Timely emptying, scheduled emptying, or no emptying at all

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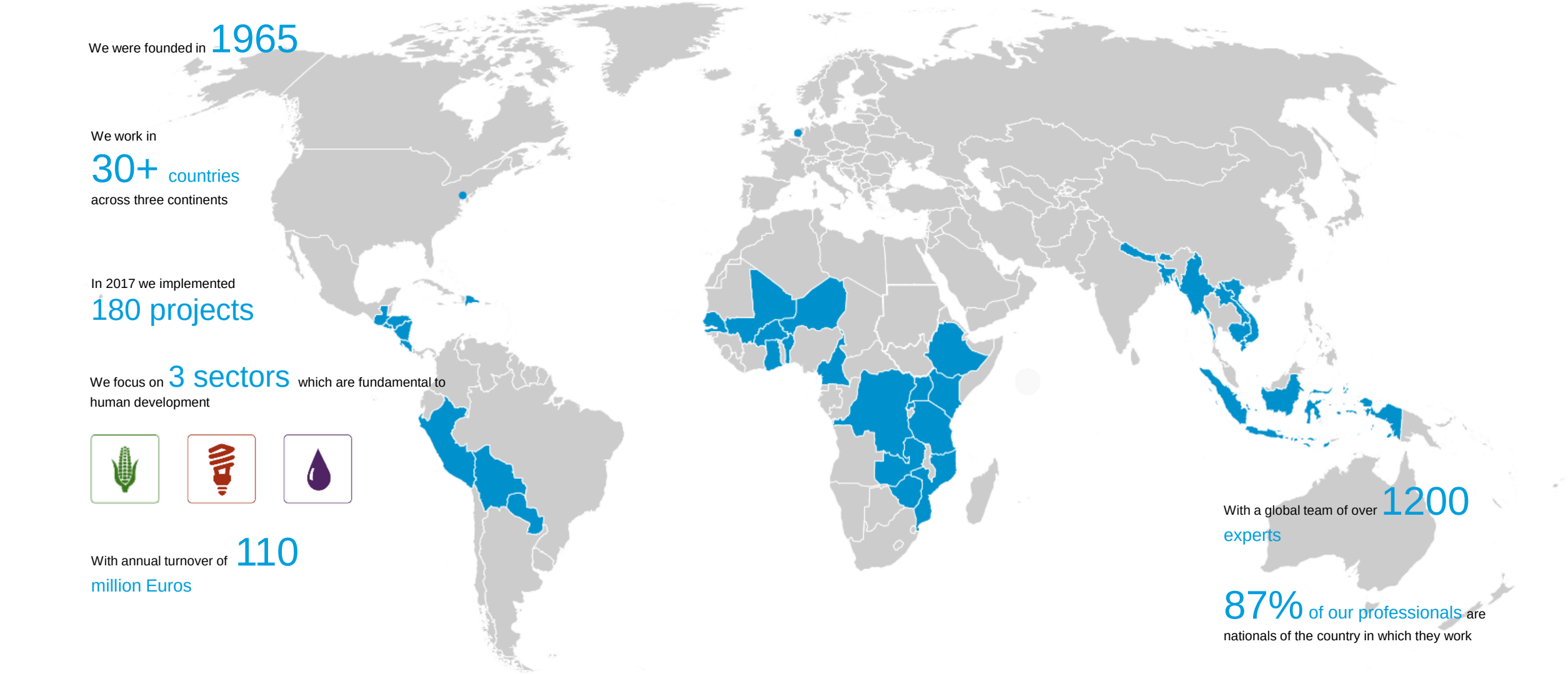

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Urban sanitation and hygiene for health and development

City-wide approach in
20 cities
across 5 countries

Populations from
20,000-1, 2 million

A total of 6 million people

Background

April 2018 baseline in 16 cities, only four (4) cities with partial sewer

<u>Household survey sample</u>

- 17,254 households
- 95% on-site sanitation

When do we consider something “safely managed” if pits/ tanks are not emptied?

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Annual use rate of services

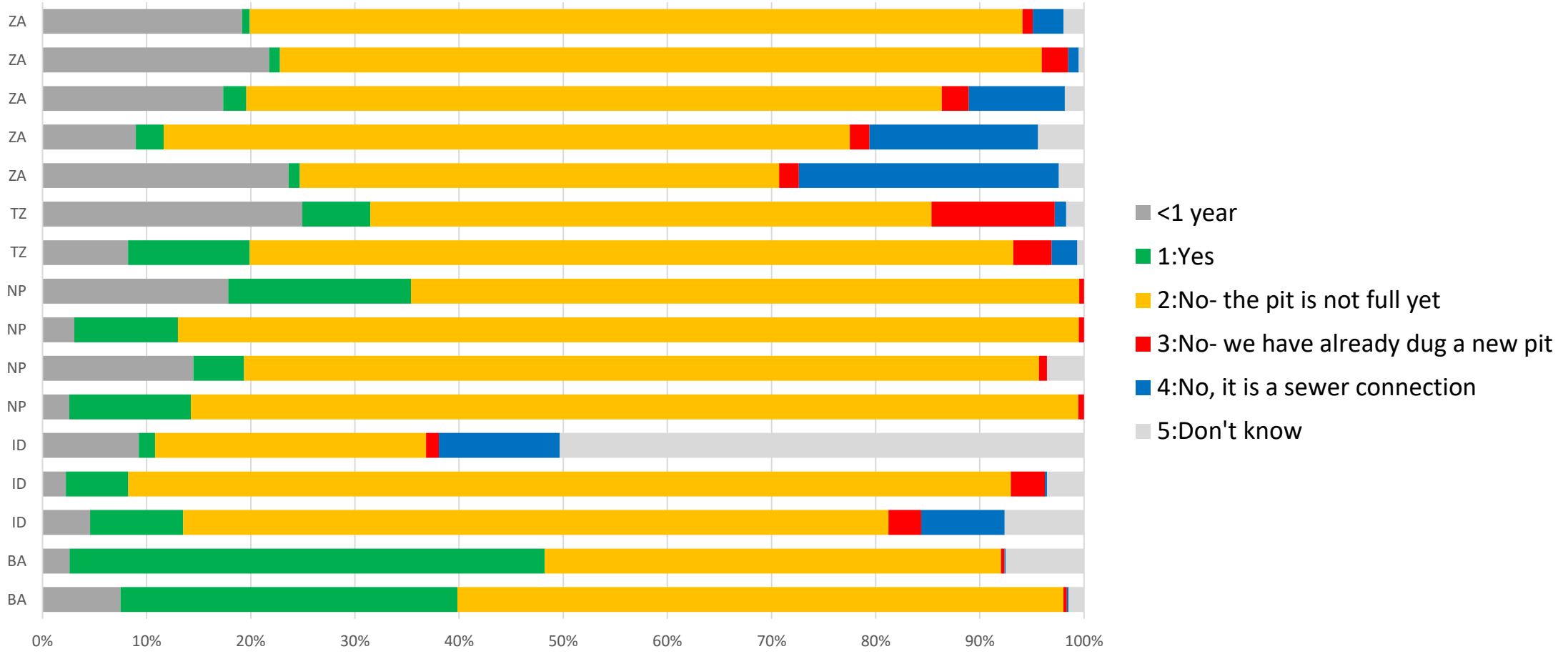
What percentage of households (and other premises) use the service in any given year?

How does this translate into volume? (Seasonality?)

What are the implications for the organisation of the service?

/Emptying Frequency (years)	1	2	4	5	10	Never	Total Sample
Equivalent annual use rate	1	0.5	0.25	0.2	0.1	0	
Number of premises	5	10	10	20	15	40	100
Actual annual use = annual use rate x number of premises	5	5	2.5	4	1.5	0	18

Demand for emptying is low

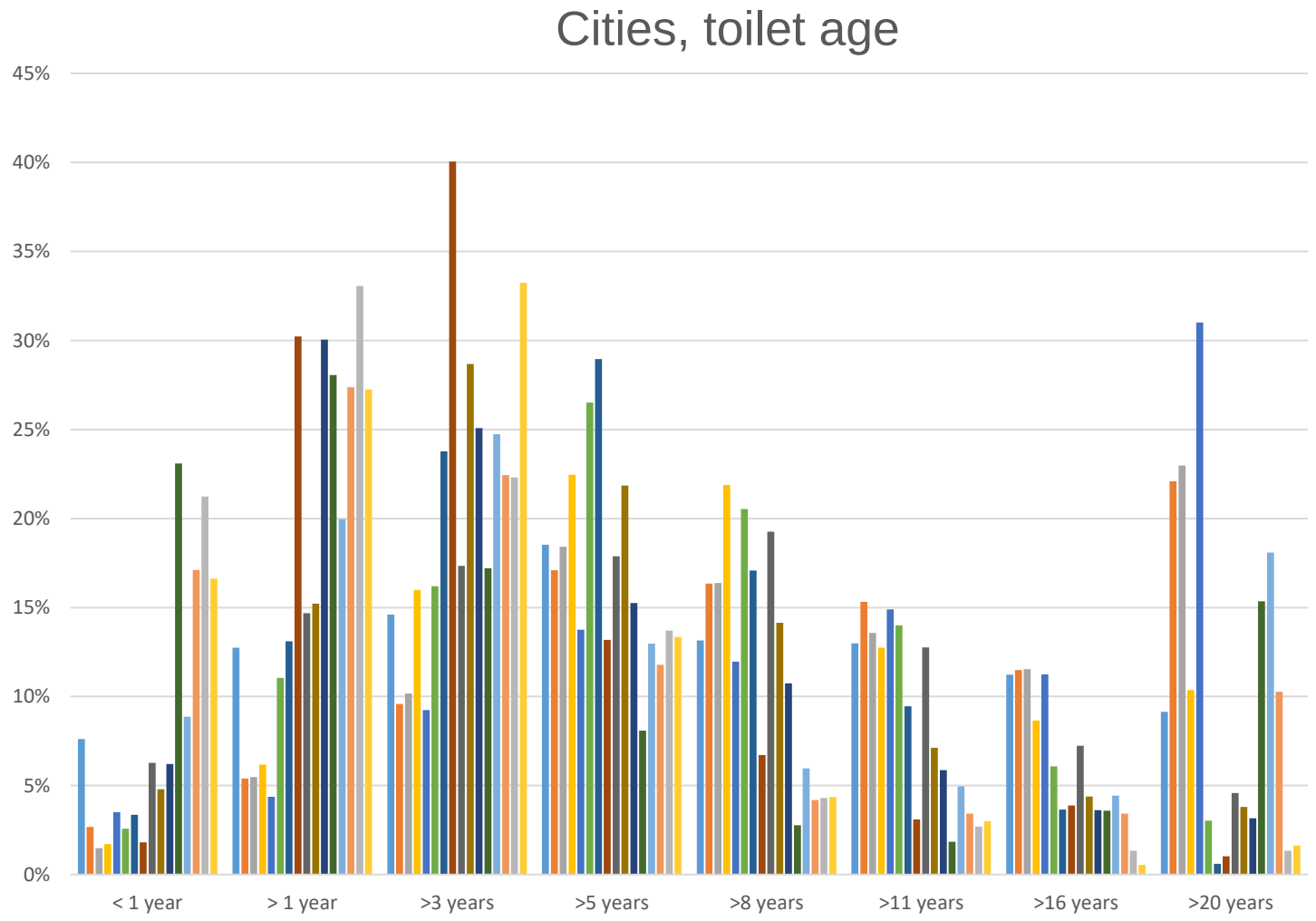


Legend: BA-Bangladesh | ID-Indonesia | NP-Nepal | TZ-Tanzania | ZA-Zambia

Does this mean that the remaining 82% is safely managed?

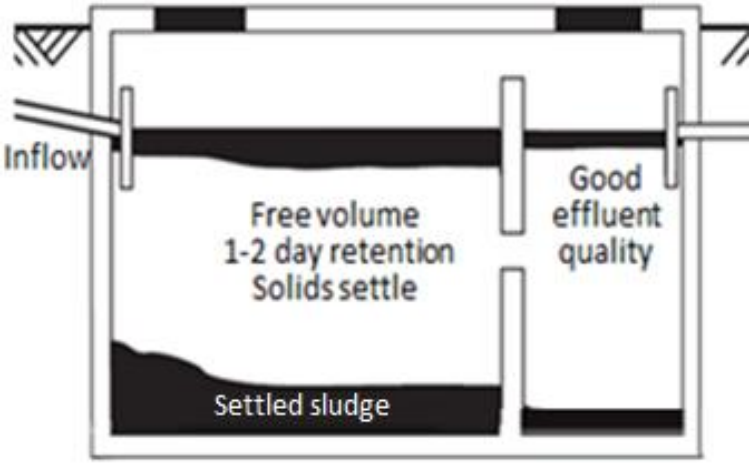
To what extent is the response from households sufficient?

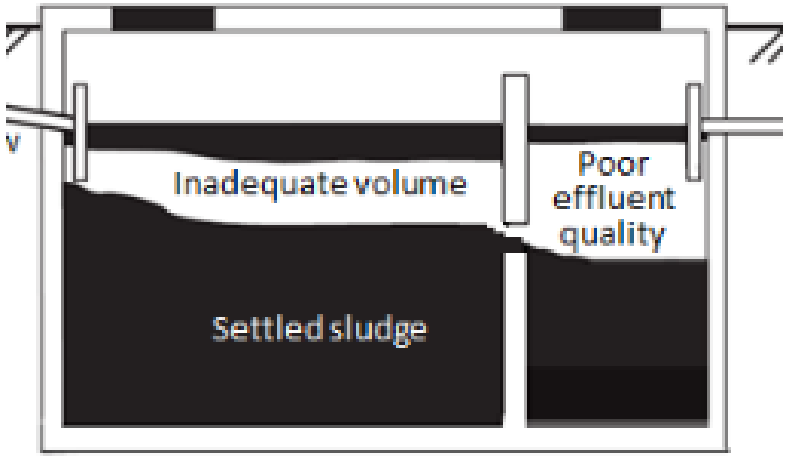
What other options do we have to determine whether this is safely managed?



Emergency emptying: the other side of the coin

- Ad-hoc service delivery
- Non-functional/ polluting containments





Figures, Mills, F. 2013.

Consumer behaviour

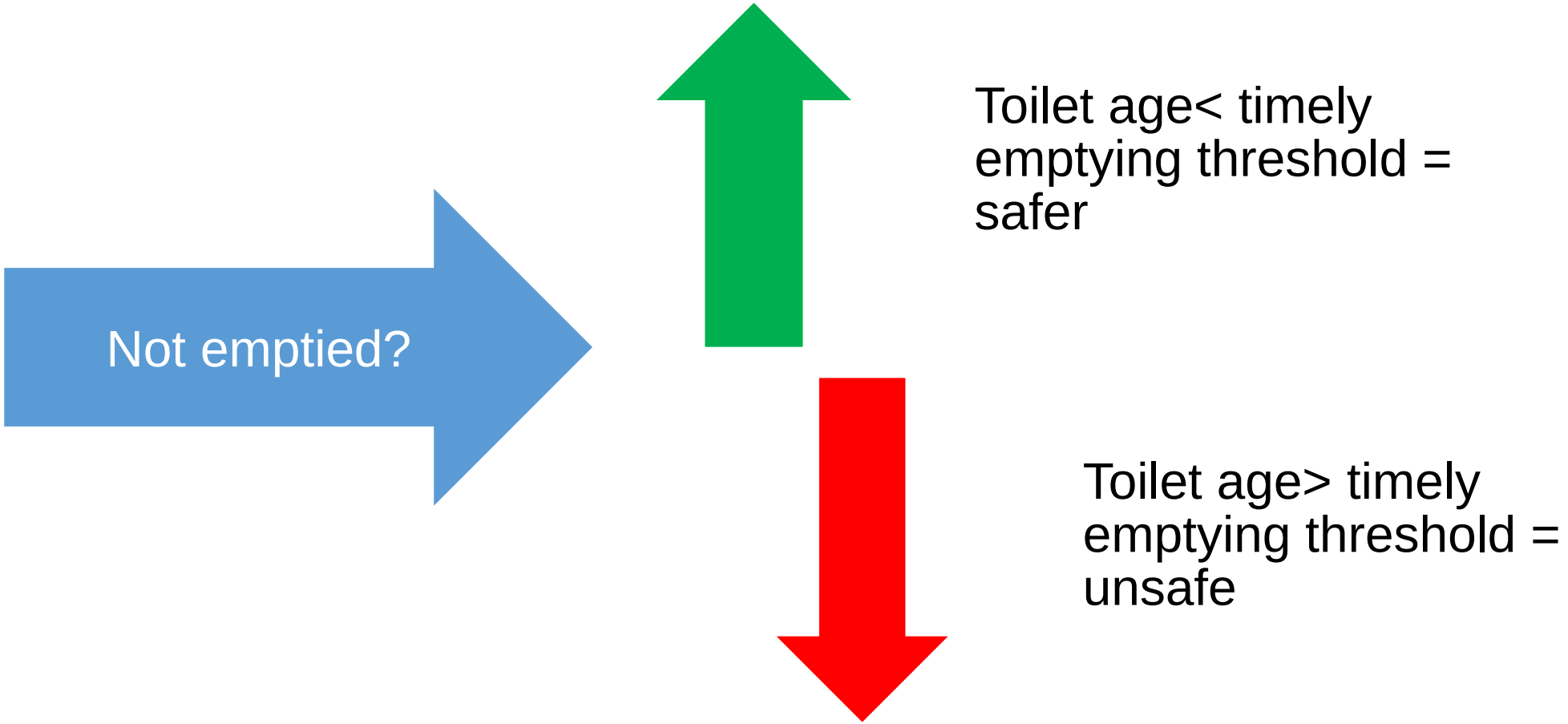
Emergency emptying

Magic toilets (designs/ construction that you never need to empty)

No need to consider solid waste in pits

Illegal discharge

Could the concept of “timely emptying” help?

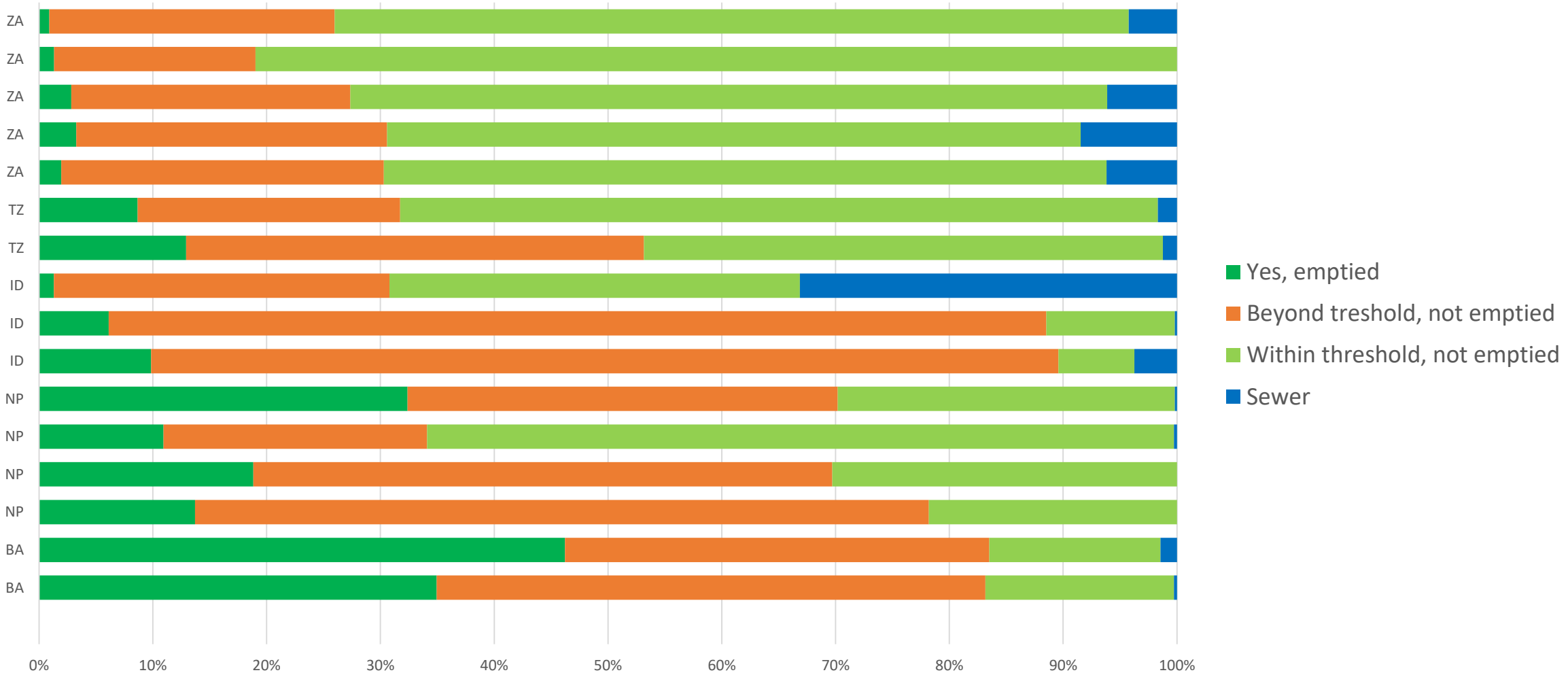


Could the concept of “timely emptying” help?

And what are the options to define timely emptying intervals?

1. Each individual premises?
2. Flat interval? (3 years, 5 years, 10 years…)?
3. The imperfect middle way by country or zone?
   - Average household size (or users*)
   - Share factor
   - Type of containment (linked to accumulation rate)
   - Typical dimensions & volume of containment
   - Disposal of solid waste in the toilet

Results



If all “timely emptied”, the annual use rate would be 24%

Limitations of the imperfect middle way

Reliability of user response on type of containment and age

Internal variability of containment dimensions and design

Lack of data about the quality of containment

Accumulation rates – value, decrease over time?

What level of sludge in a septic tank is acceptable before emptying?

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Reflection

Timely emptying should be part of the analytical approaches determining the need for services.

This will help to:

- Assess the extent of safely managed sanitation in a city
- Design desludging models
- Ultimately enforce timely emptying

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NEW 2019 PUBLICATION!

Scheduled emptying services as an entry point for change

"The paper describes approaches to developing scheduled emptying services in Bangladesh, Indonesia and Nepal. It highlights evidence-based decision-making processes in urban sanitation programming in each country, offering insights to the complexities surrounding improving sanitation services in urban setttings."

https://interactive.snv.org/snv-rural-sanitation-publications