

Sanitation Safety Planning (SSP)

Lessons from SSP Trials

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Sanitation Safety Planning (SSP)

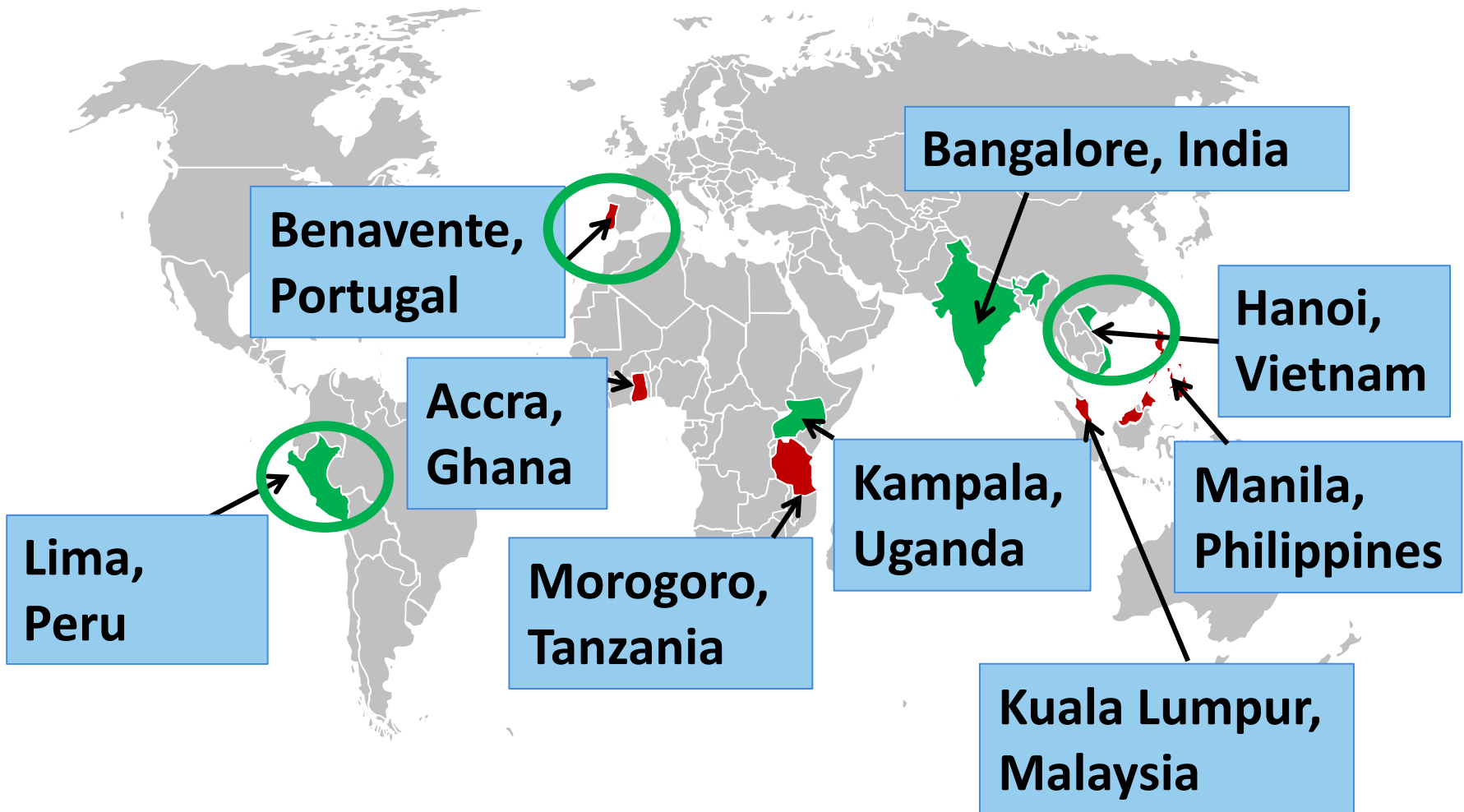
- protects public health, and
- protects integrity of RRR businesses

because:

1. Encourages a multi-sector team approach to identify and manage health at-risk people
2. Targets limited resources to highest risks through progressive improvements
3. Focuses on simple operational monitoring and corrections



Background: Overview of SSP trials



Vietnam

Agricultural use

Organic composting



Peru

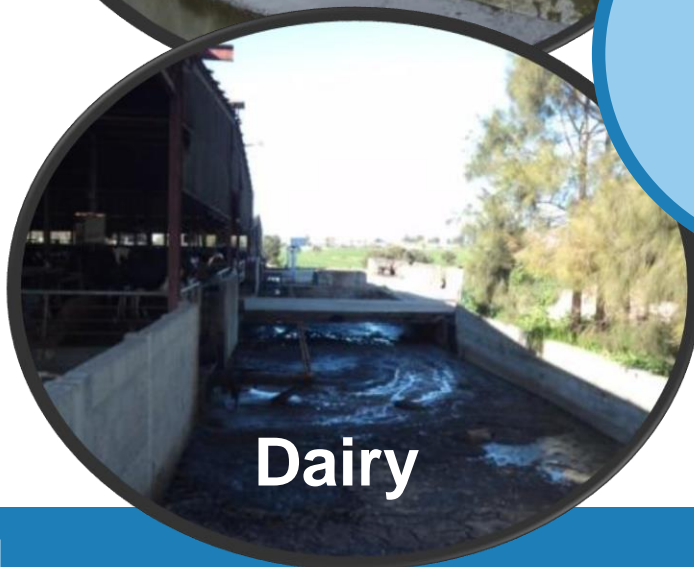
Indirect reuse



Portugal Inter-town SSP



**Multi
waste
stream**

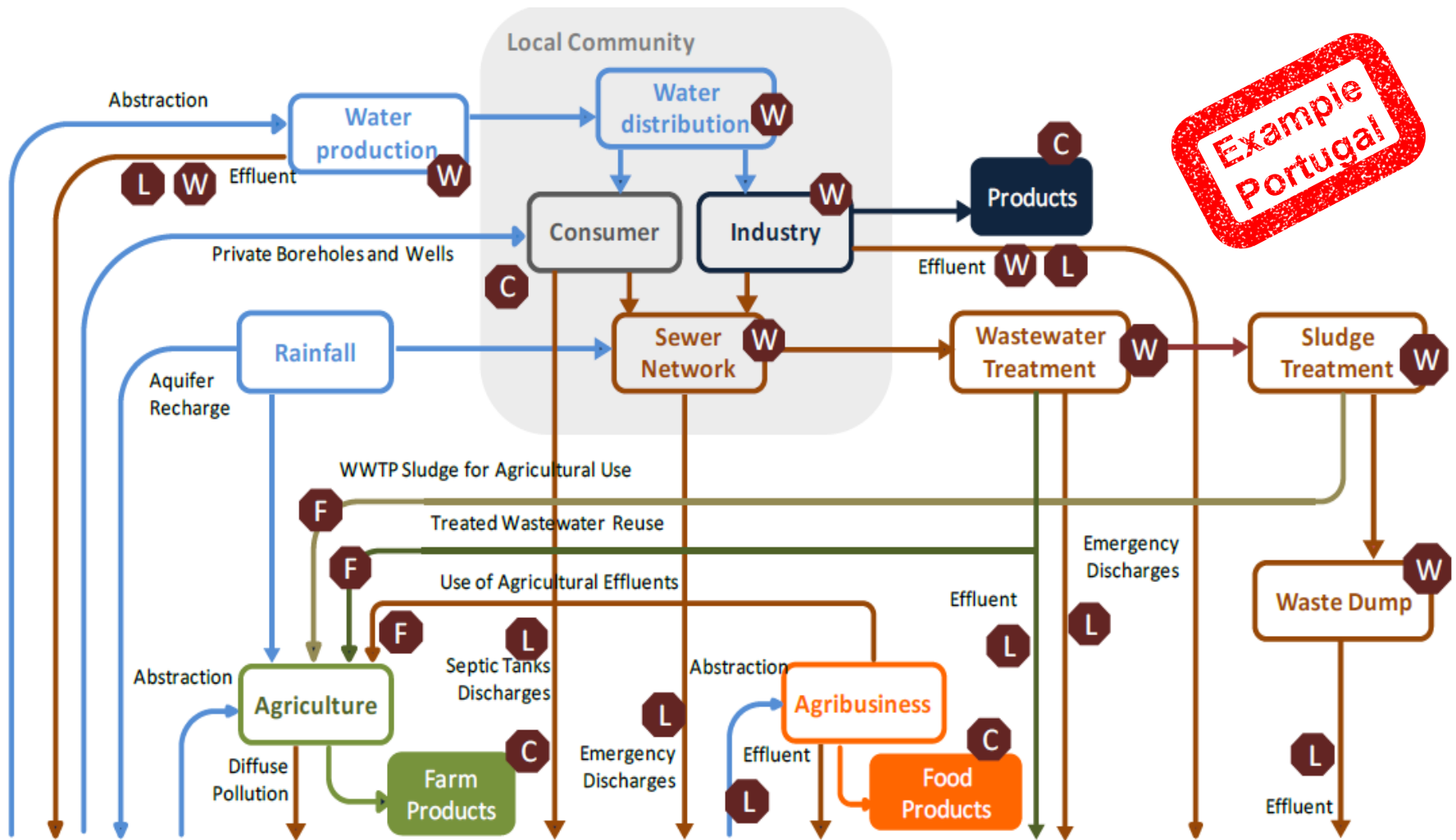


1. SSP encourages a multi-sector team approach to identify and manage health to at-risk people

- Multi-sectoral teams give a *collective eye opener* to integrated sanitation system safety
- SSP stimulates national-level discussions on content and inter-operability of national regulations on reuse.
- System approach and exposure groups focus attention on the human health impacts along the sanitation chain
- SSP gets the health sector more strongly engaged in sanitation resource/recovery



Image: from
<http://www.medkinetics.com/>



Example Portugal

Water sources (surface and groundwater) for: Industrial and Drinking Water Production, Agricultural and Recreational Uses

Exposure groups: W – Waste Handlers or Utility Workers | F – Farmers | L – Local Community | C – Consumers
Exposure Routes: Ingestion after contact with wastewater /sludge / slurry or manure, vector borne with flies/mosquitoes, inhalation of aerosols and particles, dermal contact with overflowing / leaking contents / contaminated storm water drains / wastewater /sludge / slurry or manure / contaminated groundwater or surface water, and ingestion of contaminated water or crops/food..



2. SSP targets limited resources to highest risks through progressive improvements

- Risks are *prioritised*
- Improvement Plans
 - are *risk based*
 - consider potential controls from the perspective of:
 - Technical effectiveness
 - Acceptability
 - Reliability
 - Cost efficiency
 - are *progressive*

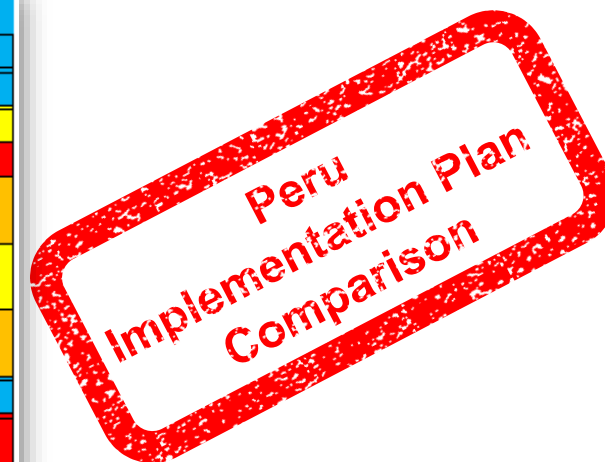
Examples
Peru, Hanoi



Hazardous exposure event		Risk assessment				
Description	Exposure route	Exposure Group	Likelihood	Severity	Score	Risk category
River catchment system						
Domestic wastes dumped in river	A,B, C	1,2,3,4	Almost certain	Mod	20	High
Livestock waste dumped into river	A,B, C	1,2,3,4	Possible	Minor	6	Med
Dumping sewage into canal	A,B, C	1,2,3,4	Almost certain	Mod	20	High
Mining wastes dumped into river	B,C	1,2,3,4	unlikely	Minor	4	Low
Pollution of the river water resource	A,B, C	1,2,3,4	Almost certain	Significant	40	V High
Irrigation and green areas						
Pathogen contamination in water	A	2	Almost certa	Significant	40	V High
Pathogen contamination in soil	A	2	Possible	Mod	12	Med



Improvement plan option evaluation						
Description	Risk Priority	Option for Imp Plan	Reliability	Effectiveness	Acceptability	Points
River catchment system						
Contamination of water resource	Very High	Control of river discharges	High	Med	High	18
		Monitoring of pathogen	High	High	High	27
		Installation of treatment plant	Med	High	High	18
Contamination from domestic wastes	High	Fines for infringements	High	Low	Med	6
		Installation of treatment plant	Med	High	High	18
Irrigation and green areas						
Pathogen contamination of lagoons	Very High	Storage in water reservoirs	High	High	High	27
		Increased size of reservoirs	High	High	Med	18
		On-site sanitation systems	High	High	High	27





Increasing cost



❖ Short term plans:

- Targeted **education**
 - to improve farmer/worker hygiene, for children in/near the wastewater irrigation sites
 - safe handling of crops, especially those crops eaten raw
- Increased **mosquito spraying**
- **De-worming** of targeted populations every 6 months
- **Improved pre-harvest food protection** (e.g. 1-2 day before harvest, stop irrigation with poor quality wastewater)



❖ Medium/long term plans:

- Reduce chemical contaminants of wastewater being irrigated (e.g. improved enforcement of regulations)
- Increase treatment in the system upstream to improve quality of water discharged to the canal from which the farmers draw irrigation water



3. SSP focuses on simple operational monitoring

- Operational monitoring focuses on control measures, not end product (i.e. stops problems before they occur)
- Often visual observations or operational compliance techniques e.g. retention times
- This is simpler and cheaper

Example: Operational monitoring plan for Advocacy/ Information, Education, and Communication to change current farmers' practices to use proper personal protection



Operational Limits	Operational Monitoring of the Control Measure		Corrective action <u>when the operational limit is exceeded</u>	
80% of the farmers of village use proper PPE	What is monitored	Frequency of use of personal protection used by the farmers	What action is to be taken	Find out why farmers not using protective methods and change IEC mtl.
	How it is monitored	Observation, survey		
	Where it is monitored	Village farming area	Who takes the action	Farmers' Association
	Who monitors it	Farmers' Association, local health center	When it is taken	If use of PPE <80%
	When it is monitored	2 times/week	Who to inform	Local government Ward office

Not complicated



Summary: SSP protects public health and integrity of RRR businesses because

1. Encourages a multi-sector team approach to identify and manage health risks to at-risk people
2. Targets limited resources to highest risks through progressive improvements
3. Focuses on simple operational monitoring and corrections



- ✓ Public health
- ✓ RRR businesses