the state government of Tamil Nadu and the Chennai City Corporation – struck us as remarkable. They both have taken a leading role in the allocation of resources, knowledge acquisition and collaboration with various sanitation actors to facilitate a shift towards the sustainable provision of services for all. This includes work on the intersectional dimension of sanitation services, to ensure that sanitation is everyone’s business along the entire chain – and not solely for those of a specific cast or group, such as women.

When comparing this with different contexts in urban Africa, three aspects stand out in Tamil Nadu:

1. the government takes responsibility for service provision along all stages of the sanitation service chain. This means government funds are earmarked for the operation and maintenance of sanitation infrastructure, and not simply their construction;
2. the government embraces an incremental approach to deal with challenges of onsite sanitation, a reality for a large proportion of inhabitants. This involves allocating state funds towards safe faecal sludge management solutions; and
3. time and resources are invested to experiment with sanitation options, enabling to test and evaluate different methods and procedures, learn from them, and select appropriate combinations that are beneficial in the long term before replicating and scaling up.
In contrast, while large-scale investments also happen in many African cities, these come mainly from External Support Agencies (ESAs) and primarily fund networked infrastructure with little consideration for their operation. When they do invest in onsite facilities, like public or household toilets, this is often on a project basis, with limited follow up on the longevity of the infrastructure.

Let us unpack the 3 aspects outlined above to explore the opportunities and challenges for the African cities of Beira (Mozambique), Freetown (Sierra Leone) and Mwanza (Tanzania), where the OVERDUE teams are working and advocating towards just sanitation through innovative interventions such as inclusive toilet rehabilitation and a city-wide sanitation forum.

**Embracing the full sanitation chain as a public responsibility**

![Figure 2: The Sanitation Service Chain combining grid and off-grid provision. Source: P. Hofmann (2023)](image)

Obvious to our TNUSSP colleagues but striking from our perspective was the fact that the Tamil Nadu state government plays a key role in providing resources to universalise service provision. The state especially invests in the construction or rehabilitation and maintenance of toilets accessible free of charge, such as the Kottivakam beach toilet, and in the operation of STPs, enabling to keep the emptying costs of desludging trucks low.
By comparison, sanitation in several African cities and countries is often driven by cost recovery principles and the pressure to pay back external loans. This places the need to provide citizens with timely access to basic services second compared to economic principles – often short term and segmented – in these sanitation interventions and investments. In Freetown, public toilets tend to be managed by individuals who are supposed to run them commercially. However, user fees are often not enough to cover operation and maintenance, which means that many of them are dirty and in overall bad condition with faecal sludge management being at best an afterthought.

Figure 3: Pay-by-use toilet in Susan’s Bay, one of Freetown’s informal settlements. Source: P. Hofmann (2019)

In Beira, the urban poor are currently being double taxed: through a sanitation tax included in their water bills and by paying to use public toilet/bath facilities that are poorly maintained and occasionally with overflowing septic tanks.

Reliance on voluntary labour, like we witnessed in Tamil Nadu through Self-Help Groups managing community toilets, is a foreign concept in many African cities or the preserve of women. Service provision is part of the capitalist system introduced during colonial times fostering a dynamic of individualism. This fuels the unrealistic idea of sanitation as a money-making endeavour rather than a human right and thus public responsibility. As African governments rarely step up to take responsibility and thus a leading role in coordinating actors along the service chain, contrary to what we witnessed in Tamil Nadu, sanitation becomes not only more fragmented but further puts a disproportionate burden on onsite sanitation users and workers, especially women.
Dealing with Faecal Sludge/ Bridging the grid and off-grid divide

In most cities with a colonial past, the sanitation landscape includes limited areas serviced by an underground sewer network (grid sanitation) while numerous settlements rely on toilets equipped with pits and tanks (onsite or off-grid sanitation). Government efforts in urban Africa to enhance onsite sanitation are generally limited. They might extend as far as constructing public or community toilets, often with support from ESAs, but municipal governments usually do not take responsibility for how these are managed.

In Tamil Nadu, faecal sludge management, and thus servicing off-grid facilities, appeared as a serious commitment, with resources allocated to transport and treatment. For example, the Sholinganallur STP was adapted as a co-treatment facility to include faecal sludge, with a specific desludging area built to accommodate hundreds of trucks per day.

![Image: Desludging operators queuing at the decanting station of the Sholinganallur Sewage Treatment Plant. In the background, trucks discharging the sludge in an underground channel built under the parking platform. Source: P. Hofmann (2023)](image)

This contrasts with Mwanza, where the investments to improve sanitation are almost exclusively earmarked for the underground sewer system with provisions for informal settlements through simplified technology. Utility efforts for the majority of city dwellers that continues to rely on onsite sanitation are limited to awareness-raising campaigns to encourage residents to improve their sanitation provision themselves. The ways in which
decentralisation has been implemented in many African contexts puts pressure on lower levels of service provision governance structures to operate in a self-sufficient manner.

In Beira networked sanitation has enjoyed abundant funding from donors with support from central and municipal government. Yet, most inhabitants live in informal settlements and rely on onsite sanitation. The EUR12 million EU-investment for a state-of-the-art treatment plant is not only a fitting portrayal of a disjuncture between sanitation investments and sanitation needs but the fact that the plant became defunct after only a few years shows little regard for choosing infrastructure that is suitable to the local context and can be operated sustainably. Plans to invest a further EUR20 million to rehabilitate the plant confirm a continued preference towards expensive unsustainable infrastructure benefiting a minority.

**Beyond a pipe dream: experimenting, learning and scaling sustainable sanitation systems**

The TNUSSP-led visits introduced us to an experimental framework that allocates sufficient resources to test not only different innovative sanitation technologies but also experiment with and evaluate a range of management systems before they are scaled up.

Key demonstration projects turn facilities into knowledge hubs for demonstration and systematic monitoring of the input/output system. For example, the PT/CT we visited is trialling the management through a private operator that employs residents from the nearby fishing community (primarily women) for toilet operation and cleaning while also piloting a particular technology, the NEWgenerator system, that facilitates onsite treatment of septage where the treated water is used for toilet flushing and floor cleaning.
What we witnessed in India regarding public toilet facilities and their management will be of particular value for Beira, Freetown and Bukavu where dedicated Flexifunds from the OVERDUE project have been allocated to rehabilitate dilapidated facilities.

Taking inspiration from Tamil Nadu, there is an opportunity to set up demonstration projects to develop more sustainable management models where municipal governments and utilities play an integral part. Allowing enough time to experiment and learn is crucial as the systems put in place do not happen overnight, particularly to bring about the necessary shift where sanitation and sanitation work are acknowledged as a crucial service that everyone has the right to enjoy rather than something to be hidden.

The knowledge exchange in India has inspired us to advocate for long-term commitment and capacity development of all actors concerned with sanitation along the service chain to move beyond infrastructure and bridge grid and off-grid sanitation services.