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WASH in Humanitarian Aid

Sara Ubbiali

Humanitarian Aid

Natural with sudden impact:
Earthquake
Tsunami
Hurricane

Natural with a slow onset:
Drought
Famine
Climate change

Man-made:
Armed conflict
Prolonged armed conflict

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What is WASH?

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What does WASH in Humanitarian includes?

WATER

- Drinking
- Cooking
- Cleaning
- Washing
- Quality
- Safety
- Supply

SANITATION

- Latrines / toilets construction
- Treatments and management
- Solid waste
- Drainages
- MHM

HYGIENE

- Mobilisation of community
- Focus on improving practices (i.e. hand washing with soap or preparation of food, etc.)
- Distributions

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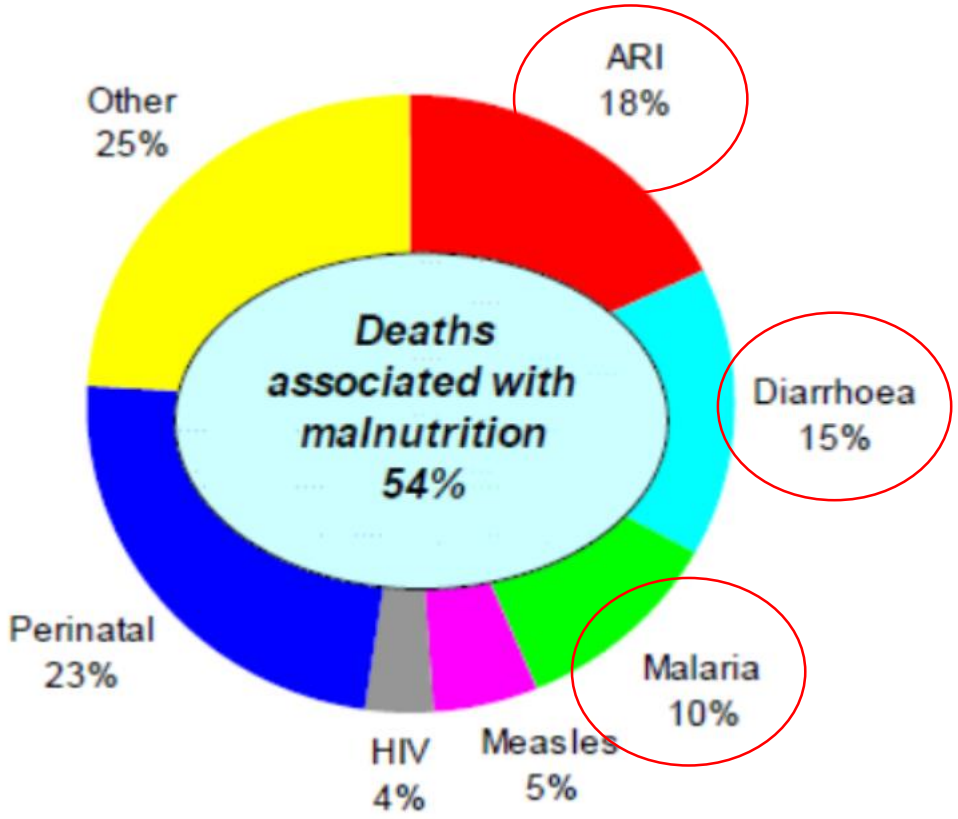
Why is WASH fundamental?

Diarrhoeal disease is among the leading causes of death in children under five years old. It is both **preventable and treatable** through safe drinking-water and adequate sanitation and hygiene.

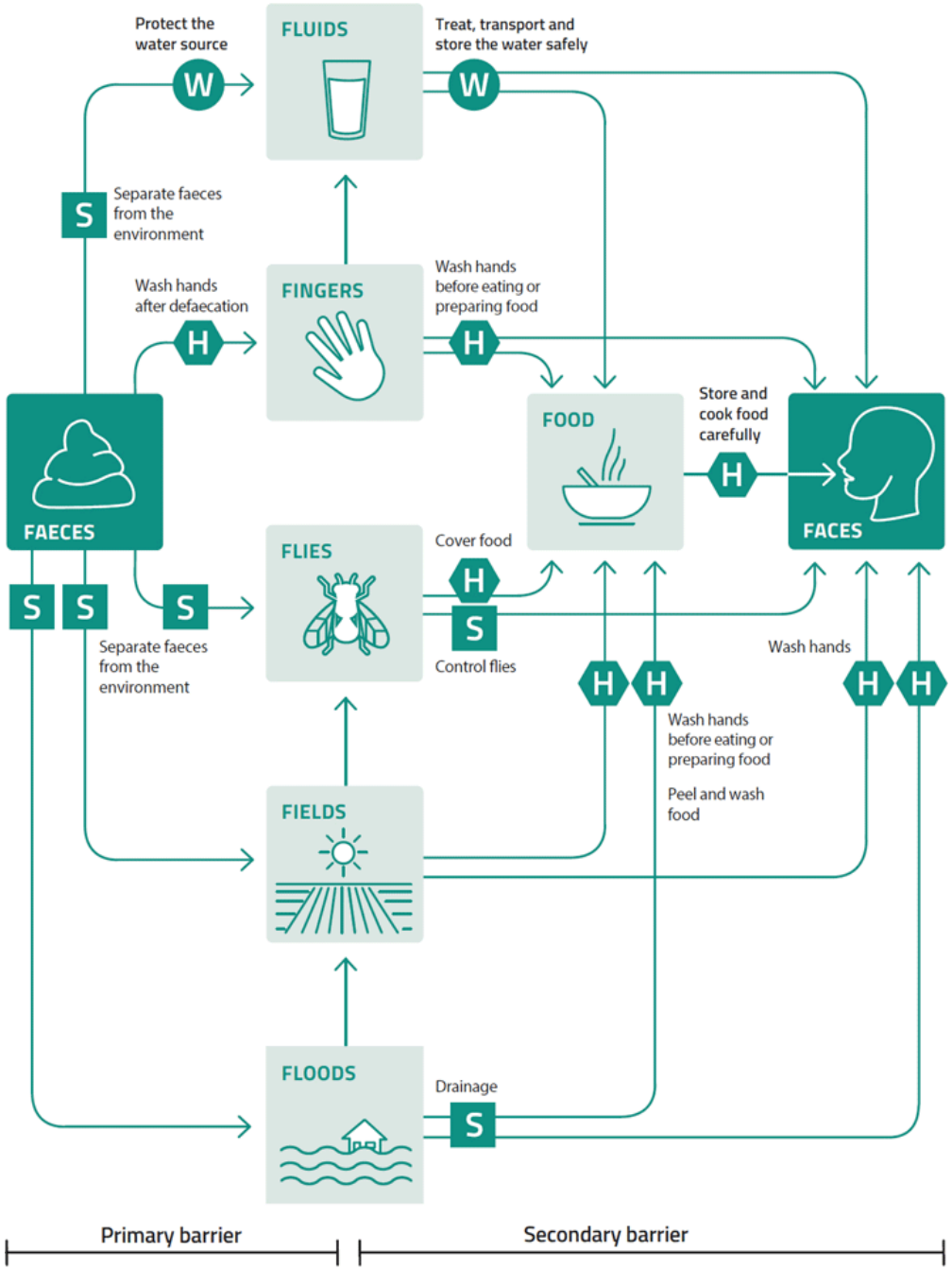
Diarrhoea is a leading cause of malnutrition in children under five years old.



Proportional mortality in children >5 years old. Source: WHO, 2004

Diarrheal Diseases

- Diarrhea causes 829,000 deaths annually (WHO, 2019)
- Children < 5 years most affected
- Second only to respiratory infections
- 60% of diarrheal deaths are attributed to inadequate WASH:
  - Drinking water: 35%
  - Sanitation: 31%
  - Hygiene: 12%



NOTE The diagram is a summary of pathways; other associated routes may be important. Drinking water may be contaminated by a dirty water container, for example, or food may be infected by dirty cooking utensils. © WEDC

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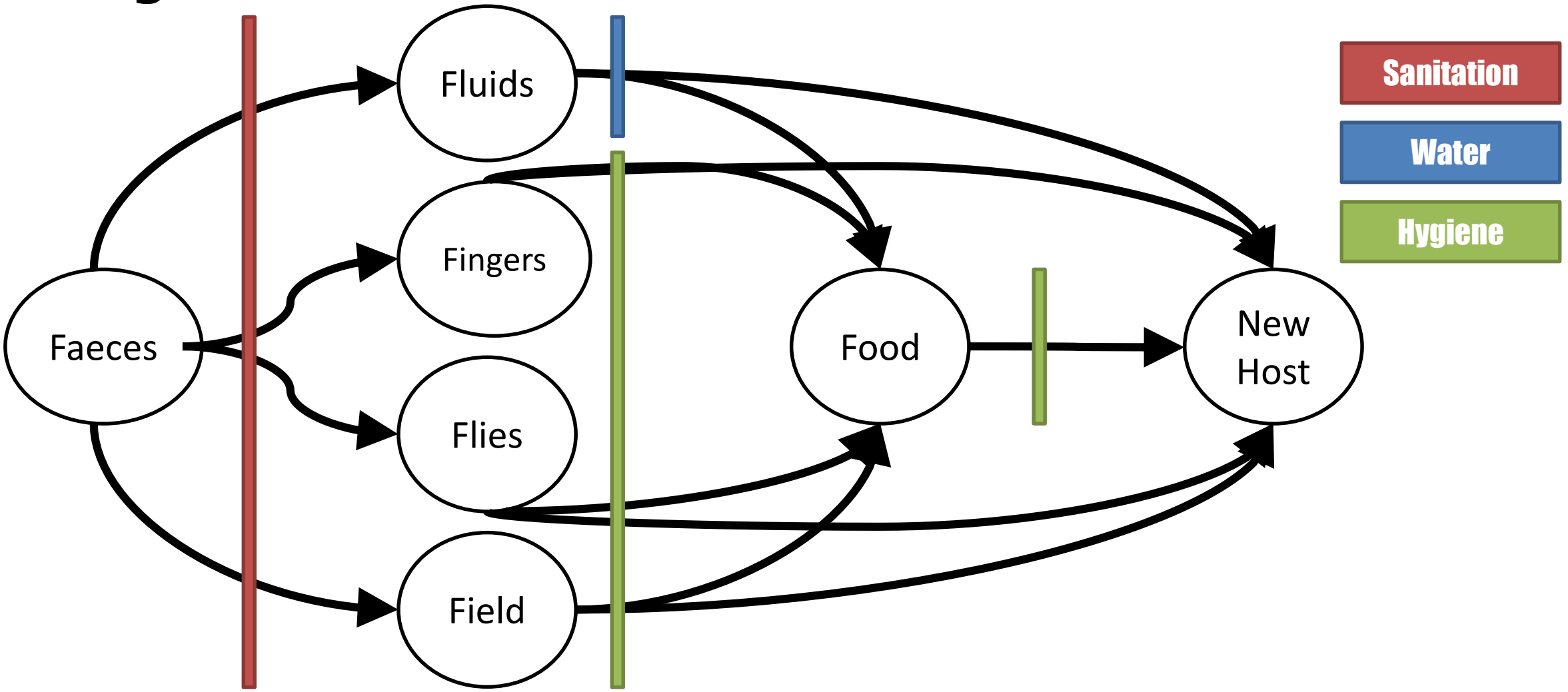
W WATER

S SANITATION

H HYGIENE

Barriers can stop the transmission of disease; these can be primary (preventing the initial contact with the faeces) or secondary (preventing it being ingested by a new person). They can be controlled by water, sanitation and hygiene interventions.

F-Diagram


Fluids
Fingers
Faeces
Flies
Field
Food
New Host
Sanitation
Water
Hygiene

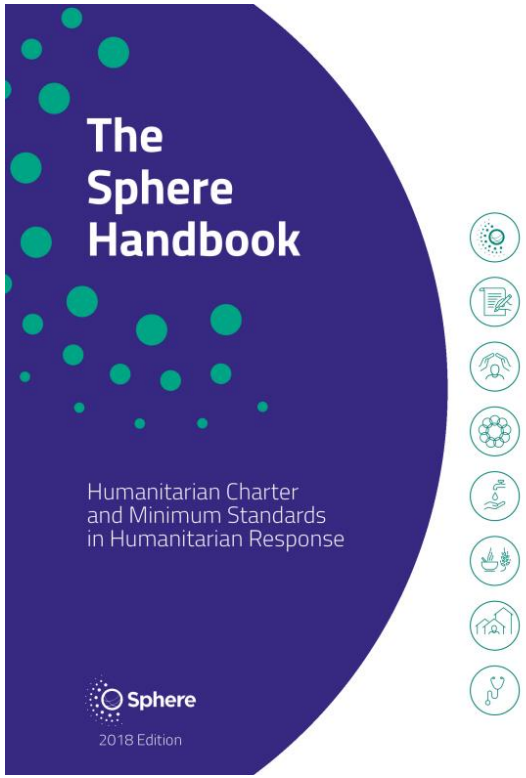
Sphere Standards

https://www.youtube.com/watch?v=3nds7SWj0ys

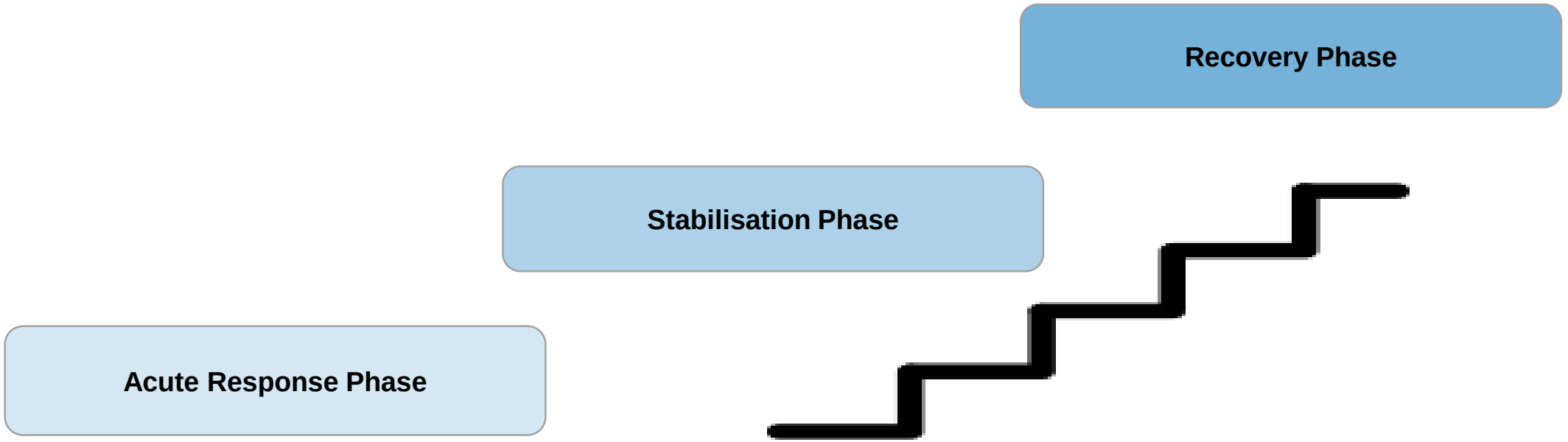
The Sphere Project

Humanitarian Charter and Minimum Standards in Humanitarian Response

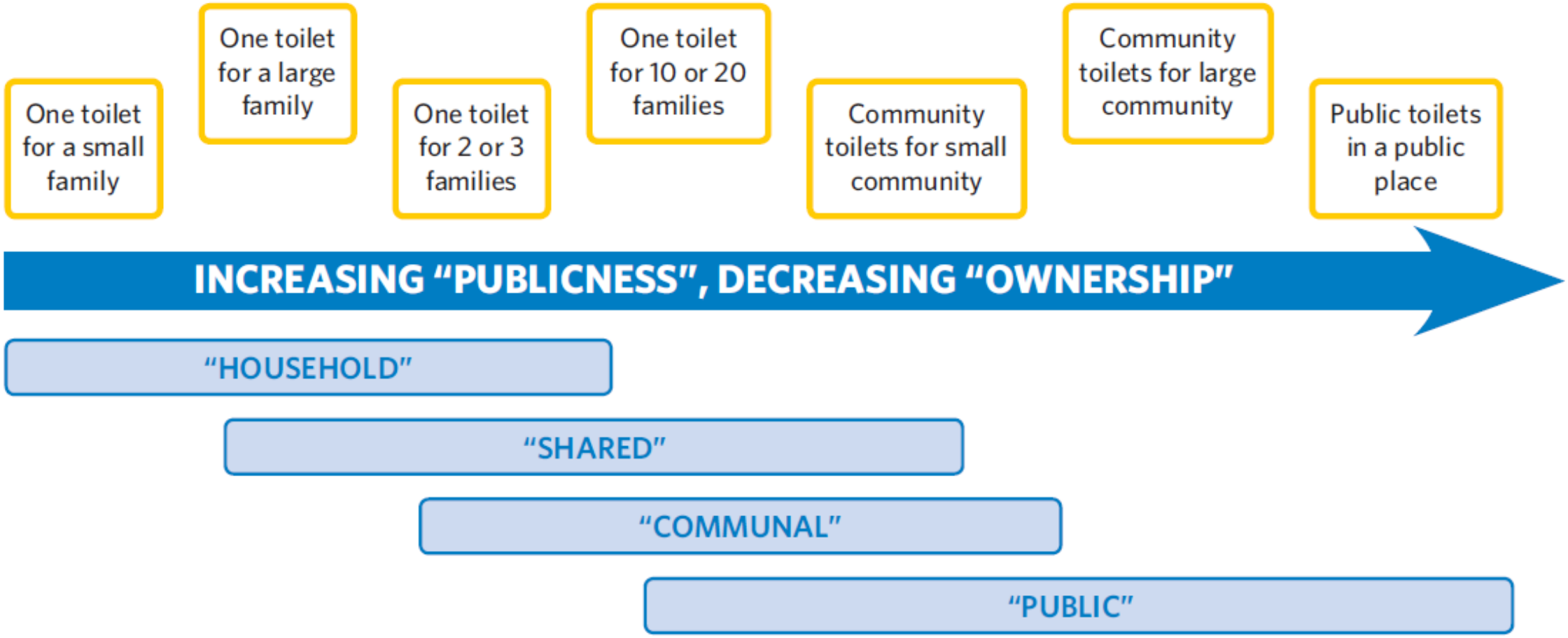
http://www.sphereproject.org/



Different emergency phases → Different WASH options



Ownership


One toilet for a small family
One toilet for a large family
One toilet for 2 or 3 families
One toilet for 10 or 20 families
Community toilets for small community
Community toilets for large community
Public toilets in a public place
INCREASING "PUBLICNESS", DECREASING "OWNERSHIP"
"HOUSEHOLD"
"SHARED"
"COMMUNAL"
"PUBLIC"

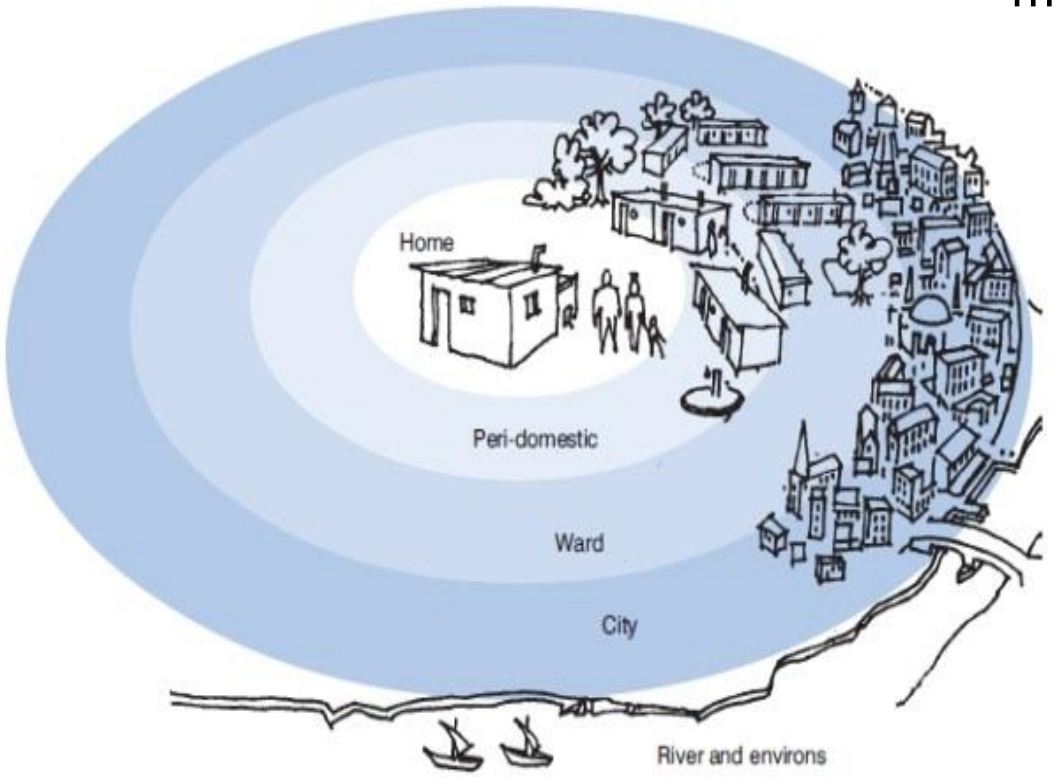
It sounds easy, but …

Demography

Availability of water

Availability of material

Ownership of lands



Soil characteristics / Infiltration rate

Available space

Seasonality / rainfall pattern / temperatures

Legal setup

Existing systems

Power dynamics

Topography

Water table

Cultural behaviour

Socio-cultural acceptance

- Defecating posture (sitting/squatting)
- Type of anal cleansing material used
- Gender aspects & privacy
- Menstrual hygiene management
- Different cultural groups do not use same facilities
- Location of the facility relative to the house and its orientat
- Practices and taboos on using and handling waste

Main challenges

- Crowded living conditions
- Long rainy seasons, Cyclones, etc.
- High water table
- Desludging tractors cannot access all the pits
- In some countries not-permanent constructions
- Lack of founds
- Land issues (property and legal papers, space, governments)

Not-permanent sludge treatment site and communal latrines, Pauktaw Camps, Rakhine State, Myanmar 2021

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Water in Humanitarian

Sphere Standards - WATER

Key indicators:

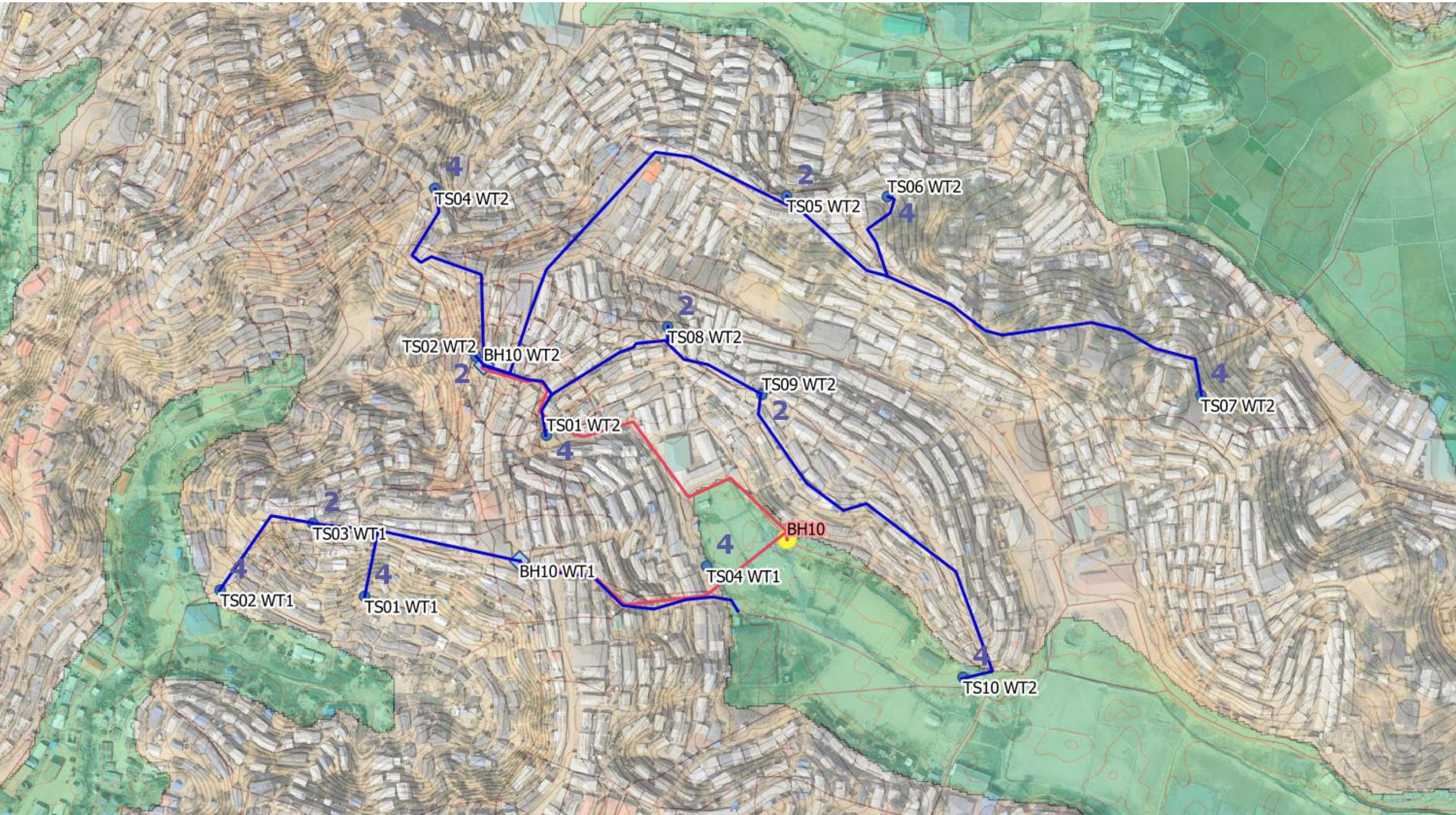
- Average water use for drinking, cooking and personal hygiene: at least **15 litres** per person per day
- maximum distance from any household to the nearest water point is **500 metres**
- Queueing time at a water source is no more than **30 minutes**

Key indicators:

- < 10 coliform CFU / 100ml at the point of delivery
- > 0.2–0.5mg/l FRC at point of delivery (chlorinated water)
- Turbidity of less than 5 NTU
- Percentage of affected people who collect drinking water from protected water sources
- Percentage of households observed to store water safely in clean and covered containers at all times

Key notes:

- Identify the most appropriate water source
- Identify quantity available
- Consider the quantity needed
- Consider the impact on the water source
- Identify the best water treatment
- Water distribution system


4
TS04 WT2
2
TS05 WT2
TS06 WT2
4
2
TS08 WT2
TS02 WT2
BH10 WT2
2
TS09 WT2
2
4
TS07 WT2
TS01 WT2
4
2
TS03 WT1
BH10
4
4
BH10 WT1
TS04 WT1
4
TS02 WT1
TS01 WT1
4
TS10 WT2

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Sanitation in Humanitarian

Sphere Standards - SANITATION

There are no human faeces present in the environment in which people live, learn and work.

All excreta containment facilities are sited appropriately and are an adequate distance from any surface or groundwater source

Ratio of shared toilets

- Minimum 1 per 20 people

Distance between dwelling and shared toilet

- Maximum 50 meters

Percentage of toilets that have internal locks and adequate lighting
Percentage of toilets reported as safe by women and girls
Percentage of women and girls satisfied with the menstrual hygiene management options at toilets they regularly use

All human excreta is disposed of in a manner safe to public health and the environment

Key notes:
Sanitation is a **service chain**, including collection, transport, treatment and safe end use or disposal

« Sanitation generally refers to the provision of facilities and services for the safe disposal of human urine and faeces. The word 'sanitation' also refers to the maintenance of hygienic conditions, through services such as garbage collection and wastewater disposal. »

(WHO, health topics, 2018)

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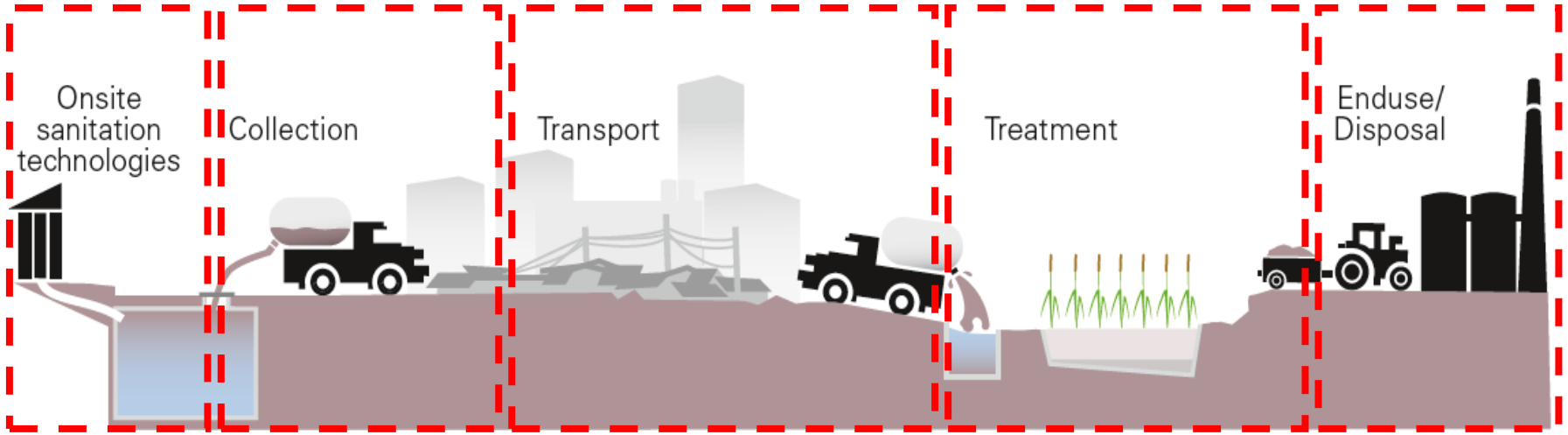
Service Chain



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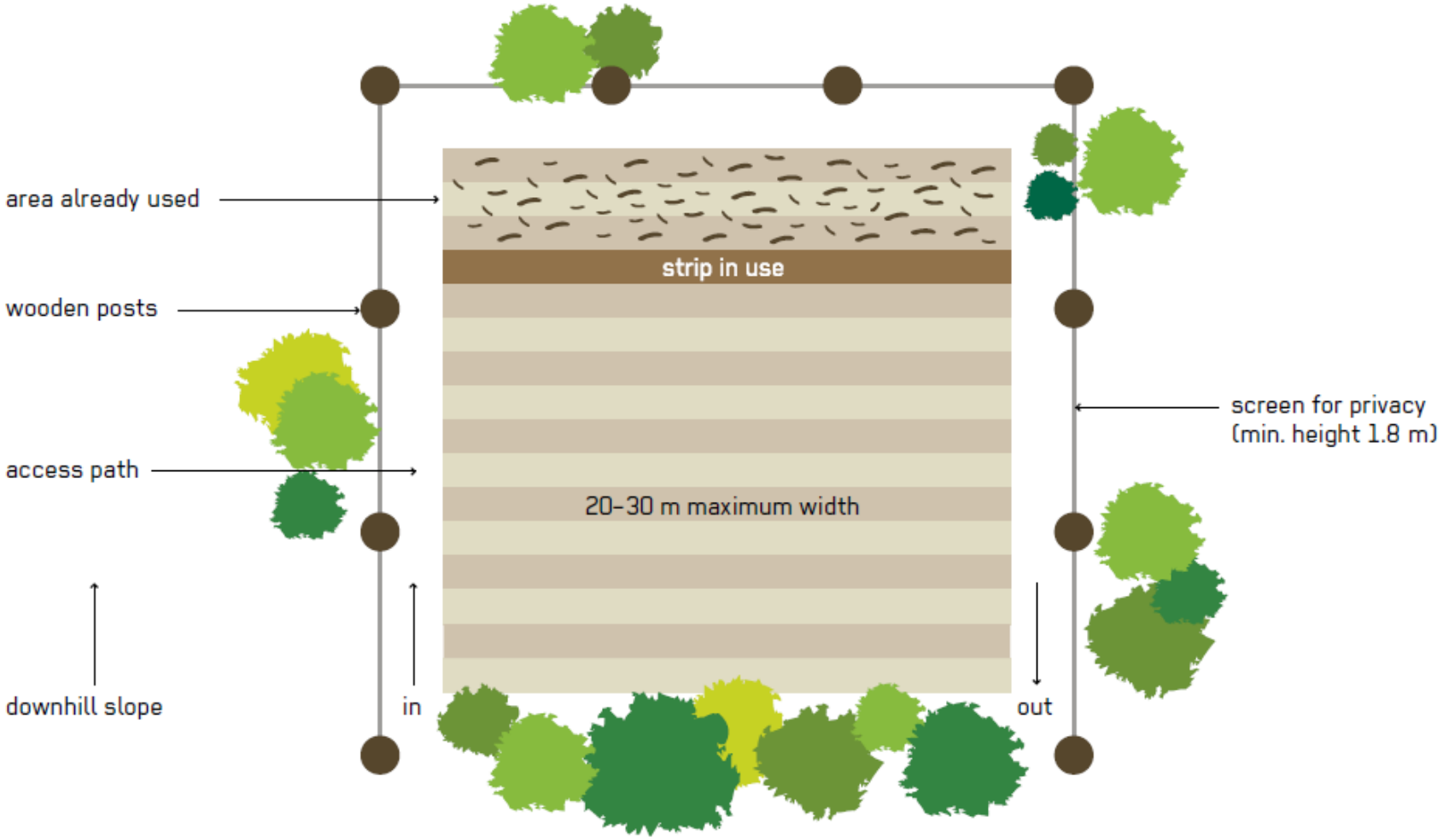
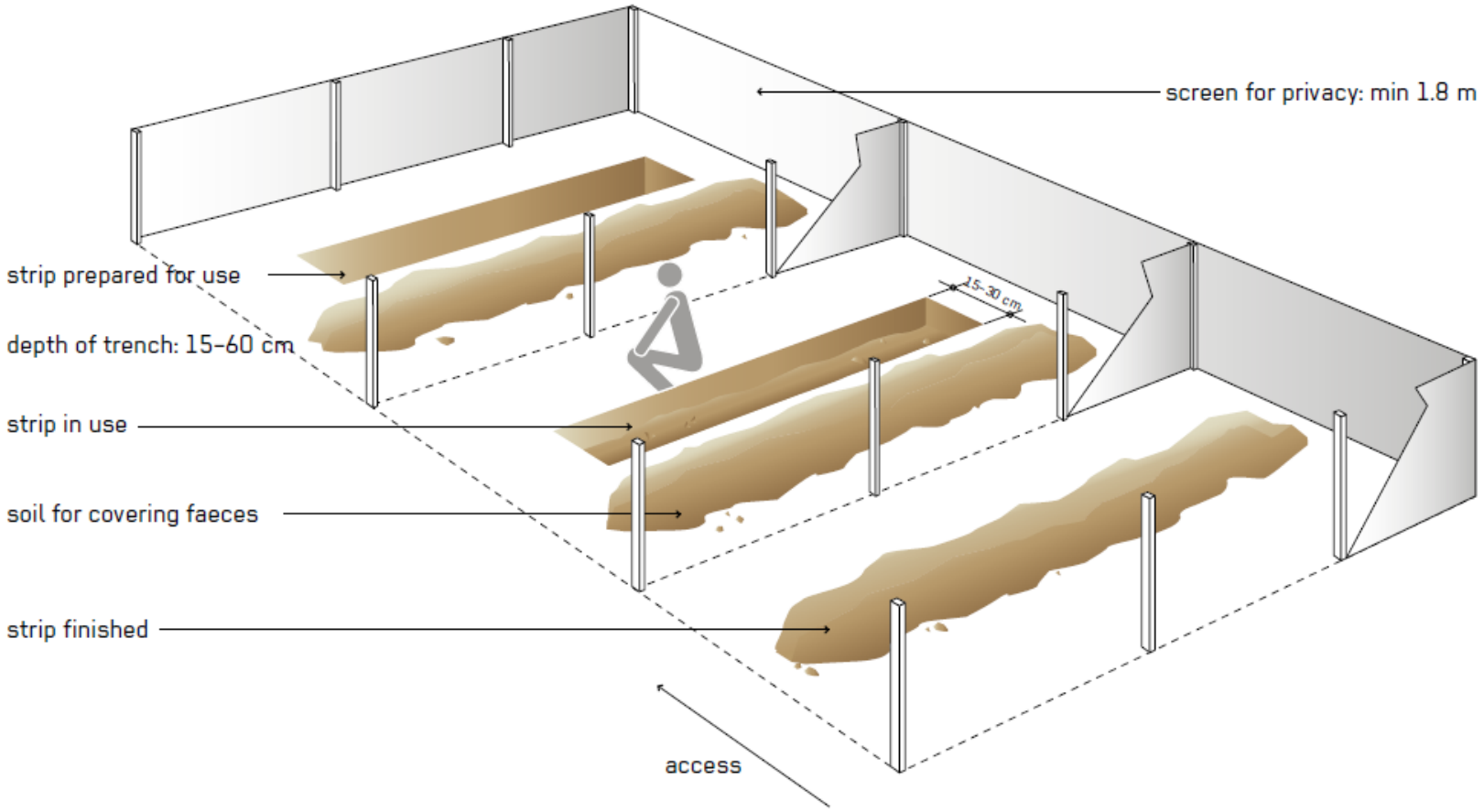
User Interface

Acute Response Phase - Controlled Open Defecation (U.5)



User Interface

Acute Response Phase - Shallow Trench Latrine (U.6)



An emergency toilet and shower block, Tchad


CROIX-ROUGE
HAITIENNE

Raised latrines in Mantapala, Zambia (Ph. Reymond, UNHCR)

Sludge Transport System

Human-powered transporting to a sludge treatment site

Sludge transportation, paukatw Camps, Rakhine State, Myanmar, 2021

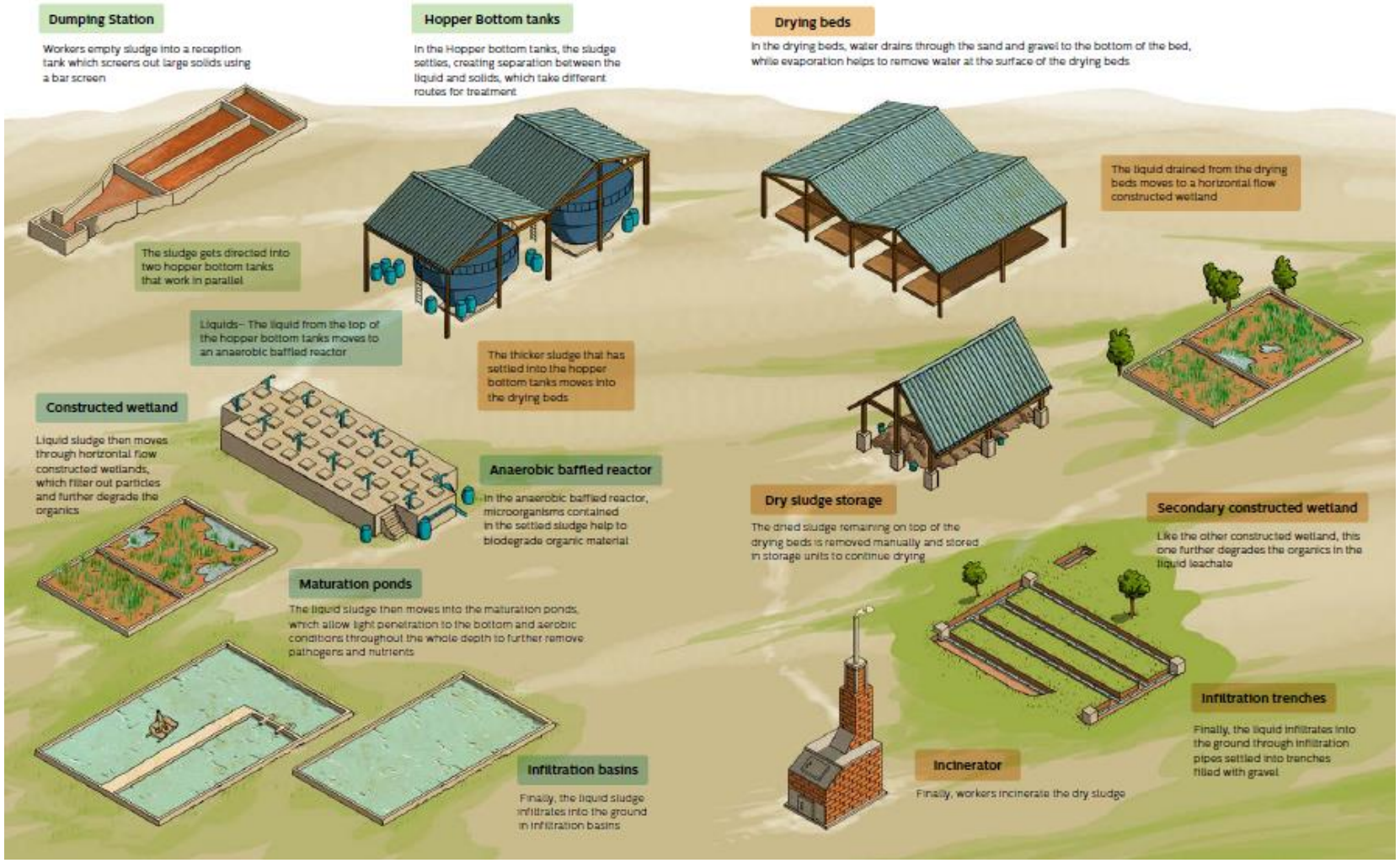
Sludge Transport System

Regular desludging with a tractor

Emptying of tractors in the dumping station and regular desludging with a tractor, Sittwe Camps, Rakhine State, Myanmar 2020

Lime application on a faecal sludge storage pond

Sludge Treatment Site - Example



Sludge Treatment Site

Sludge treatment plant, Sittwe, Myanmar, 2020 ©Solidarite International – Veolia collaboration


©Oxfam

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Solid Waste Management in Humanitarian

Solid Waste Management & Drainages

Key notes:

- Bottom line: protection of human health and the environment
- It’s a service chain

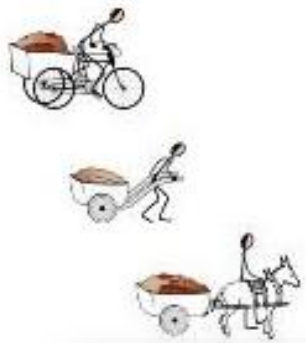
Impact:

- Environmental health (greenhouse gas emissions)
- Water pollution
- Blockage drainage system
- Respiratory problems
- Pest attraction

Collection and Transport

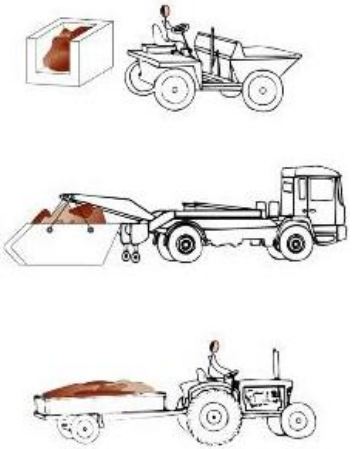
Generation

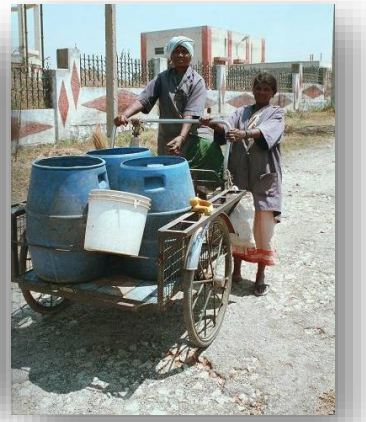
Primary collection



Transfer station

Secondary collection





Challenges

- Burning
- Illegal dumpsites / Improper disposal in open dumps
- Inadequate coverage of collection service
- Unregulated recycling system

MHM - Solid Waste Management

For the waste chain to work:

• A sustainable management system is required (e.g. who is collecting and disposing the waste?)

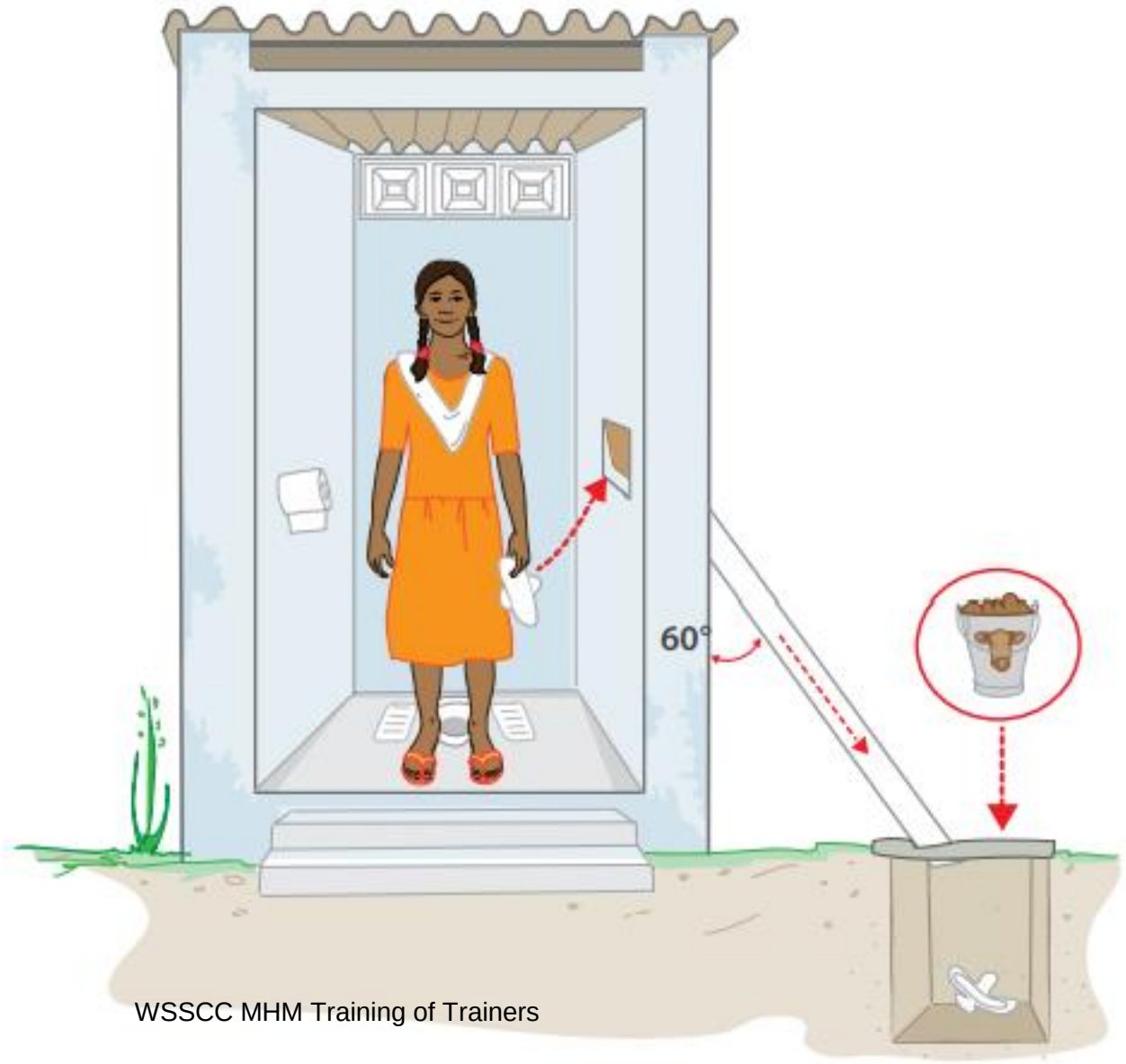
• Each stage must ensure privacy and dignity to the users.

• The waste chain should be hygienic and not cause risks to those responsible for operating it
-> Personal Protective Equipment.

• Locations needs to be identified with the communities.

Sara Ubbiali, Myanmar

MHM - Solid Waste Management at School



CROSS-CUTTING
Do no harm – Humanitarian Charter

Meeting essential needs, but also do no further harm:

- Make sure people don’t get hurt by your installations
(i.e. secure areas, no fighting, no flooding, no landslide)
- Provide **equal access**
- Restore life with **dignity and safety**
- Protecting WASH installation
- **Protect the environment**
(i.e. preserve water cycle, protect ground/surface water)

Source: https://spherestandards.org/humanitarian-standards/humanitarian-charter/

CROSS-CUTTING
Do no harm – Humanitarian Charter

Be aware of your actions:

- Social power structures (politically, ethnic, power structures, etc.)
- Involve communities (from different ages, gender, etc.) -> Accountability
- Feedback and complaint system in place

Design to the requirement of persons with specific needs:

- Consider other barriers / taboos
- Consider specific vulnerabilities
- Ensure security at the distribution points, on the route (i.e. lights)

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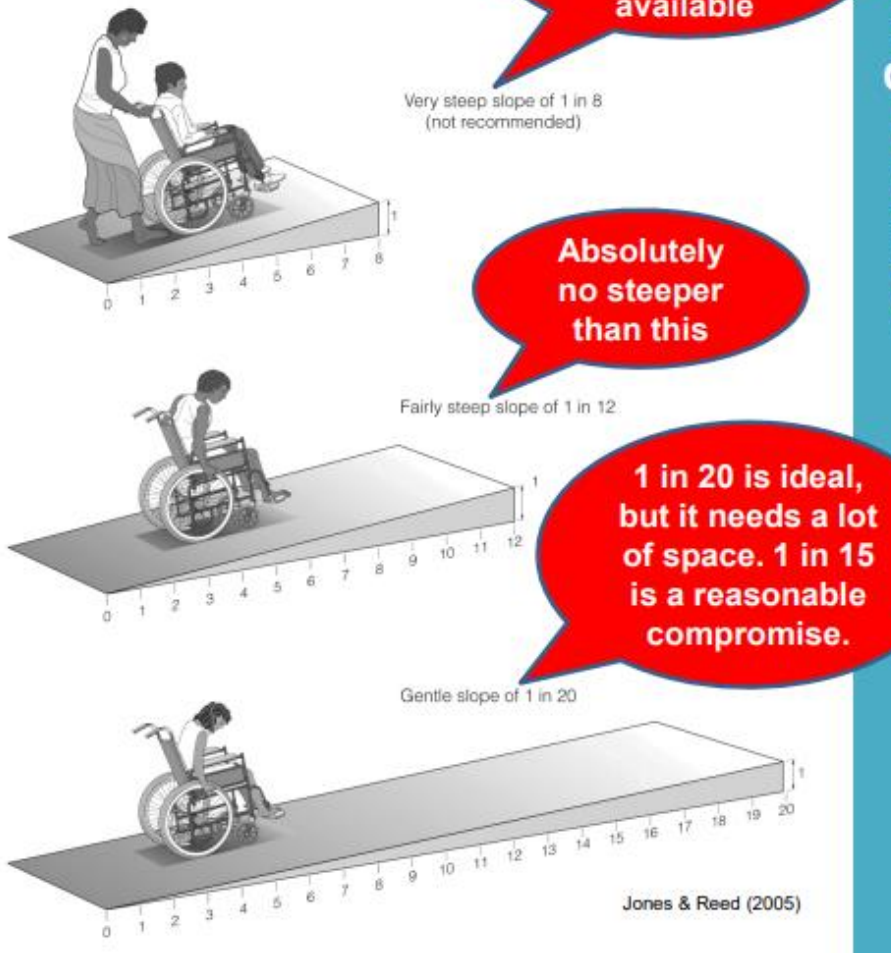
WASH & Inclusion in Humanitarian

Access to WASH Facilities

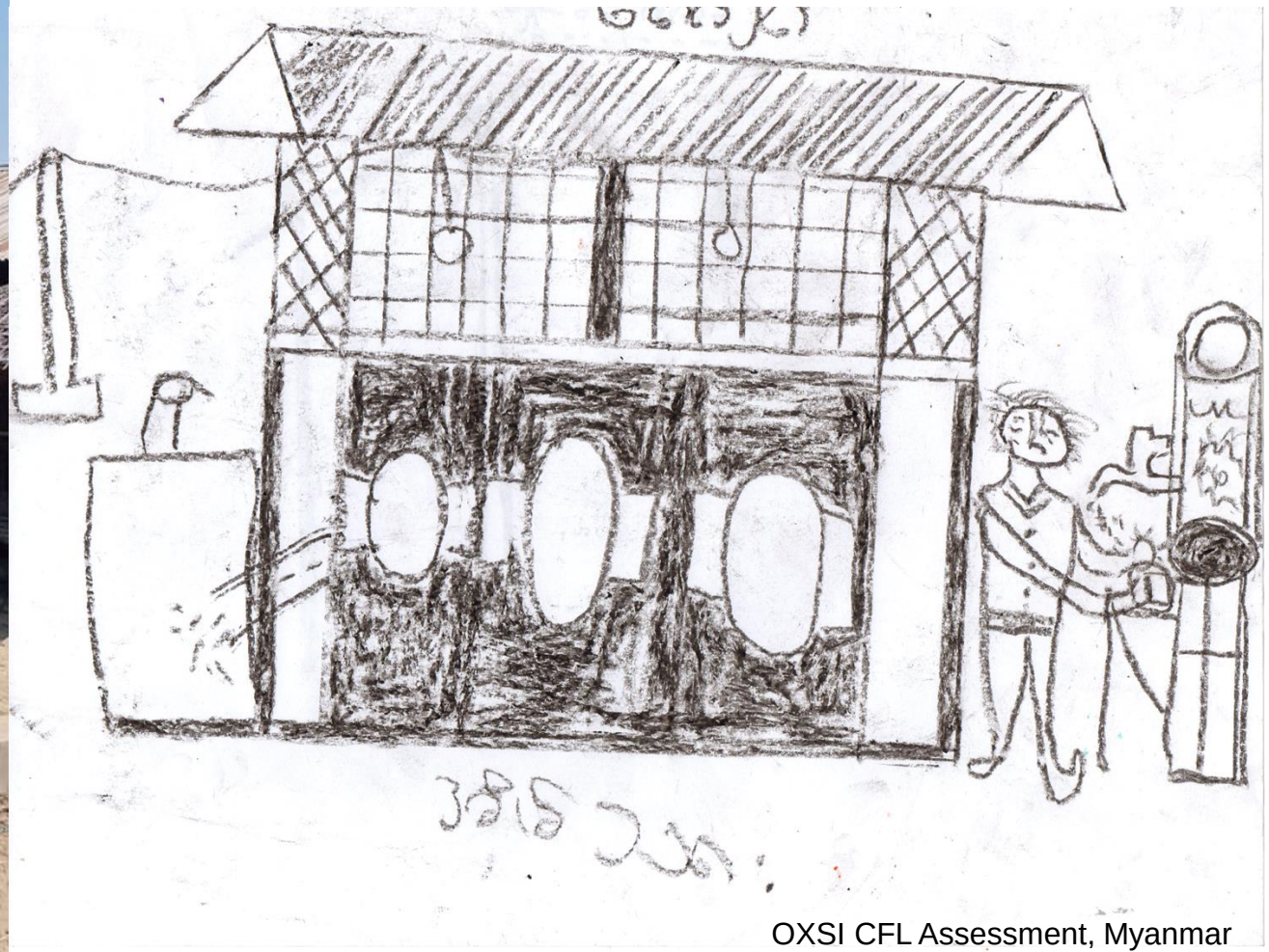
Slope gradients and level of ease for different users



Reaching facilities

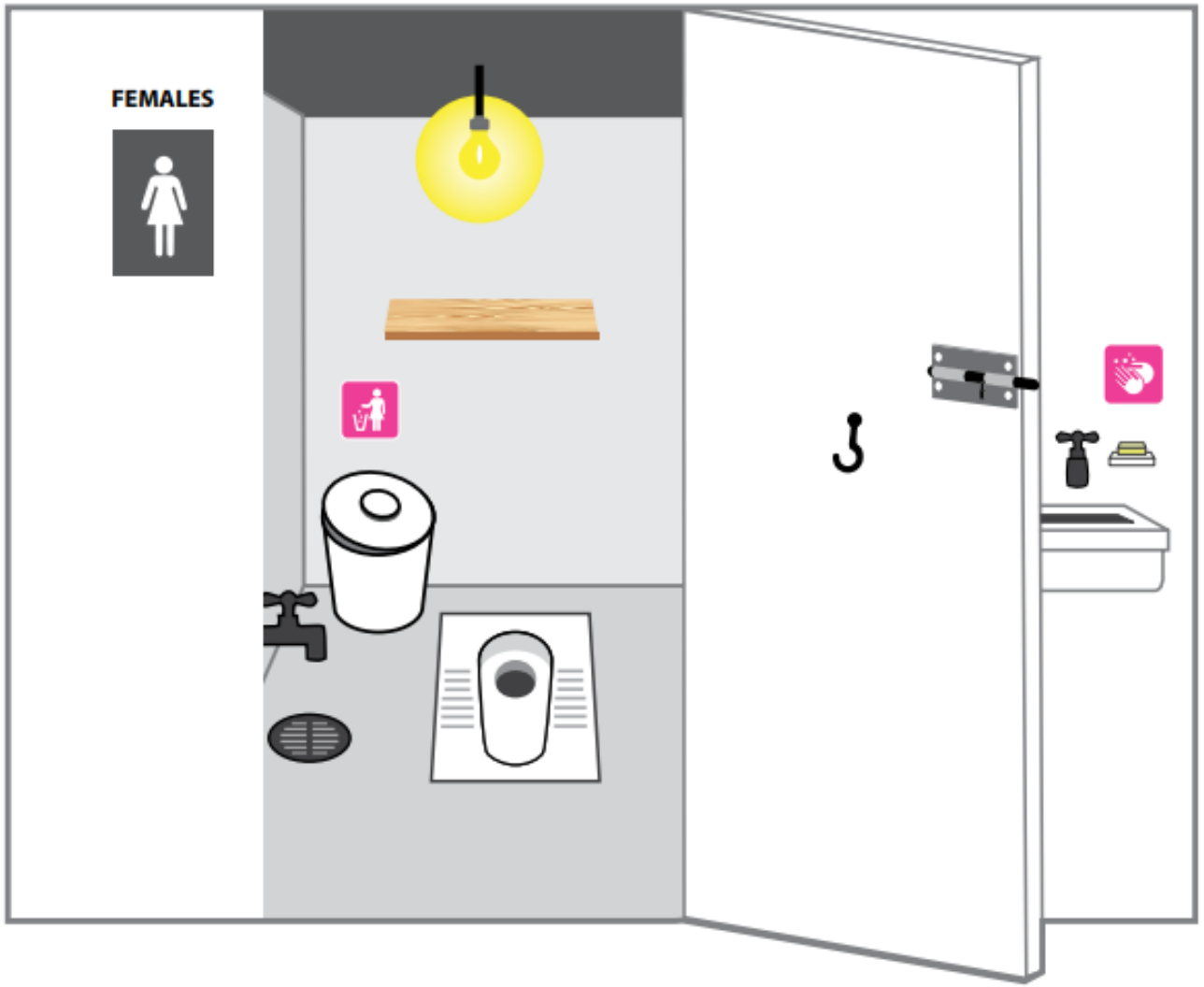
Access to Sanitation:

What went wrong?



OXSI CFL Assessment, Myanmar

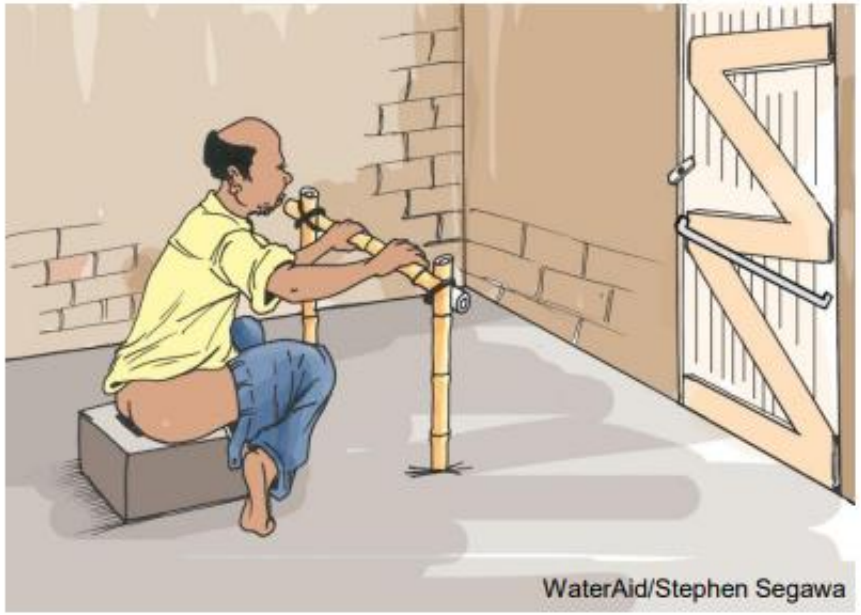
MHM



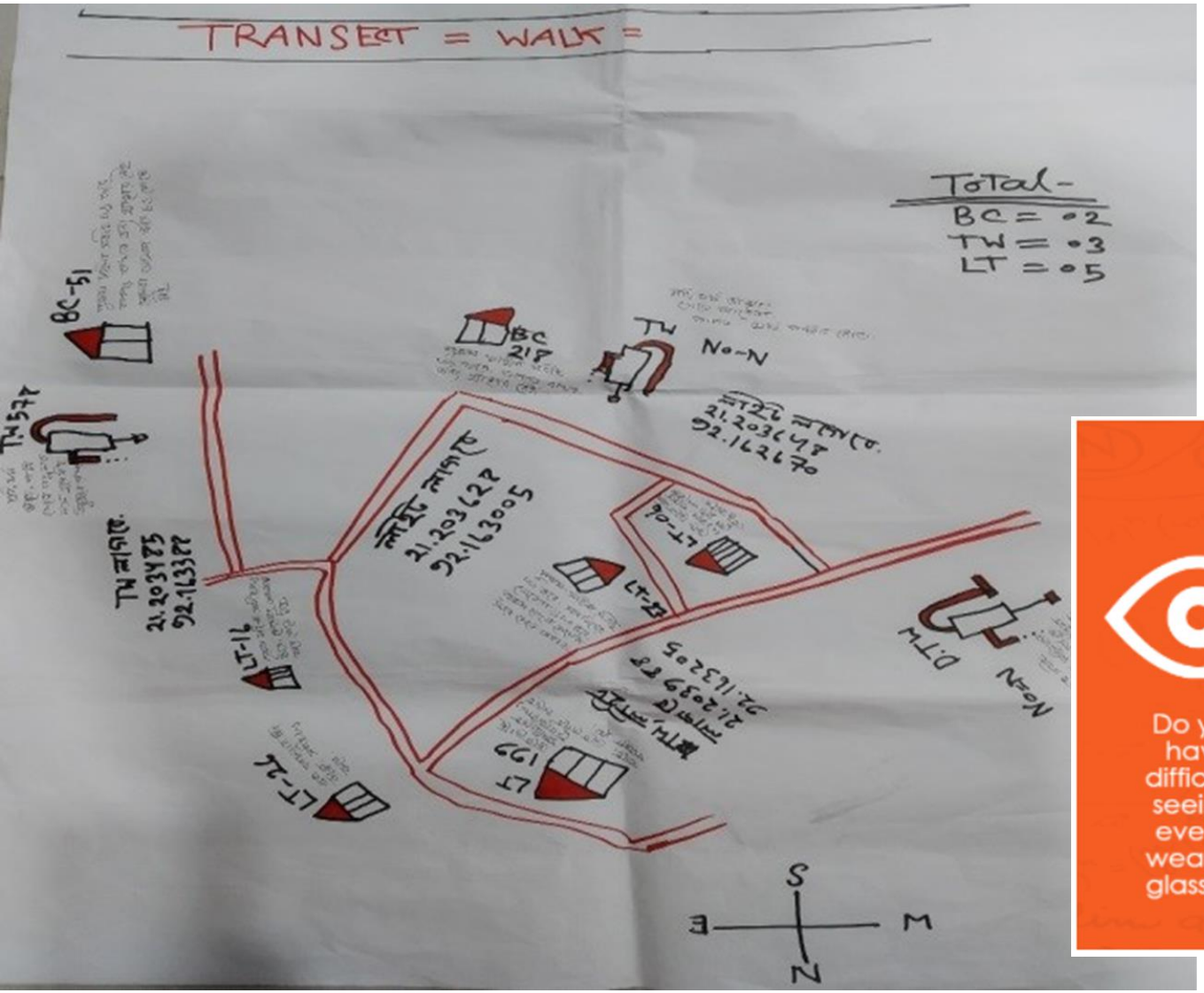
- Adequate numbers of safely located toilets separated (with clear signage) from male facilities.
- Safe and private toilets with inside door latch
- Clear signs instructing girls and women to dispose of menstrual waste in the trash bin
- A shelf and hook for hygienically storing belongings during usage.
- Night time light source both inside and outside of the toilets
- Easily accessible water (ideally inside the cubicle) for girls and women to wash themselves and menstrual materials.
- Trash bins (with lids) to dispose of used menstrual materials
- Walls, door and roof are made of non-transparent materials with no gaps or spaces.
- Some units should be accessible to people with disabilities.

MHM emergencies toolkit

Use of WASH Facilities



Source: https://www.ranasmosler.com/ranas



Community consultation during the planning phase

To further study:

https://www.coursera.org/learn/engineering-humanitarian

https://spherestandards.org/fr/manuel-2018/

https://www.eawag.ch/fileadmin/Domain1/Abteilungen/sandec/schwerpunkte/sesp/Emergencies/compendium_f.pdf

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Thank you!

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