

Drivers of persistent unhygienic faecal desludging and potential sustainable solutions in unplanned urban settlements in Dar es Salaam, Tanzania

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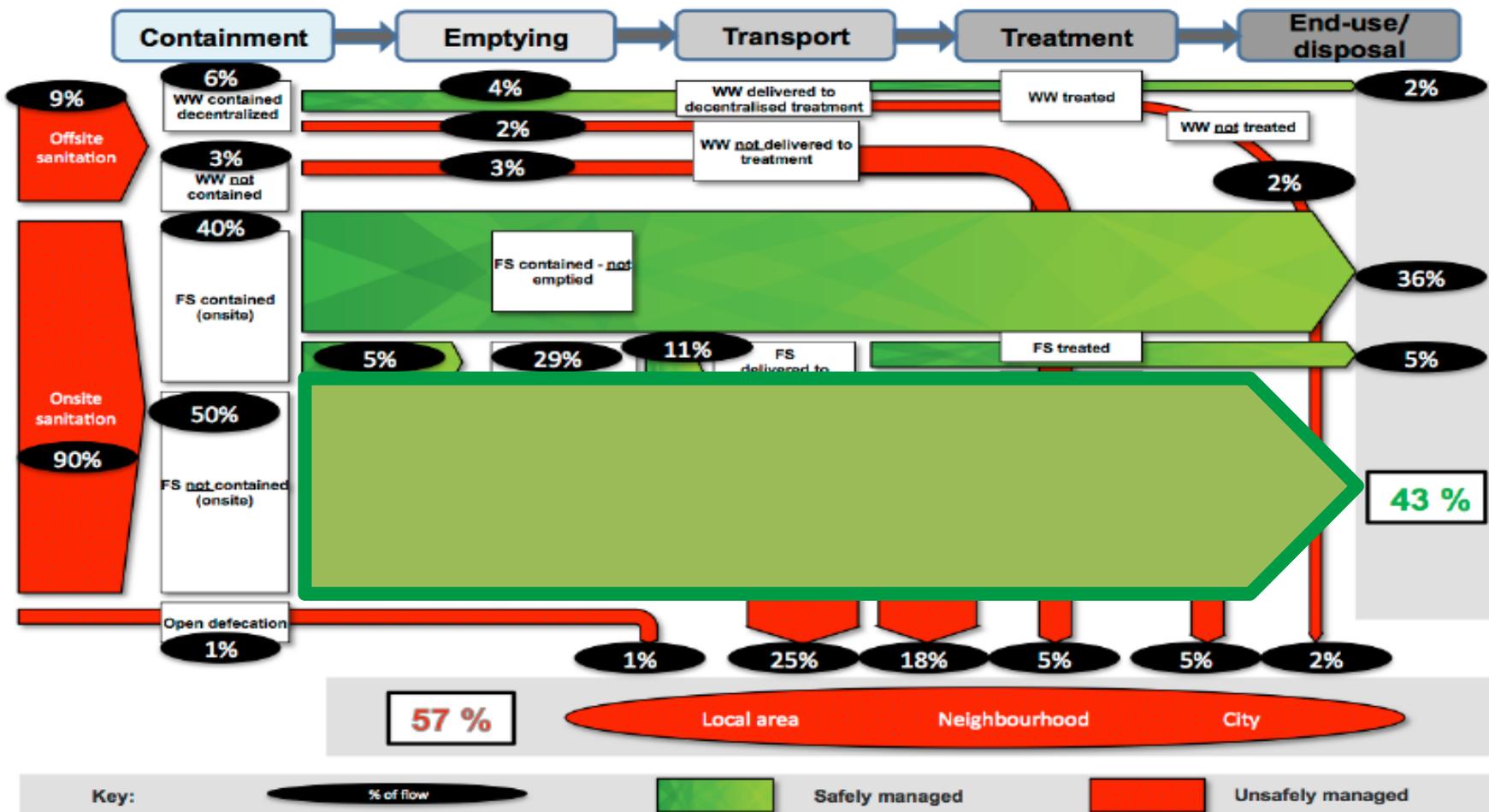
Pit latrines in high water table congested settlements



Background

- There is evidence that in areas constrained with space, the challenge of filing onsite sanitation is to be addressed through desludging
- Mechanized and human powered equipment have been invented for hygienic desludging (GOAL, 2016)
- Unhygienic desludging persist

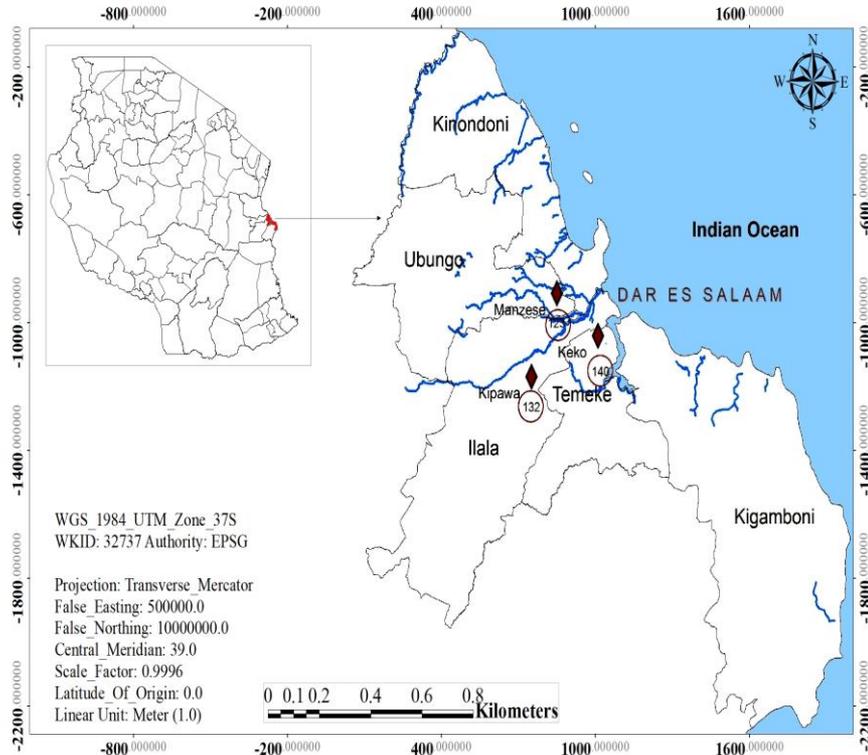
Field based assessment



Purpose of the study

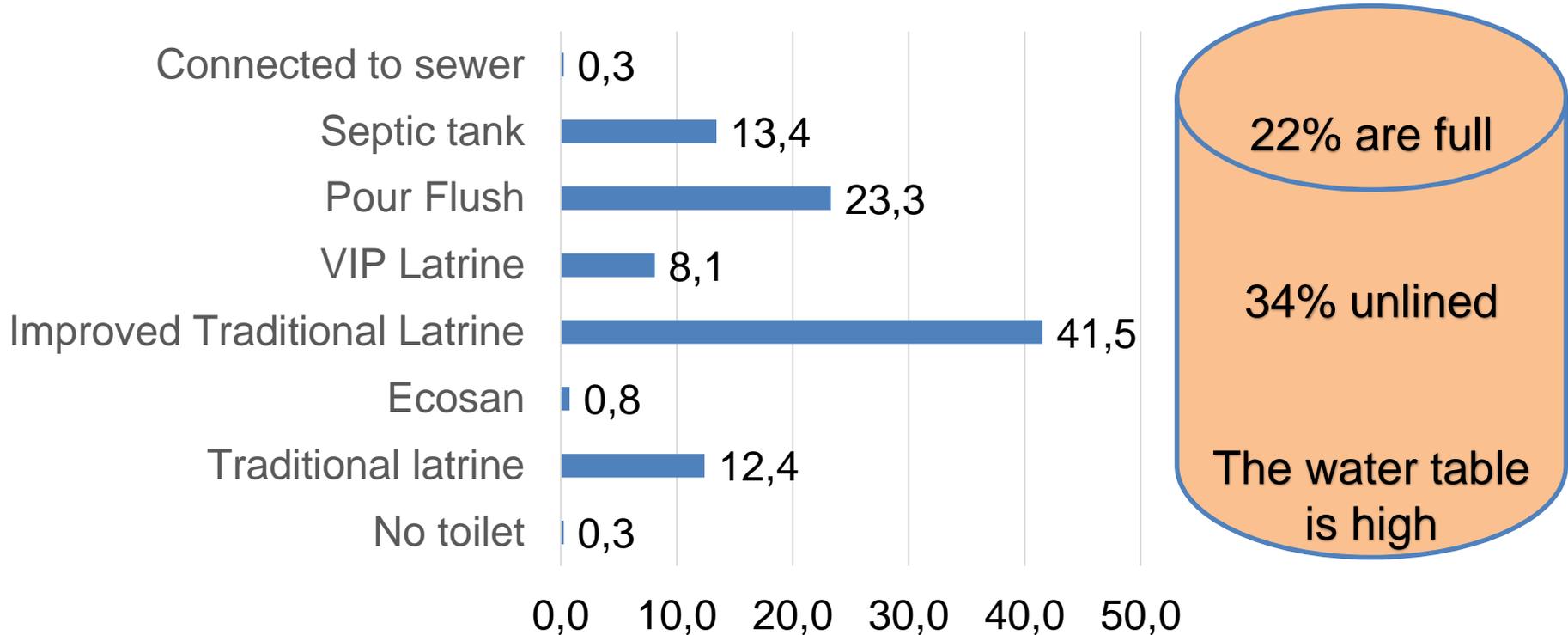
This study explored current situation on the ground and factors contributing to the persistence of unhygienic desludging in unplanned settlements in Dar es Salaam

Material and Methods



- Cross section study
- Mixed methods
- Data were collected from 395 dwelling houses using Epicollect5 app
- Tests of association were performed in SPSS Ver.25.
- Odds ratio calculated using Binary logistic regression model
- $Logit(\pi) = \alpha + \beta X + \varepsilon$

Results: Types of toilets and condition



Results...Desludging equipment and practices

HYGIENIC DESLUDGING



UNHYGIENIC DESLUDGING



Drivers of unhygienic desludging:

Results of Logistic regression model

Parameter		Exp. (B)	Sig.
Location	Low lying areas	1.677	0.400
	Lack of space for parking	4.828	0.002*
Toilet design and condition	Unimproved toilets	2.23	0.505
	Dry pits	1.026	0.871
	Direct to pit toilets	1.034	0.958
	Unlined pits	1.717	0.403

Drivers of unhygienic desludging:

Results of Logistic regression model ...

Parameter		Exp.(B)	Sig.
Socio-economic status	Low rent per Month	1.262	0.672
	Few families (≤ 3) in a dwelling house	1.856	0.252
	Collect water from public collection point	1.432	0.783

Conclusion and Recommendations

Unhygienic desludging still a common practice

The practice is common among the poor, those in low lying areas and HH with toilets that lack lining

Weak stakeholders collaboration with regard to manual operated equipment despite ineffectiveness of the Gulper

Conclusion and Recommendations...

- Improvement in desludging services should insist on lining of pits
- Consideration should be given to the poor who can not afford pit lining e.g. loan schemes
- The effectiveness of sanitation solutions that do not require deep pits such as simplified sewers, BFL toilets need to be investigated

Summary

Residents in unplanned settlements are likely to be left behind if desludging challenges are not addressed

- Pit lining along with a space for desludging may improve faecal desludging
- Shallow pit sanitation systems in water logged areas
- Feasibility of non pit based toilets in water logged areas need to be researched further

Points to remember

Hygienic desludging still a challenge in unplanned settlements

Poor toilet design and high water table traps hygienic desludging in DSM