

Improving FSM in Dhaka – evidence for planning future action

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Structure of the presentation:

1. Introduction to sanitation & FSM in Dhaka
2. New evidence from FSM diagnostic study
3. Implications and way forward



1. Dhaka's sanitation and FSM challenge

- **9m people in Dhaka City**, of which 3.5m in slums (CUS, 2005)
 - 14m in Dhaka metropolitan area
 - Rapid replacement of older housing with high-rise flats
- **94% using “sanitary latrine”** (Census, 2011)
 - 5% non-sanitary latrine use, >1% practice OD
- **20% of households connected to sewer**
 - but 70% non-functionality of pumping stations
 - very low volume of sewerage reaches the treatment facility
- **Current FSM services**
 - Few people use emptying service: most latrines empty to open drains
 - one active mechanical emptier (DSK, an NGO), but little work
 - Manual sweepers are most common service provider

2. Dhaka Sewerage Master Plan

Objectives

- elimination of wastewater pollution by 2035, with
 - 65% using public sewerage system in 2035
 - 35% using improved on-site (or hybrid) facilities in 2035
- catchment-based WWTPs with separate treatment lines for FSM

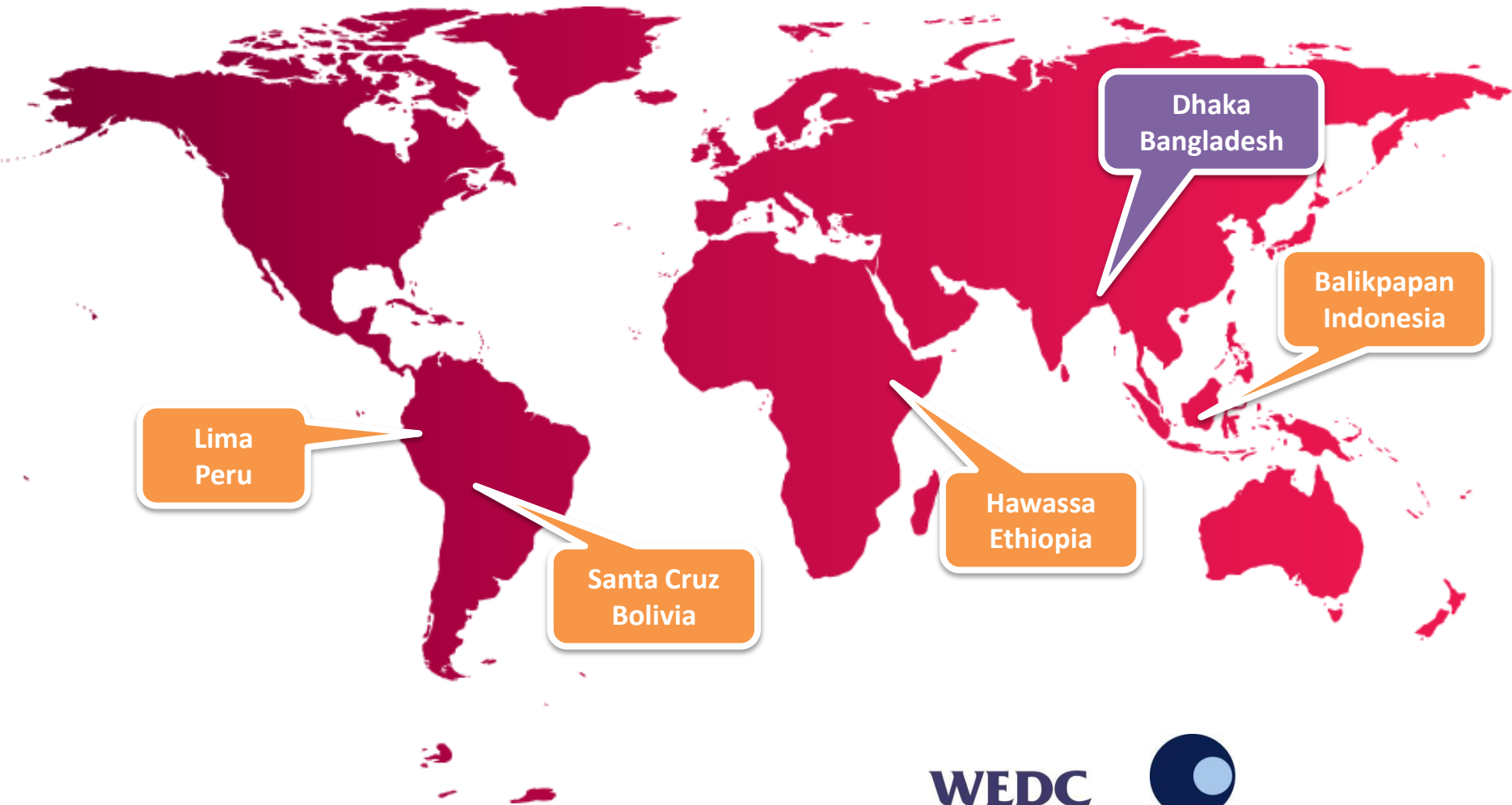
Elements of Master Plan relevant to FSM

- Overall sanitation service delivery responsibility with DWASA, incl. FSM
- DWASA will
 - support private sector involvement in FSM collection/transport
 - Set up a department focusing on FSM

Challenges / likelihood of success

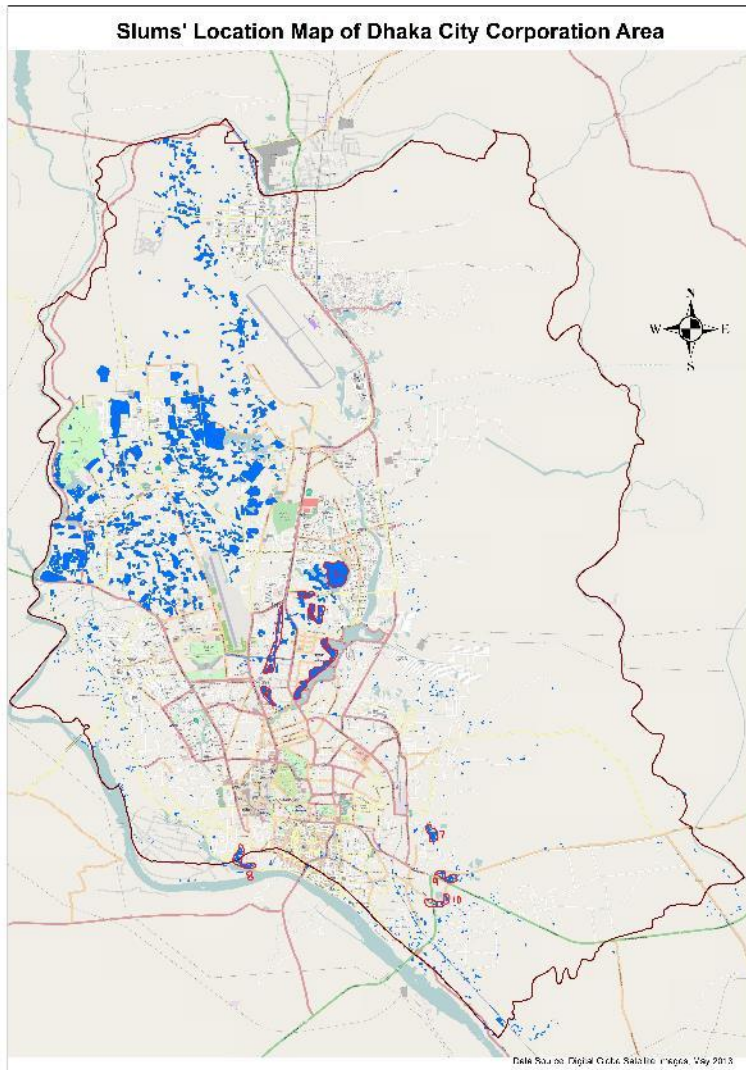
- Roles of various agencies remain unclear
- No available model/intervention that can be scaled up.


3. World Bank-WSP study in Dhaka

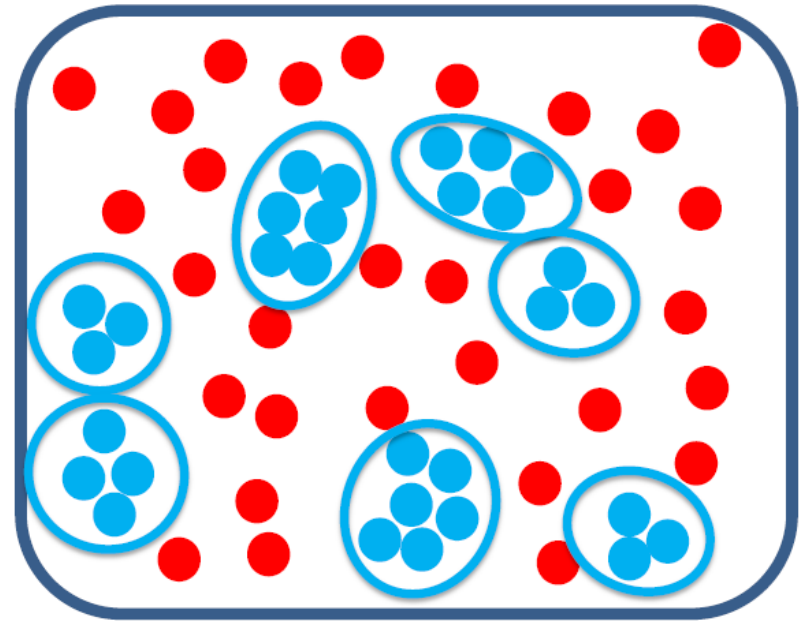



Oxford Policy Management


4. Sampling in Dhaka study



 = slum area



 30 x city-wide clusters selected with random sampling
-->
Representative of Dhaka City

 30 x slum clusters selected with purposive sampling

Give good idea of character of slums

5. Instruments and sampling

– Household (HH) survey

- City-wide – 30 clusters x 12 HHs per cluster = 360 city-wide HHs
- Slums – 30 clusters x 12 HHs per cluster = 360 slum HHs

– Transect walks

- Held in 10 randomly-selected city-wide clusters
- Held in all 30 slum clusters

– Focus Group Discussions

- Held in 10 of the slum clusters

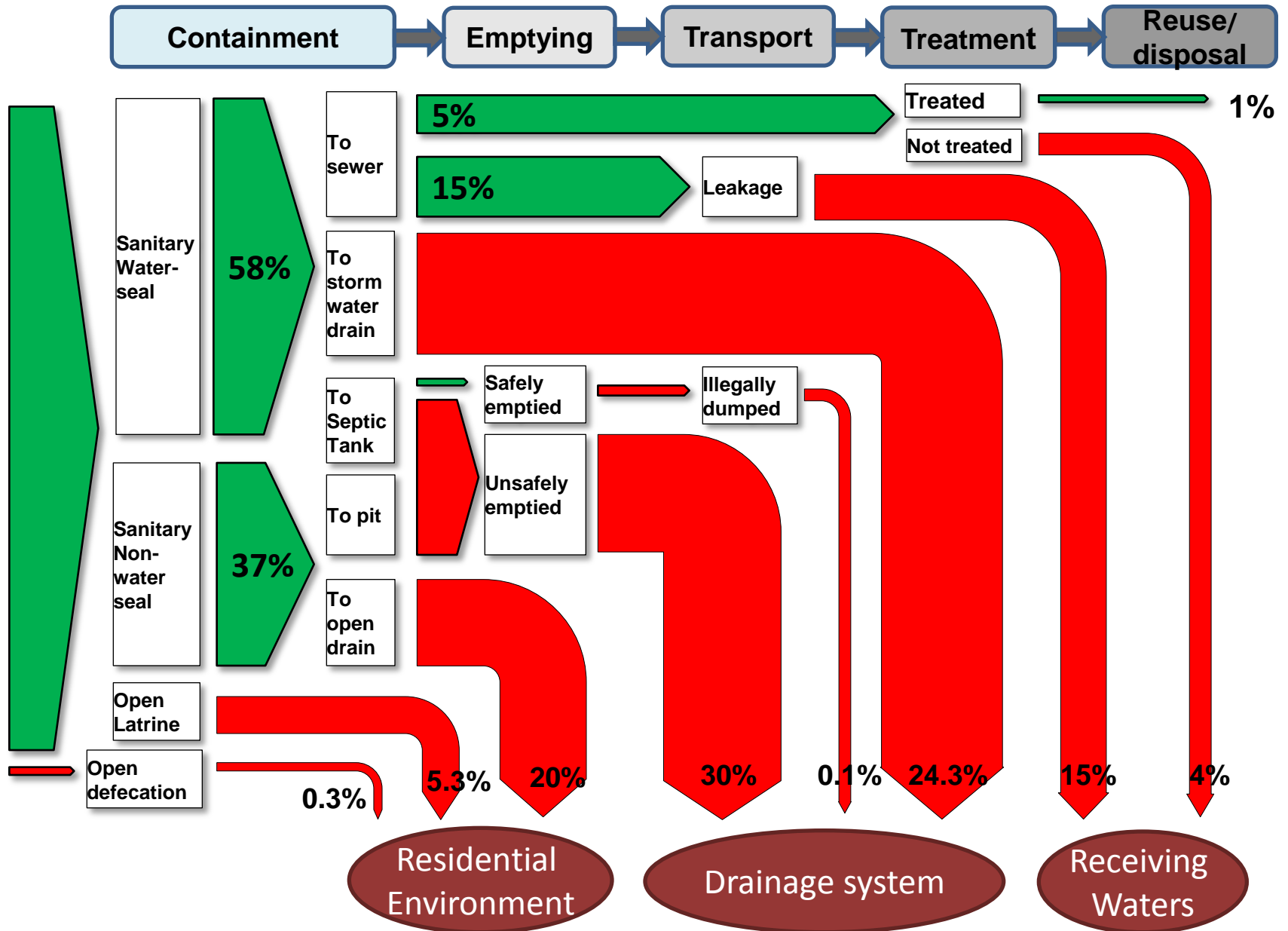
– Key Informant Interviews

- Conducted with >20 key FSM stakeholders

– Observation of service providers

- Carried out over 5 emptying events (3 manual, 2 mechanised)
- tests of FS samples taken during observations

6. Dhaka fecal waste flow diagram



7. Evidence from household survey – containment

“Where do the contents of this toilet empty to?”

		City-wide	Slums
		%	%
Low risk	Directly to piped sewer system	25	0
	Septic tank / pit with no outlet	2	12
Medium Risk	Septic tank / pit connected to drain	50	17
High Risk	Directly to drain/ditch	21	71
	Other	2	0
	Total	100	100

“If this toilet is connected to a pit or septic tank, has that pit/tank ever filled up?”



City-wide:

12.5

Slums:

13.1

Message

71% of pits/tanks connected to drains

→ few tanks fill up

→ low demand for emptying

8. Evidence from household survey – emptying

“What did you do when the pit or septic tank filled-up last time?”

	City-wide	Slums
	%	%
Emptied and reused pit/tank	94	97
Abandoned and pit/tank unsealed	6	0
Covered and used alternative pit	0	3
Total	100	100

An **informal provider** carried out this most recent emptying in

- **97% of cases city-wide** (3% by NGO)
- **81% of cases in slums** (14% by household member, 5% by NGO)

Message

When pits fill, they are usually emptied manually by a sweeper

9. Evidence from transect walks

- All of Dhaka is affected by poor FSM: it's not only a problem for slum-dwellers
 - Latrines empty into drains throughout the city, daily
 - Drains run through all areas – slums and non-slums

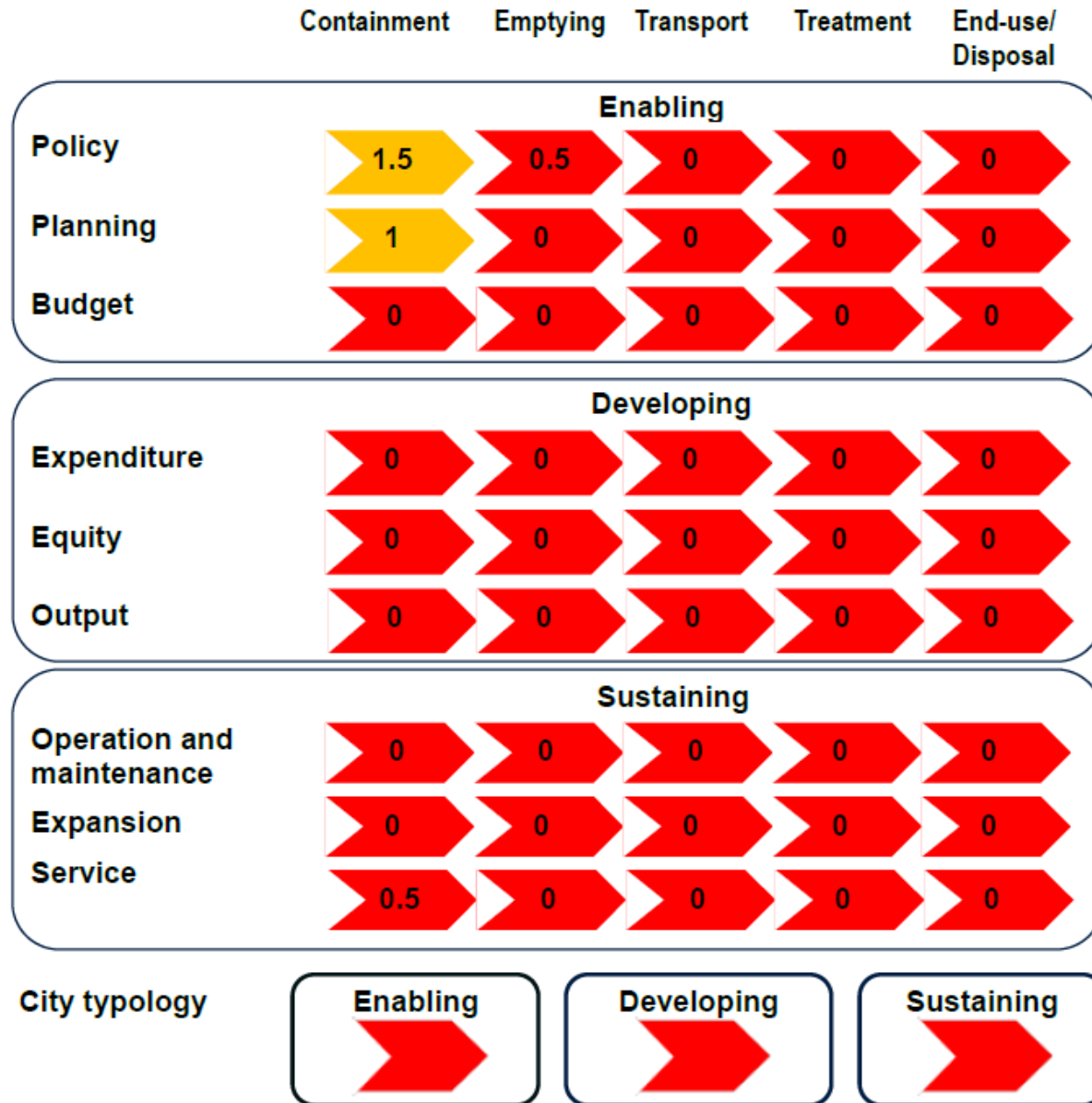
Effect of drains running as sewers

	Observed	Reported (by community)	Measured
	Fecal waste seen in drains	Latrines emptying to drains, daily	Drainwater samples tested for <i>E. Coli</i> found in...
City-wide areas	50% (N=30)	>50% (N=30)	70% (N=10)
Slum areas	50% (N=10)	80% (N=10)	40% (N=10)

10. Evidence from focus groups: emptying

- Most households in slums employ manual NOT mechanised emptiers,
 - Manual emptying may pose no more direct **public** health risks than mechanised emptying or alternatives (risk is to the household and the emptier)
 - Little, if any, support is available to the poor for services (i.e. beyond help with latrine construction)
- Implication: wealthier households “rely” on drains to empty
 - Households are breaking the law on septic tank emptying frequency and drain connections
 - Dhaka City Corporation places adverts in newspapers
 - no enforcement of the regulation
 - The role for mechanised emptiers, in the current context, is uncertain

11. Service Delivery Assessment



12. Implications of evidence for FSM planning

- 20% pay sewerage bill, but the sewer network is often non-functional. Blockages lead people to cross-connect to drains
 - Implications – attention to design, functionality and maintenance of existing and future sewer networks
- 70% of household latrines current empty to drains
 - Implications – 35% of households who will not be connected to sewers (in the Master Plan) need regulated and enforced on-site infrastructure, safe and efficient emptying services – linked to transport and treatment facilities

13. Way forward

– DWASA future plans

- For unsewered areas, DWASA are working with consultants to identify options for sanitation in 2 catchments, including on-site sanitation options.
- Looking to sewer currently unsewered areas, informed by this work and the Master Plan

Thanks for listening!

