

# Understanding the economics of BORDA-designed treatment systems in South Africa

## The role of non-profit organisations in filling the sanitation financing and implementation gap

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## 1. Brief Overview

South Africa faces a significant sanitation financing challenge, with an estimated R256 billion per year required between 2023 and 2050 to meet national water and sanitation objectives aligned with SDG 6. Decentralised Wastewater Treatment Solutions (DEWATS), designed and implemented by the Bremen Overseas Research and Development Association (BORDA), offer a flexible and lower-cost alternative to conventional sewerage systems. This ongoing study examines the economic performance of BORDA-designed systems and the role of non-profit organisations (NPOs) in addressing financing and implementation gaps,

## 2. Aim

To assess:

1. The role of non-profit organisations in bridging sanitation financing and implementation gaps in developing countries such as South Africa.
2. The economic viability of BORDA-designed DEWATS [as water efficient sanitation solutions (WESS)] in South Africa compared to conventional systems.



Image 1: Learners at Zwelibomvu Primary School with their newly refurbished toilet block [BORDA South Africa, 2024]

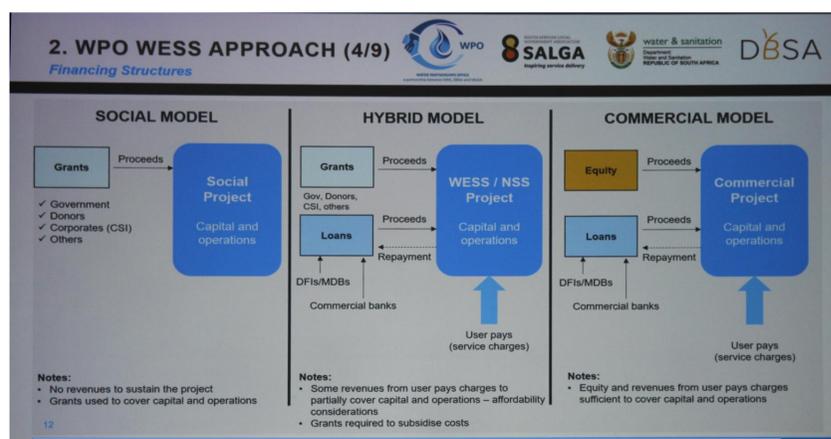


Image 2: Water Partnerships Office funding strategy for government entities presented at a BORDA South Africa seminar (August 2025)



Image 3: Collaborative discussions on water efficient sanitation solutions (WESS) and applicability in (October 2025)

## 3. Role of Non-Profit Organisations

1. Enable system implementation through:
  - o Donor funding
  - o Technical expertise
  - o Project management
2. In school sanitation projects:
  - o Up to 25% lower cost per user compared to chemical toilets
  - o Additional benefits: water reuse, biogas recovery, and capacity building
3. Act as catalysts for innovation and investment de-risking

## 4. Challenges & Limitations

- Dependence on donor funding limits scalability.
- Long-term sustainability requires integration into municipal planning and budgets.
- O&M capacity remains a key constraint, especially for impoverished communities. And schools.

Image 4: Graphic illustrating the role of multiple funding sources when implementing decentralised sanitation solutions in South Africa [example of BORDA South Africa financing strategy (2025-2027)]



## 5. Recommendations

- Promote hybrid financing models combining:
  - o Public subsidies
  - o Donor and grant funding
  - o Community contributions
  - o Private-sector participation

## 6. Conclusion

BORDA-designed DEWATS are a cost-effective and economically viable sanitation solution in South Africa. Non-profit organisations play a critical role not only in filling financing gaps but also in shaping sustainable, scalable sanitation investment models aligned with national development goals.