



WES Net Southern Region Chapter
Meeting – Annie's Lodge : ZOMBA

Mobile Desludging Unit - MDU

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BACK GROUND OF MOBILE DESLUDGING UNIT - MDU

- With increasing Global interest in the management of faecal sludge in un sewerred areas, increasing effort is being placed on the development of equipment that can effectively, efficiently and safely empty and transport sludge from toilets such as all types pit latrines as well as infiltration pits (though commonly described as septic tanks) in some case.

DEVELOPMENT OF MDU

- A Mobile Desludging Unit (MDU) has been developed in Malawi
- Developed through both the Innovative and imitative theories
- Local and International partners involvement
- Higher learning institutions involvement

THE MDU



The MDU at work



Desludging Team



Why MDU

- The MDU has proved to be capable of emptying almost any sludge; it is reliable, fast, safe and economical to operate.
- Clients include households from high, medium density locations, schools, local authorities, and NGOs.
- The "principle of factor sparsity" and the "law of the vital few."
- The 80/20 Rule

How it works

- The equipment is designed for “difficult sludge” and difficult access areas
- The sludge which is semi solid and hard to remove: ie thick sludge with more than 15% solids and mixed with rubbish;
- The toilet facility which is hard to access: narrow lanes, bumpy roads, steep slopes, muddy roads, obstacles such as other buildings, trees, fences, etc.;

Desludging Process- Fluidization



Use of High Pressure

- The idea of using a high pressure washer is based on using one of the properties of sludge called thixotropy:
- *“Thixotropy is the property of certain gels or fluids that are thick (viscous) under normal conditions, but flow (become thin, less viscous) over time when shaken, agitated, or otherwise stressed”.*

Fluidization of Abandoned Latrines



Why Fishing

- The remedy to this is to “fish” out the rubbish. The fishing operation often required that the
- hard sludge be softened or fluidized. In any case the hard sludge is too solid to be pumped out, and requires “fluidizing”.
- This is traditionally done by adding large amounts of water to the pit sludge and stirring with a stick.

Fishing



Non Sludge in Sludge



Cont'



The Sludge



Pumping



Transportation



Disposal



Achievements

- Over 8,000 latrines have been emptied within two years with the MDU in all the 3 regions
- The Technology has now been replicated in Zimbabwe and Ethiopia
- During the last emergency MDU was used and 320 toilets were emptied in IDP camps in four district

Challenges

- People use pit latrines as rubbish pits hence throw in a lot of non faecal material
- Pit latrines are also used as secret places where non palatable materials are deposited
- Desludging and Rehabilitation of existing latrines is a non beneficial

Conclusion

- Desludging of pit latrines is economical
- Desludging brings continued development
- Desludging is a means of appreciating the past investments
- Desludging is the way to go

Coming together is a beginning,
keeping together is progress

