BORDA

People. Innovating. Sanitation.

BORDA SWM experiences Indonesia Tanzania Zambia



Jutta Camargo, 2025

About BORDA

- Founded in the 1970s, German NGO.
- Focus: Decentralised sanitation and wastewater in low- and middle-income countries.
- Long-standing partnerships with local authorities and organizations to ensure sustainability.
- Recognized for pioneering Decentralized Wastewater Treatment Solutions (DEWATS) but also DESWAM and the Material Recovery Facilities (MRFs) in SEA.





SWM and MRF (DESWAM) in Indonesia



DESWAM- Indonesia 2005-2014

- Project Location in Indonesia: Bali, Java
- Partner NGO Baifocus:
 - High tourism pressure
 - Low coverage (40–60%) and lack of law enforcement
 - High cost of centralized systems, limited land
 - Need for decentralized, community-driven SWM approach



DESWAM Design & Implementation



Decentralized Solid Waste Management (DESWAM) model



Multi-stakeholder financing and PPPs



Community mapping and participative planning



Target groups: HH scale, tourism, city scale



Components: separation, composting, recycling, fee-based services



MRF in Bali



Impact of DESWAM Implementation

- Waste reduction: 20–70% depending on scale
- New job opportunities created
- Improved community awareness and behavior
- Profitable partnerships with tourism sector
- Support from local governments and enforcement bodies







Lessons Learned from DESWAM

Education & communityspecific awareness are essential

Strong local ownership via mapping & engagement Clear roles for postproject sustainability



Local markets & land ownership must be addressed Residue handling and transport fees are key bottlenecks

Tanzania Awareness Raising Campaign: Context & Objective

- Location: Unplanned
 settlements in Dar es
 Salaam (Kinondoni
 Municipality)
- In partnership with ISWA, Nipe Fagio (NGO) and Kinondoni Municipal Council
- Duration: 2015-2016



Project Overview

Objective: Data collection on household waste and services, Behavioral change via competition model

Community Awareness Campaign – Cleanest Sub-ward Competition





Project Activities

- Household-level surveys and Mapping service provision
- Coordinating a door-to-door visit campaign to increase knowledge and change attitudes concerning solid waste management at source,
- Organizing community clean-up events.
- Establishing a school program. The school program engaged students in workshops, and supported waste and sanitation education knowledge sharing in schools.
- Organizing community group visits. to improved waste management practices and motivated individuals and groups to keep their environment clean, and to educate others.

Community- Based Implementation	Training for 133 leaders (ward, sub- ward, ten-cell)
	Contracts with licensed service providers (e.g., Majaliwa Group)
	Introduction of fee-based system (TSH 2,000–5,000 per HH)
	Awareness through posters, door-to- door visits, school & group programs
	Creation of solid waste collection zones with supervision









Tanzania: Key Takeaways

- Data critical for planning and advocacy
- Focus on scalable, sustainable systems
- Government collaboration is key

Over 20 illegal dumps cleared without external funding 73% household coverage with waste services Community 5,500+ students engaged through Impact & school awareness programs **Achievements** High payment compliance and reduced illegal practices

Mwongozo awarded Cleanest
 Sub-ward

Zambia Case Study: Context & Objective

- Solid waste dumped in pit latrines in low-income areas
- 30% of fecal sludge is solid waste
- Goal: Awareness and municipal service support



Challenges of FSM and SWM in Lusaka

- FSM projects piloted in Lusaka since 2011,
- FSM projects are facing O&M challenges due to solid waste presence.
- This study highlights successes and challenges of FSM along the sanitation service chain and SWM challenges.







Results: Waste management at HH Level





Results: Emptying & Transportation

- Solid waste increases emptying time more than two times
- Increases Failure of emptying technologies
- All technologies failed many times due to clogging
- Pits need to be punctured
 compromising the integrity of the structure





Lessons

- Solid waste is thrown in pits by households mostly lacking solid waste management options
- High amounts of waste are prevalent in pit latrines while flush system containment facilities mostly contain menstrual Health hygiene products.
- Majority households either bury MHH products in OSS facilities or burn them in shallow household pits
- There is a high need of operations and maintenance of OSS facilities they fill up faster-an average containment unit fills up every three years
- There is a high risk of contamination of the operators both during emptying and at the treatment plant.







Recommendations

- Community awareness on solid waste management in all sanitation projects
- Pour flush units must be promoted and encouraged for all OSS facilities to prevent the throwing in of solid waste matters in pits
- Need for standards for all sanitation systems
- Solid waste management must be planned for in future FSM projects (tariff bundling of water and solid waste, monitoring mechanisms of solid waste service providers)







People. Innovating. Sanitation.

04.06.2025



