



# THE STATE OF SANITATION SERVICES IN MOCUBA, MOZAMBIQUE

## Insights from Local Sanitation Workers

Mocuba, situated in the Zambezia province of Mozambique, is undergoing substantial urban growth and development, ranking 11th among the most populated cities in Mozambique according to the 2017 census, with an urban Municipal population of approximately 115,000 people. Effective sanitation services are essential for ensuring public health and hygiene in rapidly expanding communities like Mocuba. During the development of city-wide sanitation plan, an initiative by SNV as part of the Small-Town Sanitation project, led by PSI and funded by USAID, we spoke with local sanitation workers, including the only private desludging truck operator and a group of manual emptiers. Their insights provide a clear picture of the current state of sanitation services, the challenges they face, and their plans for future improvements.

## **UNITED BROTHERS'- EXPERIENCE FROM A GROUP OF THE MANUAL EMPTIERS**



*Figure 1: United Brothers group of Manual Emptiers and sanitation artisans in Mocuba.*

## OPERATIONAL OVERVIEW OF MANUAL EMPTYING GROUP

In Mocuba, manual emptiers work without formal recognition or licensing from the municipality. In 2023, they emptied 23 septic tanks and other containments, and have completed 15 so far this year, while there are approximately 37,000 unimproved or improved latrines in the city. Their services are essential in areas that vacuum trucks cannot access, and they also provide additional services, including masonry work, toilet construction and SaTo Pan (a toilet pan that uses a mechanical flap and water seal to close off pit latrines from open air) installation.

## DISPOSAL AND PRICING

Manual emptiers typically dispose of sludge by burying it close to the pit or in nearby vacant land. However, with increasing urbanization, they are encountering difficulties finding suitable spaces to dig pits within plots or close by. Occasionally, farm owners have requested that sludge be disposed of on agricultural land. Service charges range from 1,000 to 1,500 MT, depending on the size of the containment.

## CHALLENGES AND OPPORTUNITIES

Manual emptiers face significant challenges, including containment collapse during emptying, difficult to access many low-income areas and high negotiation on fees due to the unaffordability of the service for many clients. They lack formal training and not able to afford proper PPE. The average duration for manual emptying is 2-3 hours during the night. Despite these obstacles, demand for their services is increasing, with notable opportunities in areas that are inaccessible to trucks. Some of the other services provided by the manual emptier group include toilet design and household advice on suitable containment types, offering valuable input for many settlement areas in improving sanitation facilities. The containments can be improved to reduce the need for emptying and transport through the use of Alternating twin-pit containments and Digester toilets that are being piloted by the project. The group seeks support from local authorities and development partners to professionalize their services and emphasize the urgent need for safe management of sanitation in the city, as well as being ready to adhere to all local regulations.

## THE PRIVATE DESLUDGING OPERATOR'S PERSPECTIVE



Figure 2: Mr. Hussain, private desludging operator in Mocuba.

## DEMAND OVERVIEW

Mr. Hussain manages a 3-cubic-meter desludging truck that offers the only formal faecal sludge emptying services in Mocuba and nearby areas, while the majority of emptying is undertaken by

informal manual emptiers. He receives a total of approximately 12 emptying requests per month, 3-4 emptying requests per month from Mocuba and 2-3 from Alto Molocue. Furthermore, through a contract with the Gurue municipality, he services institutions and public toilets, handling an average of 10 requests every 2-3 months.

## **COSTS AND SERVICES**

For trips in Mocuba, he charges users directly, with a fee of 1500 MT per trip. Whereas the Gurue municipality in addition to the emptying fees they also cover expenses for fuel, accommodation, and daily subsistence allowance (DSA) for the extended trips. During the consultations, he has also expressed keen interest in utilizing the Mocuba municipality-owned desludging truck, which needs compressor repairs and could be a valuable addition to their fleet.

## **TECHNICAL ASPECTS**

Currently, the existing desludging truck provides emptying for containments within a hauling distance of 20 to 25 meters of pipe length. However, the operator is confident that the pump can handle longer distances. Most of the emptying requests involve septic tanks, which usually fill within 8 to 12 months but may take up to 3 to 4 years in the case of unlined and large-sized holding tanks.

In Mocuba, the practice of connecting containment spillover to the stormwater network is negligible due to the limited stormwater drainage network. This was evident during our field visits to various settlement areas. Pits in areas with high water tables (or areas prone to waterlogging and flooding) require more frequent emptying, whereas those in normal conditions are serviced every 2 to 3 years. A major issue is that many containments are not designed for emptying or lack proper manholes for this purpose, which consumes significant time in providing desludging services.

Containment technologies, such as alternating twin pits and Digester toilets, can allow for on-site treatment of pit contents, and reduce the need for emptying and transport through FSM, such technologies are being piloted by the project.

## **CHALLENGES AND FUTURE PLANS**

Mr. Hussain stated that community sensitization on safe and regular emptying practices is urgently needed. He also highlighted the current tipping fee of 300 MT at the Mocuba landfill site, expressing hope that this fee could be reduced or, alternatively, that a proper treatment system and facilities for safe disposal of sludge could be established in the future. His future plans include expanding the business with additional trucks and exploring reuse opportunities in agriculture and composting. However, obtaining bank financing is challenging due to high lending rates, which can be as much as 25% annually, even for self-financing. As a result, he intends to purchase a new 5-cubic-meter truck without external funding. He is also keen to collaborate with the municipality to enhance and expand sanitation services throughout Mocuba.

## **LEARNINGS AND RECOMMENDATIONS**

The insights from the desludging truck operator and manual emptiers underscore the urgent need for enhanced sanitation infrastructure and greater community engagement. There is a clear call for better support systems, including accessible and standardised improved containment options with the potential to increase in-situ treatment, formal recognition for manual workers and properly managed disposal/treatment processes. Optimizing available resources, knowledge, and local expertise to create hyper-local solutions is essential for achieving sustainable, long-term

improvements in sanitation services within the municipality. As Mocuba continues to grow, addressing these needs will be crucial for maintaining public health and improving the quality of life for its residents.

The desludging operators and manual emptiers are currently delivering services with limited knowledge and resources but are demonstrating a strong commitment to improving safely managed sanitation practices. As they work to adapt and expand their services, it is crucial that they receive support from local authorities, communities, and improved household and public infrastructure to ensure their success. To effectively address the sanitation challenges in Mocuba, it is crucial to formalize these groups and enhance their capacity alongside the development of necessary infrastructure. Encouraging sanitation workers to connect with national and international networks can be highly beneficial. These connections will enable them to learn from best practices, discuss challenges, and explore innovative solutions. Such engagement will not only enhance their capabilities but also provide valuable evidence to advance initiatives for safely managed sanitation pathways in Mozambique.

**FOR MORE INFORMATION, PLEASE CONTACT:**

Mrs. Micaela Rodrigues, Chief of Party, Small Town Sanitation Project, [mrodrigues@psi.org.mz](mailto:mrodrigues@psi.org.mz) .