

▶ DESLUDGING OF FILLED UP TOILETS EXERCISE EU- WASH

The Operation of the Mobile Desludging Unit (MDU) - WES
Management - January 2016



The **specific objectives** of this contract was to:

- i. Develop a selection criteria to identify appropriate schools or disaster relief sites across the target area which will act as good demonstrative sites as well as support the overall objective of the project in a sustainable way.
- ii. Make the selection in consultation with the contract holder of 100 toilets from those sites which fulfilled the criteria.
- iii. Identify and invite entrepreneurs to each of these sites.
- iv. Operate the projects MDU's to empty these toilets and dispose its content in a safe and Council-designated area.
- v. Demonstrate the MDU's capabilities to entrepreneurs and expose them to practical operations of the technology.
- vi. Market the business concept to these entrepreneurs.
- vii. Invite entrepreneurs to express interest in the operation of these MDU

Introduction:



Before emptying

Sanitation in Schools and public institutions is of particular Importance. Young children and all other people are more at risk from excreta related infection than adults. They are also at an age where good hygiene practices are most likely to affect their future behavior. On site sanitation systems have been adopted throughout the developing world as a means of reaching sanitation coverage targets.

A growing concern surrounds how these facilities can be effectively emptied. This becomes increasingly important in densely populated urban and peri-urban areas, schools and other public institutions where the practice of covering a full latrine and relocating the superstructure is often not possible. Furthermore, access to latrines using large motorized vacuum tankers in Malawi is difficult; it is out of this back ground that the MDU had been developed. WES Management has a solution to this problem and 100 filled up latrines which were supposed to be decommissioned have now been mechanically emptied.

1. Developing and Identifying appropriate sites for desludging toilets

The selection of toilets were based on the following principles.

- The toilets were to be within the project area and must be

full which are difficult to be used.

- The school of any public place which normally used as IDPs during the floods or any other emergency situation.
- The community must show and demonstrate that they care and able to manage the facility once desludged.
- The surrounding community will learn and request for the services within their household and show willingness to pay for the service.
- The council and all other relevant authorities support the innovation.

2. Selection of 100 filled up toilets

No	Town	Locality/ Institution	Number of Toilets
1	Mangochi	St Augustine P. Sch	36
2	Liwonde	Liwonde LEA P. Sch	14
3	Liwonde	St Theresa P. Sch	6
4	Liwonde	Machinga Dist. Hosp	10
5	Zomba	Chalomwe LEA P. Sch	36
TOTAL NUMBER OF TOILETS			102

- The site were selected in consultation and guidance from the councils through the desk officers and relevant stakeholders
- The criteria was based on ranking of needs which included the toilet to leaners ratio eg. More learner using one toilet against recommended 1:60 ratio.
- Existence of school management system of sanitation facilities systems which also includes security of the facilities from vandalism
- The toilets which were filled up and difficult to be used and those abandoned because of filling up.

3. Identify and invite entrepreneurs to each of these sites.

- A total of 12 entrepreneurs have been oriented on the operations of the MDU
- Mangochi had a highest number of interested business person attending the desludging processes
- Those who attended showed willingness to embark on the desludging business but they would request for the loan fund apart from two people in Zomba who feels they can invest in the business

4. Operation of the MDU and disposal of sludge

- In all the towns the disposal sites were carefully done and the responsible council's official gave the clear directions on where to dispose the sludge.
- The sludge was directly disposed in safe and environmentally friendly manner.
- The MDU is operated and mounted on a 2 tonne truck



After emptying

This is how the team has been working. The toilets were completely filled up and with the MDU and team's technical expertise the toilets have been reclaimed to its original status.

Desludging of Septic tanks

One of the assignments in the project is the rehabilitation of the market toilets



The septic tanks were used as rubbish pits



Emptying of septic tanks was a night mare



Septic tanks contained a lot of heavy materials and thick sludge.

The rehabilitation of market toilets required the desludging of septic tanks and all the market septic's couldn't be easily emptied by common sewerage honey tanker (suckers) but needed specialized system. The emptying was not just a question of sucking, but needed the manual removal of solids in the septic tanks.

Management of Septic Tanks

The desludging of septic tanks also required the cleaning and physical removal of solids which were being disposed into them because the septic tanks had no covers and the market skips are next to the septic tanks.

The following is the summary of the septic tanks emptied:

No	Town	Locality/ Market	Volumes Removed
1	Mangochi	Bus Depot	14,000 ltrs
2	Mangochi	Mtagaluka	9,000 ltrs
3	Mangochi	Chomba	8,000 ltrs
4	Liwonde	Bus Depot	17,000 ltrs
5	Liwonde	Main Market	18,000 ltrs
6	Liwonde	Kamuzu Barrage	29,000 ltrs
7	Liwonde	MH Turn Off	28,000 ltrs

Desludging of all the septic tanks was not just a mare simple job but the removal of all different types of larger volumes of solids which required special skills and equipment for the removal of rubbish and cleaning of the tank, The volume of rush removed per septic tank was 200 Litres to 300 Litres and the total load of sludge for all the markets septic tanks was 123 trips of the MDU to the various designated disposal sites.

5. Demonstrate the MDU's capabilities to entrepreneurs and expose them to practical operations of the technology.

- The MDU's capability was demonstrated to the entrepreneurs by explaining on how the equipment operates and the need to care about the machine, the cost of the machine and the need to have the machine mobile as the machine on its own cannot move without the transport
- The operations was demonstrated during the desludging of toilets in the selected schools as per contract. The entrepreneurs who shown interest stayed own but others couldn't stay own because of the un palatability of the smell during the operations.
- The capability of the machine proved beyond measure that it's not an ordinary machine but special machine fit for pit latrines.

6. Market the business concept to these entrepreneurs.

- The business concept was marketed to the entrepreneurs being the new technology on the market for the would be customers, the marketing strategy was to give a chance to them to evaluate their own capacities if they can manage to carry out the business with the MDU
- The entrepreneurs were tested to market the technology to the household and we had to do the demonstration for the paying customers within the community. In Mangochi, the surrounding community gathered at Mtagaluka Mosque where the toilets were emptied and paid by the worshipers.
- In Liwonde the equipment was also tested at Liwonde Motors and this was paid by the owner of the garage where some household showed interest to have their toilets emptied but would request for the service once they get money and just like in Mangochi the entrepreneurs would like to have the opportunity of loan to invest in the MDU operations.
- In Zomba the equipment was again tested in Chinamwali at the Chinamwali Private Secondary School and it was paid by the owner of the School who also showed to interest to own and run the MDU and ready to invest in the operations of the equipment.
- The market was created within the community but the main challenge is willingness to pay as many required the service but for free.
- The entrepreneurs too wants the equipment for free as it is not possible for many to invest in the business. Since this was the first experience we agreed to organise a more formal orientation for these entrepreneurs where ways and means of the

operations and owning the MDU would be explored.

7. Invite entrepreneurs to express interest in the operation of these MDU

- The invitation was extended to the entrepreneurs to express their interest in the running and operations of the MDU. Just like what has been explained in Objective number 6. Some entrepreneurs requested for more time to digest and time with them to explain in depth about the business opportunity for the MDU.
- The assignment was more of orientation and this time around plans have been made for the round table discussion which will involve both the Council officials and the entrepreneurs to discuss not just MDU business opportunities but also the other sanitation products according to the Proposal document under Business activities A2.2.3

List of entrepreneurs who expressed interest in the MDU Operations

No	Town	Name of entrepreneur
1	Mangochi	Pweka Yona
2	Mangochi	John Ali
3	Mangochi	Sheila Njilima
4	Liwonde	Dalington Wataya
5	Liwonde	Savi Vito
6	Zomba	Henrey H Makoka
7	Zomba	Junior Kadazi

Conclusion

The running and operation of the MDU would need people who have passion and zeal to sanitation and should also be active in other business ventures as operation of the MDU alone cannot be a sustainable business.