SANITATION SAFETY PLANNING

MANUAL FOR SAFE USE AND DISPOSAL OF WASTEWATER, GREYWATER AND EXCRETA

World Health Organization

Swiss TPH

IWMI
International Water Management Institute

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eawag
aquatic research

Sandec
Water and Sanitation in Developing Countries

cewas
international centre for water management services

With support from

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Health is the underlying purpose of sanitation – but actual health risk play a small role in planning.

Burden of disease indicate far higher health gains from safe management of the sanitation chain

Exposure though unintentional use is high (SaniPath)

Real and perceived health risks are a barrier to scaling Safe RRR

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40% of people live in water stressed areas. 10% of produce is WW irrigated

Health risk affect the most vulnerable. SSP promotes equity.

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What is Sanitation Safety Planning?

- SSP is a step-by-step health risk based approach for managing monitoring and improving sanitation systems

- SSP also assists to implement the 2006 WHO Guidelines for Safe Use of Wastewater, Excreta and Greywater

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Who is SSP for?

- health authorities and regulators
- local authorities
- sanitation enterprises and farmers
- wastewater utility managers
- community based organizations, farmers associations and NGOs

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Output: Who's involved?

SSP team representing the sanitation

Representatives of	Main role in SSP Team
Sanitation system operator – Senior Manager	Team leader
Sanitation system operator – Operational Manager	Sewage collection treatment plant process and data management
Vacuum tanker operators	Faecal sludge collection and disposal
Farmers' Cooperative	Hazard management of in-farm practices and produce handling to farm gate
Regional Health Department Officer	Public health/food hygiene
Public health/food hygiene	Expert input into the risk assessment
Epidemiologist – Sanitola School of Public Health	Education/communication
NGO working with farmers and local communities	Implications on local water supplies
Water system operator	Implications on local water supplies

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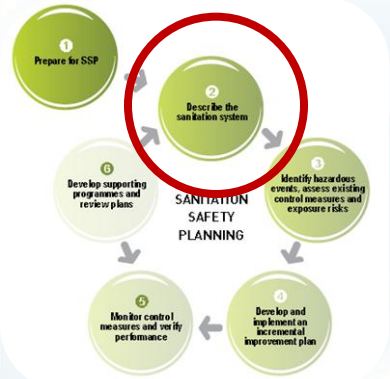
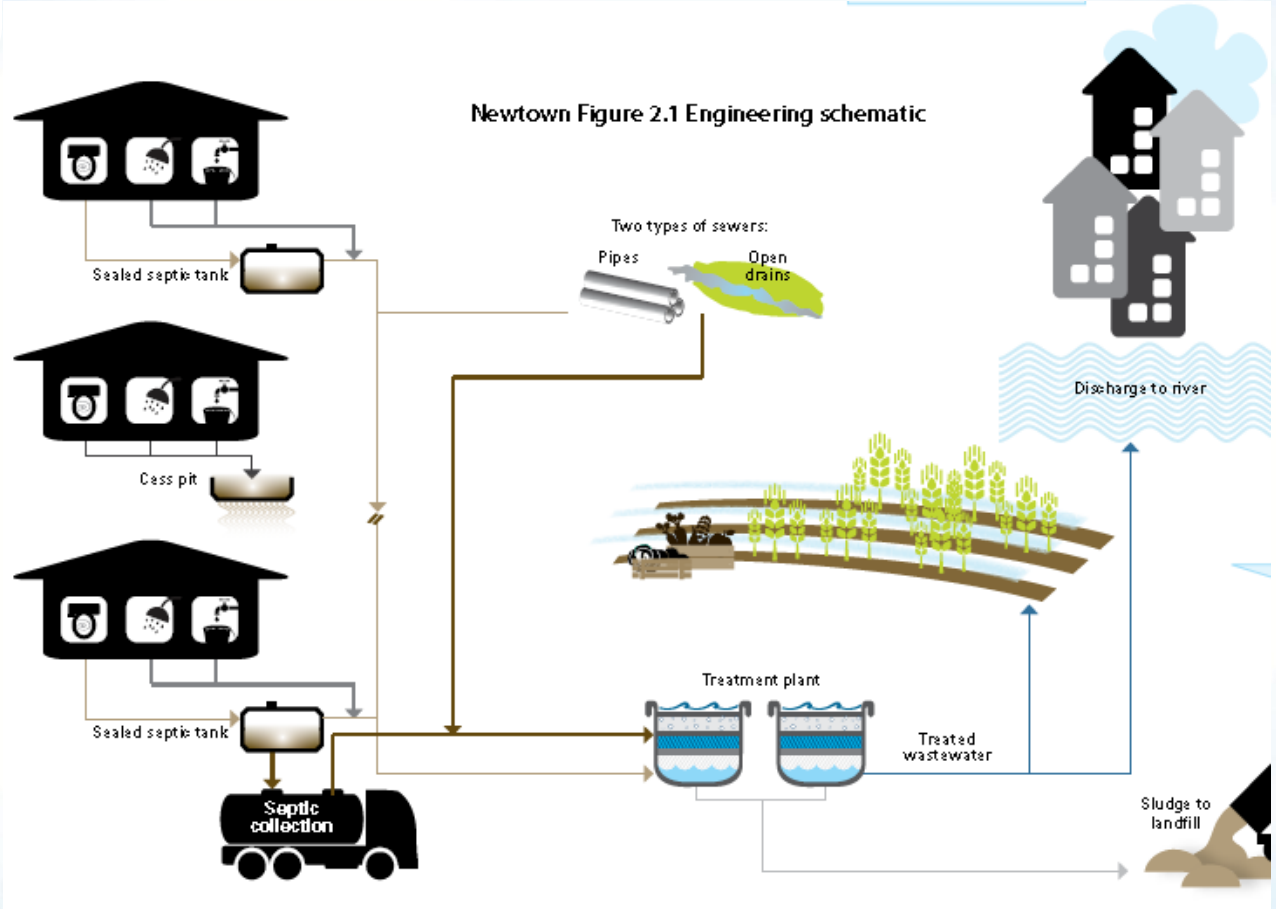


Output: What is the system? Who is at risk?



Faecal Sludge management system, Philippines

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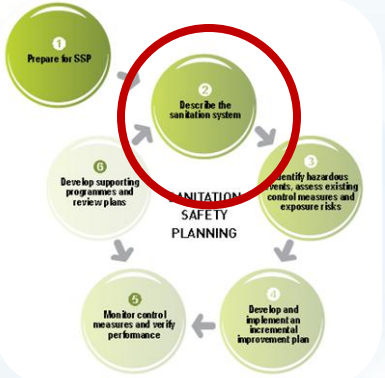

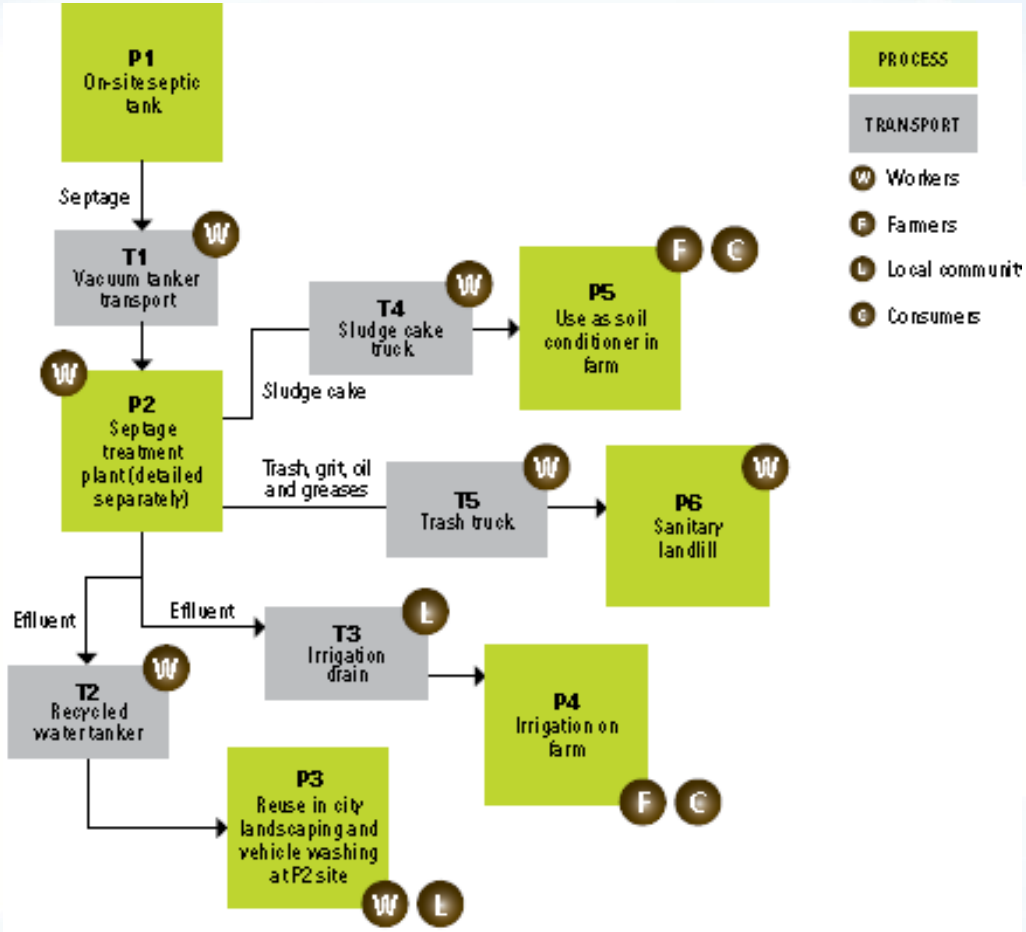

Faecal Sludge management system, Philippines

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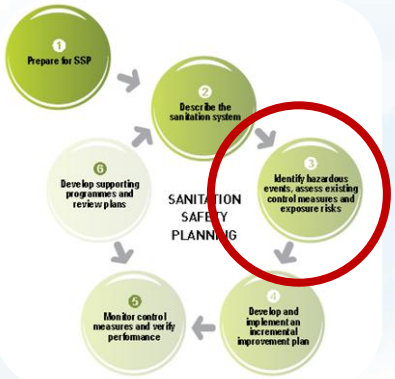

Output: How significant is the risk?

Risk Assessment

LIKELIHOOD (L)		SEVERITY (S): Insignificant	Minor	Moderate	Major	Catastrophic
		1	2	4	8	16
Very unlikely	1	1	2	4	8	16
Unlikely	2	2	4	8	16	32
Possible	3	3	6	12	24	48
Likely	4	4	8	16	32	64
Almost Certain	5	5	10	20	40	80
Risk Score R = (L) x (S)		<6	7–12		13–32	>32
Risk level		Low Risk	Medium Risk		High Risk	Very High Risk

Sanitation step	Hazard identifica: Hazardous event						L	S	Score	R	Comments justifying risk assessment or effectiveness of the control
T1: Sewer system	Exposure to raw sewage in open drains during maintenance activities	A pa			...(personal protective equipment not used)	n/a	5	4	20	H	Gloves not observed in use during site visits
		Hookworm	Skin penetration	W1	Boots worn, no gloves	Visual and survey	3	2	6	M	Adult hookworm infection usually results in minor health effects
T1: Sewer system	Exposure to raw sewage during pump and pipe repair procedures	All microbial pathogens	Ingestion	W1	Nil	n/a	3	4	12	M	Gloves and handwashing not observed during site visits
		Hookworm	Skin penetration	W1	Boots worn, no gloves	Visual and survey	2	2	4	L	75% wear boots. Adult hookworm infection usually results in minor health effects
T1: Sewer system	Exposure to raw sewage in open drains when playing	All microbial pathogens	Ingestion	L1	Nil	n/a	4	4	16	H	Some children observed to play in the drains
		Hookworm	Skin penetration	L1	Nil	n/a	4	4	16	H	Some children observed to play in the drains. Hookworm infection can cause health effects, particularly in younger age groups. While most will feel minor health effects, some may experience illness. Consequently, the moderate severity category was selected.
T1: Sewer system	Falling into open drain resulting in injury	Injury to the body	Falling into open drains	L1	Nil	n/a	2	8	16	H	A child injured in the drain has been reported

Output: What needs to be improved?

Prioritized, risk based improvement plan with responsibilities and timelines

Sanitation step	Hazardous event	Improvement action(s)* (new/improved control measures)	Priority (high, medium, low)	Responsible agency/ person
T1: Sewer system	Falling into open drains during flood periods	Programme in schools highlighting dangers of drains during flood periods. Accompanying children near drains during flood periods	High	Newtown Education Dept.
P4: Farmer irrigation and produce production	Spray irrigation resulting in exposure to irrigation water	Improved spray irrigation techniques – use low throw, micro sprinklers, part circle sprinklers	High – immediate term implementation	Farmer cooperative
	Exposure to raw sewage in irrigation water or in-field farming practices causes illness	Partial treatment: Reinstate maturation pond as part of normal process train	High – immediate term implementation	Sewerage Board – Manager

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Output: Is the system operating as planned?

What to monitor, a limit and what to do if the limit is exceeded.

Operational monitoring plan for: Personal protective equipment use by farmers		
Operational limits (see note below)	**Operational monitoring of the control measure/control measure:**	
80% of the farmers use standardized labour protection when exposed to wastewater	**What is monitored**	Frequency of labour protection used by the farmers
	How it is monitored	Observation, survey
	Where it is monitored	Newtown's farming area
	Who monitors it	Farmers' Association, local health centre
	When it is monitored	Once per week

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Output: What's changed?

Regular review, supporting programmes

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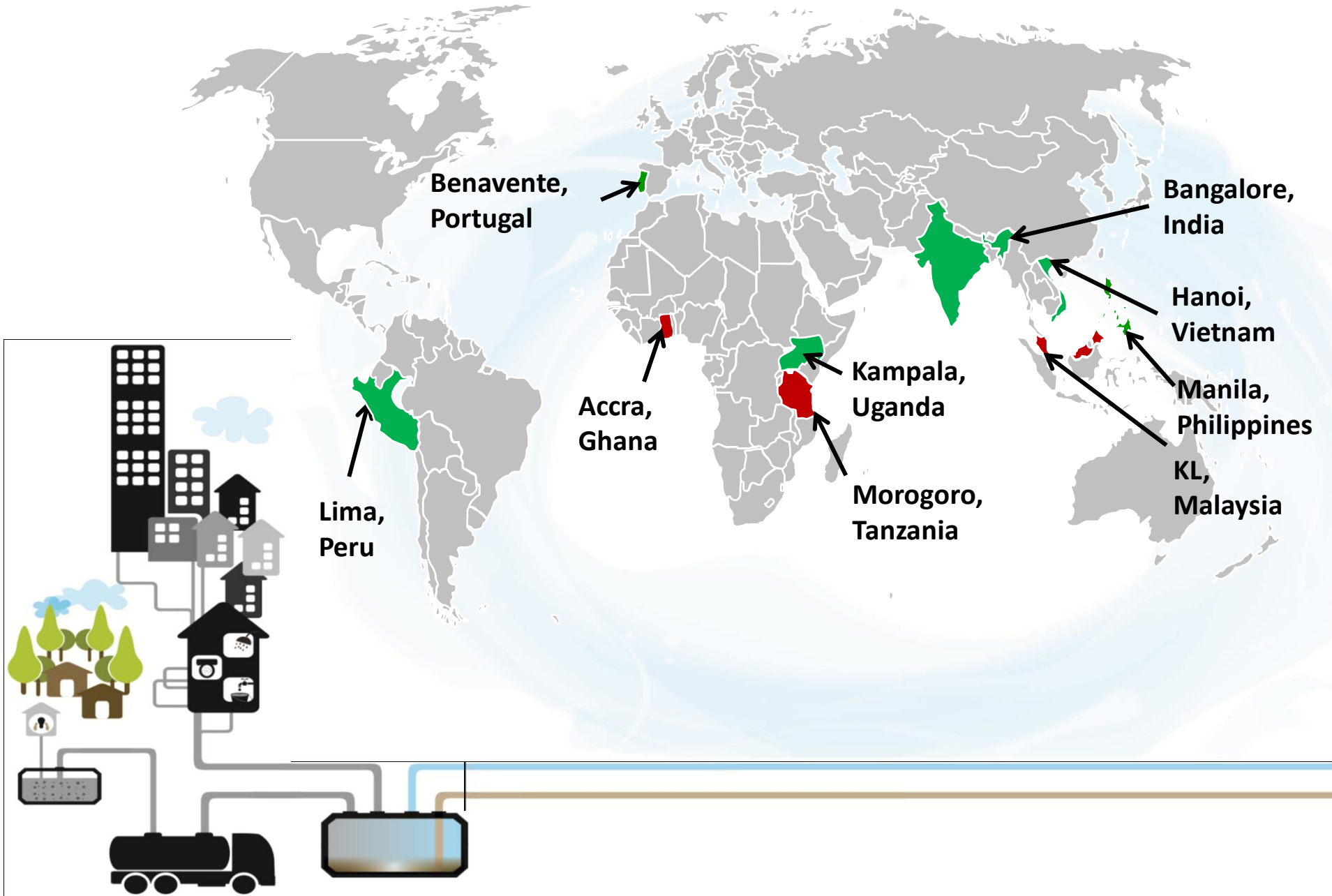

Benavente, Portugal
Bangalore, India
Hanoi, Vietnam
Manila, Philippines
KL, Malaysia
Kampala, Uganda
Accra, Ghana
Morogoro, Tanzania
Lima, Peru

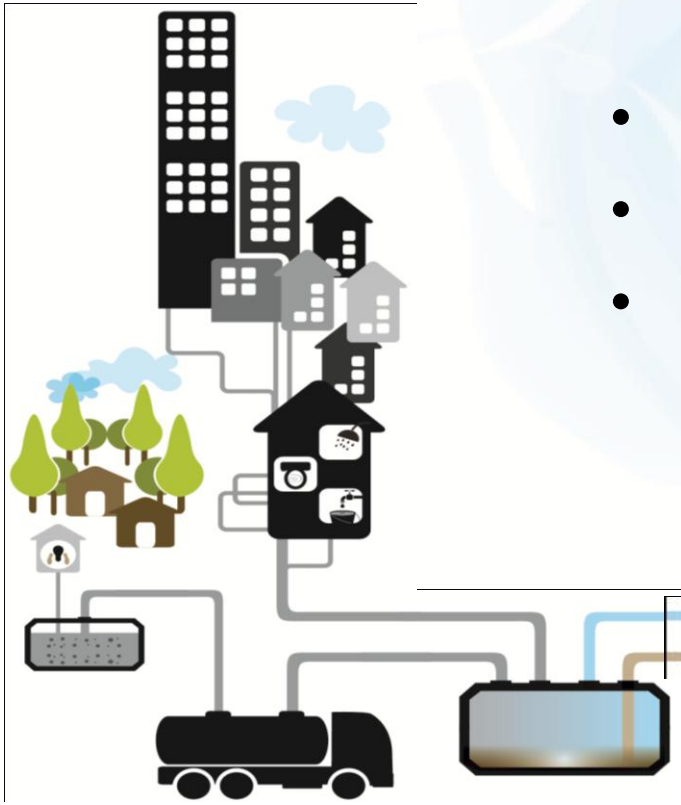

BALIV G WATER DISTRICT
SEP MANAGEMENT PROJECT
+ 7 DAY
EXTEND


古部商事株式会社


URENCO 7
XE BƠM

What's next? Scaling

- SSP training – planned in Aug 2016 in India
- Use it
- Adapt it
- Tell us about your experiences



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What's next? Scaling

- Direct support to get users started
- Provided by WHO with technical partners
- Contact us

What's next? Scaling

Intensive work with a few countries to:

- Implement SSP
- Address policy barriers

Countries selection based on global situation assessment

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Download:

www.who.int/entity/water_sanitation_health

Coming soon:

French

Portuguese

Spanish