

Emerging Lessons on FSM from Maputo, Mozambique

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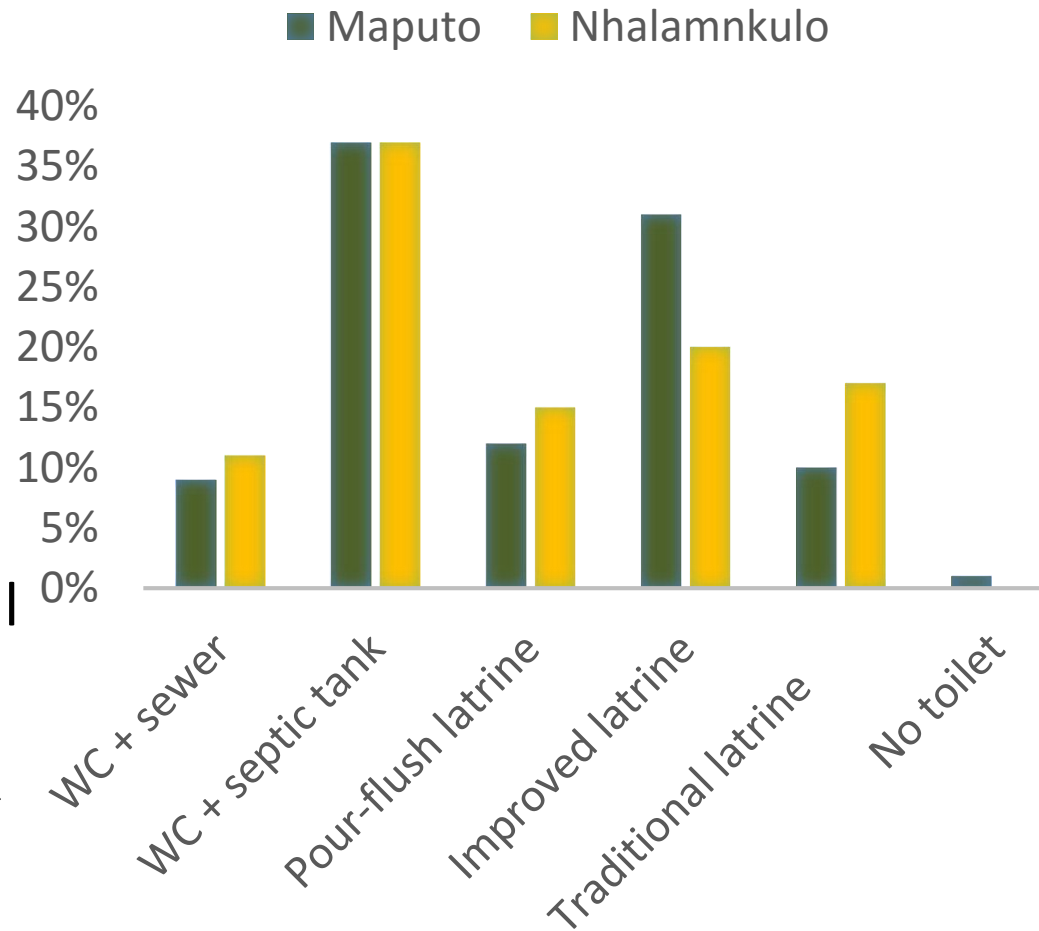
World Bank



WORLD BANK GROUP
Water

1. Background

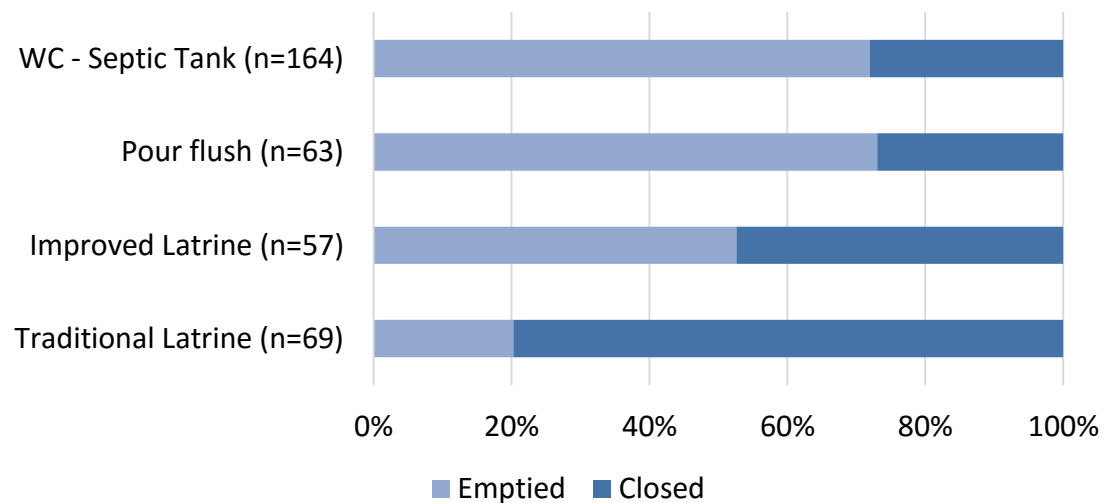
- ~1.2M inhabitants
 - Project area – 150,000
- Rapid Water supply expansion
 - shift from dry to wet sanitation systems
- Limited FSM services
 - High prevalence of informal (unsafe) emptying
- Unclear mandates and lack for capacity for service provision
 - 100% responsibility of the HH



2. Existing Conditions...

- Replacement of pits, when full
 - Limited access for vacuum tanks
 - Lack of appropriate equipment for unlined pits
- Illegal dumping into residential environment
 - Prevalence of manual/informal/unhygienic emptying

Share of closed and emptied sanitation facilities



3. Project Design

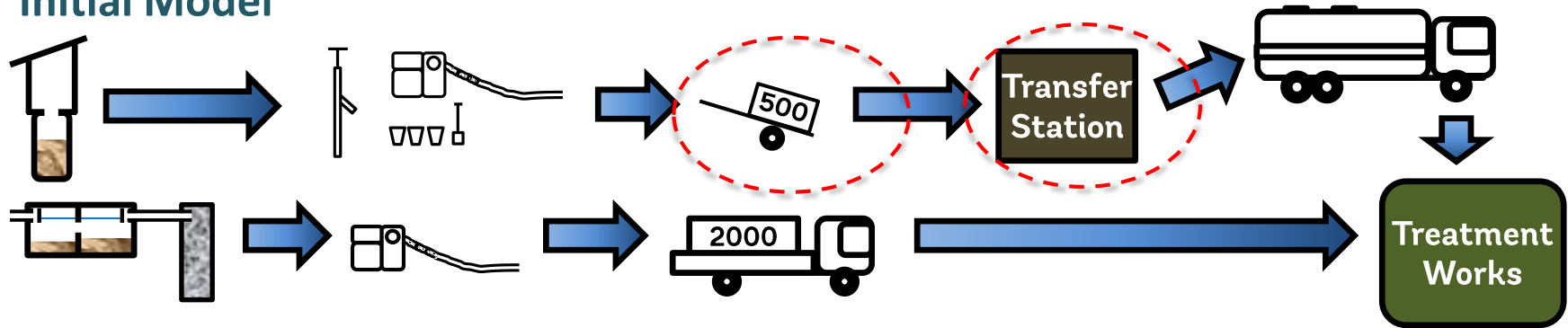
- Partnership led by Maputo City Council
 - Supported by World Bank and WSUP, funded by JSDF
- Sanitation Services' improvements in Nhlamankulo District
 - Private sector engagement
 - Technology development
 - Design of service models
 - Capacity development



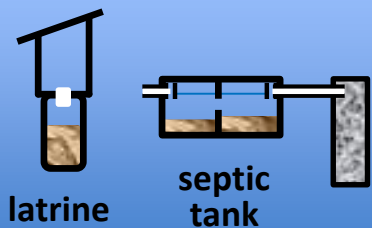
3. Project Design – *cont.*

- Transfer stations to improve access and reduce transport costs
- 8 operators (5 primary and 3 secondary)

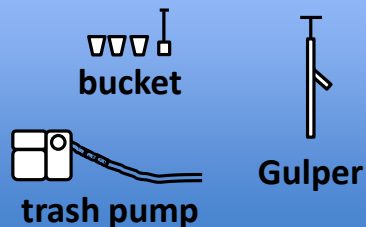
Initial Model



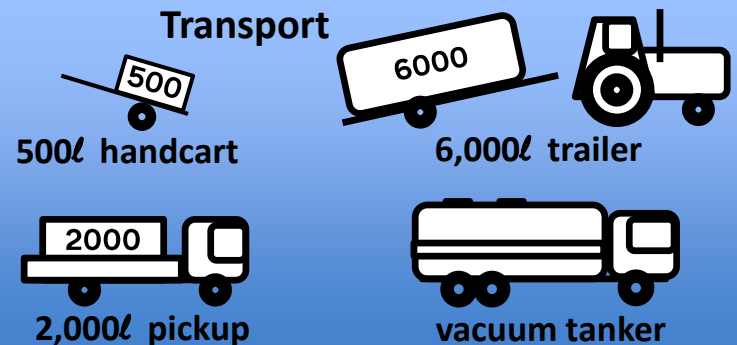
Containment



Emptying

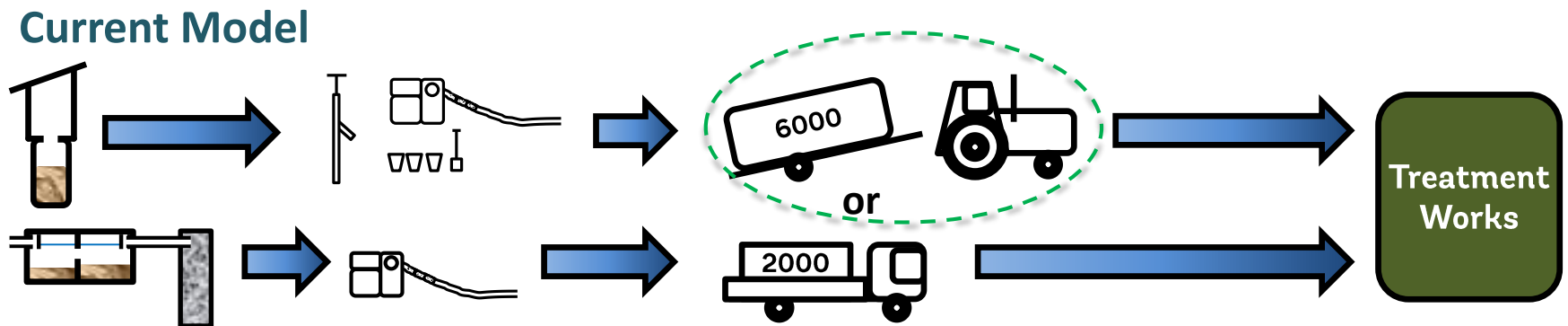


Transport



4. Initial Challenges and modifications

- Local resistance to the construction of transfer stations => mobile tanks
- High dependence on the secondary operators
- Difficulties operating handcarts
- Higher volumes to be emptied compared to reference volumes at the design stage

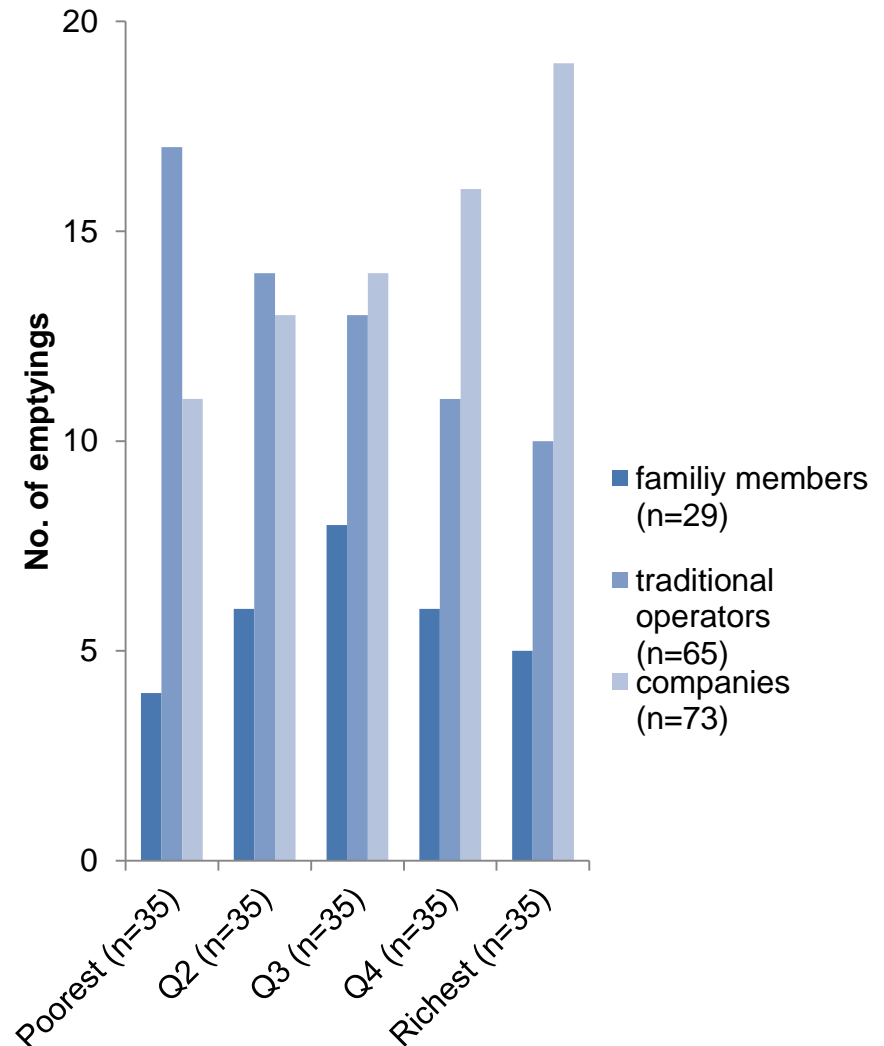


5. Financial Data

Operator	No. of emptyings:		Revenue (USD)	Cost (USD)	Operating profit (USD)	Depreciation (USD)	Net profit (loss) (USD)
	Pits	Septic tanks					
Primary Operators							
Acadec	52	61	7,645	4,975	2,670	2,832	(162)
Bejoel	3	63	4,307	1,800	2,507	2,832	(325)
Magoanine	76	79	7,589	2,963	4,626	2,832	1,794
Modac	0	41	1,675	1,293	383	2,832	(2,449)
(Phatima)*	1	7	661	470	191	2,832	(2,641)
Secondary Operators							
Mbonga Mbilo	49	185	10,996	6,488	4,509	11,495	(6,896)
Siema	77	69	8,635	4,107	4,528	11,495	(6,967)
Oliveira	0	42	4,976	1,119	3,857	11,495	(7,638)
Total	258	547	46,485	23,213	23,271	48,645	(25,374)

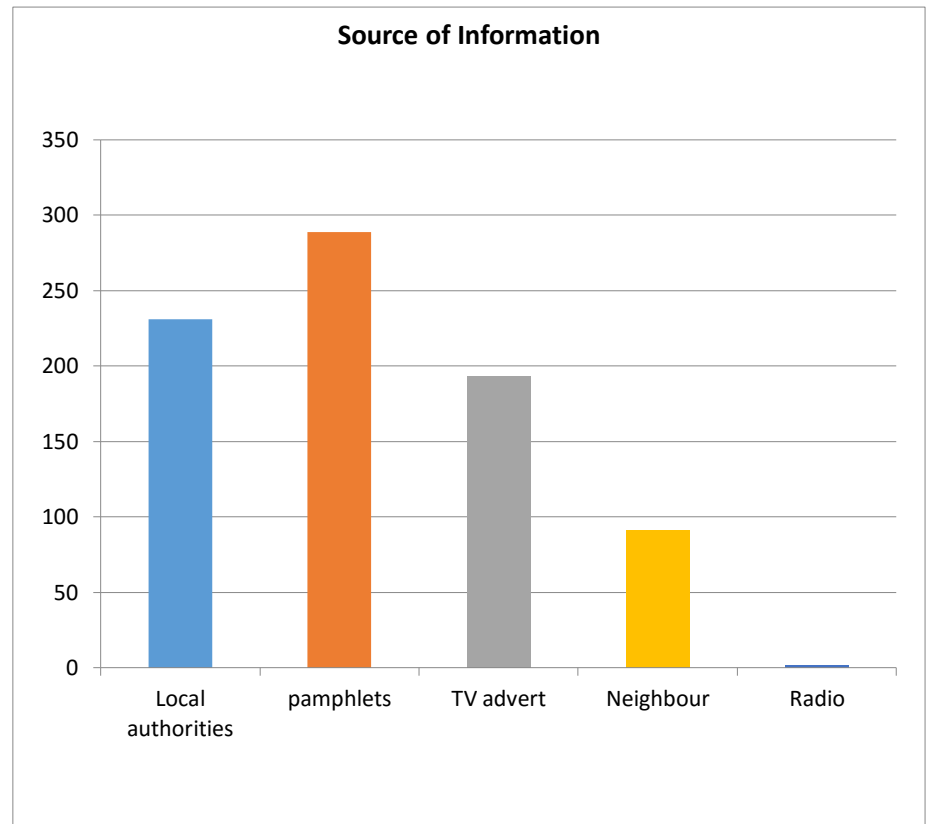
5. Financial Data -cont

- Prices not affordable for poor households
- 7 of the 8 operators still operating and covering costs
- Additional investments made by the operators
- Access to banking services to expand business
- Haulage to treatment is the highest cost component



6. Customer feedback

- Pamphlets were the main source of information
- Service was appreciated for its hygienic methods
- 40% contacted returned to alternative options due to price



7. Drivers of Change

- Existing SWM microenterprises
 - Familiarity with customer base
 - Similarities on operation of SWM and FSM
 - Existing association of microenterprises
- Political support from the City Council
 - Development of sanitation by-law covering FSM
- Available data on key challenges for sanitation services

8. Lessons Learnt

- Technical
 - Need for improved tools for manual emptying
 - Dynamic nature of informal settlements require flexibility to service larger range of sanitation facilities
 - Due to seasonality of FSM business operators need complementary sources of income to survive
- Commercial
 - TV adverts had major impacts on demand, but leaflets were more effective in customer engagement
 - Selling points were cleanliness and positive environmental impact of the new services;
 - Price is a major constraint to service uptake and a push back to traditional manual emptying.

9. Outstanding Challenges

- Affordable but improved services
- Right mix of emptying equipment types and transport options to increase profitability;
- Improved technology for dry sludge and accessing dense peri-urban areas
- Improved treatment and sludge re-use



Kanimambo!

