Development of a Sanitation Safety Plan for peri-urban areas, Tanzania

MARTA DOMINI, Ph.D., Guenter Langergraber, Sabrina Sorlini, Samson Maswaga

UNIVERSITÀ DEGLI STUDI DI BRESCIA - FACOLTA' DI INGEGNERIA - Dipartimento di Ingegneria Civile, Architettura, Territorio, Ambiente e di Matematica

CeTAmbLAB
Laboratorio di ricerca sulle tecnologie appropriate per la gestione dell'ambiente nei Paesi a risorse limitate

INTRODUCTION

❖ Lack of adequate sanitation services

❖ Health and environmental implications

❖ Unplanned rapid urban growth

➡️

SANITATION PLANNING IN PERI-URBAN AREAS

➡️

Asses the SSP approach

❖ Adapt to a specific context

❖ Support the sanitation planning with a health-protective perspective

Case study in Iringa, Tanzania
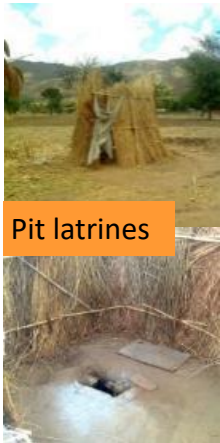
❖ WASH cooperation project implemented by Fondazione ACRA

THE CURRENT SITUATION
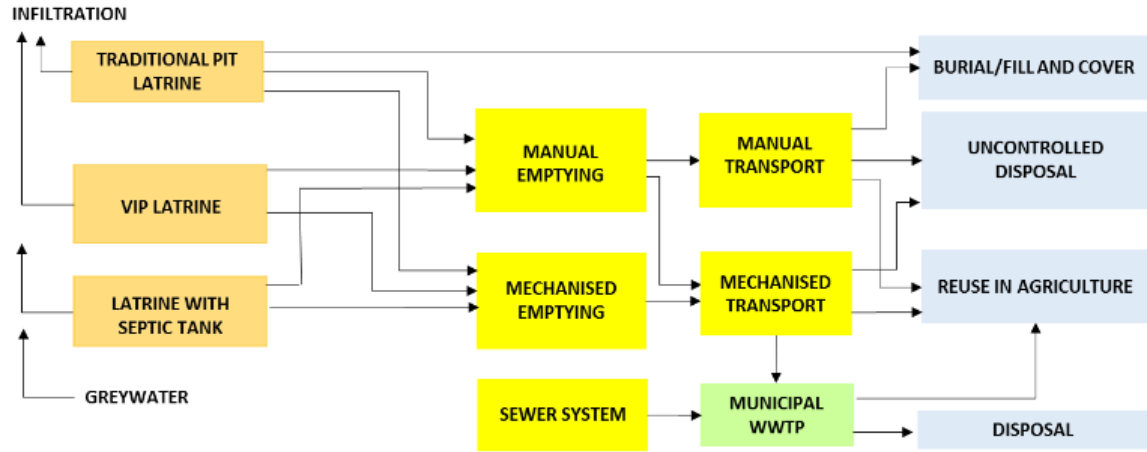
Current Sanitation System in peri - urban wards S0

LATRINES at hh level
45% unimproved

Pit latrines

Greywaters

Uncontrolled disposal

Manual emptying

Drying beds

EMPTYING
- ❖ 23% manual
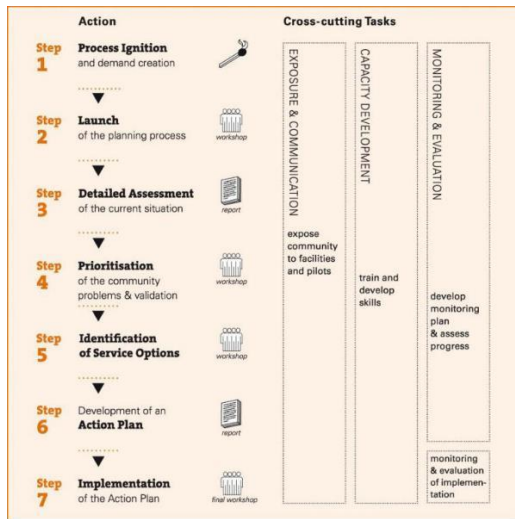- ❖ 57% mechanised
- ❖ 20% bury and cover

METHODS

CLUES
Community-Led Urban Environmental Sanitation

CLUES guidelines (Lüthi et al., 2011)

SSP
Sanitation Safety Planning

SSP Manual (WHO, 2015)

Adaptation of SSP to the case study

Application of approaches to the case study

Assessment of **strenghts and weaknesses**

Proposal of an **integrated use**

❖ Development of a Simplfied Assessment Matrix

Risk = Likelihood * Severity

	SEVERITY		
LIKELIHOOD	1	2	6
1	1	2	6
2	2	4	12
3	3	6	18
Risk score	<3	3-4	>5
Risk level	L	M	H / VH

LIKELIHOOD (L_i)		
1	Unlikely	Never happened in the past, improbable to occur in future or only under special circumstances (1 year)
2	Possible	May have been occurred before and may occur under regular circumstances in future (1 year)
3	Almost certain	Have been observed in the past and is likely or almost certain to occur several times in a year

SEVERITY (S)		
1	Minor	Result in no health effects or minor discomfort (irritation, nausea, headache, etc.)
2	Moderate	Result in minor illness (diarrhoea, vomiting, minor trauma, etc.).
6	Major	Result in serious illness or injuries (malaria, schistosomiasis, foodborne trematodiases, bone fracture, etc.), even loss of life.

❖ Hypotesis for the hazard: exposure to pathogens

❖ Hypotesis for the existing control measures assessment

❖ Definition of a methodology to prioritize control measures

	Potential (P)	Technical Effectiveness (TE)	Acceptability (A)	Cost (C)
w_1	0,25	0,25	0,25	0,25
w_P	0,4	0,2	0,2	0,2
w_{TE}	0,2	0,4	0,2	0,2
w_A	0,2	0,2	0,4	0,2
w_C	0,2	0,2	0,2	0,4
w_f (FINAL)	0,3	0,2	0,1	0,4
high	4	4	4	1
medium	2	2	2	2
low	1	1	1	4

Priority =
$(P * w_P) + (TE * w_{TE}) + (A * w_A) + (C * w_C)$

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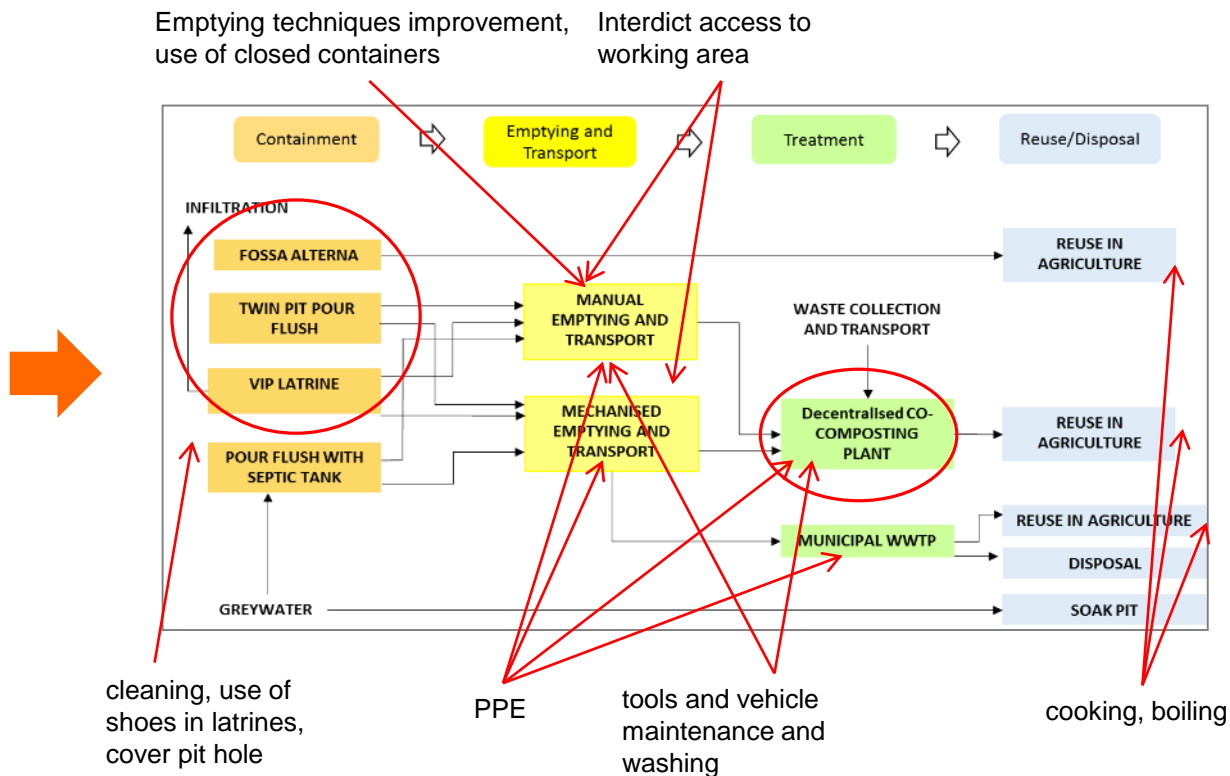*World Water Week, Stockholm - M. Domini, 30 August 2017*
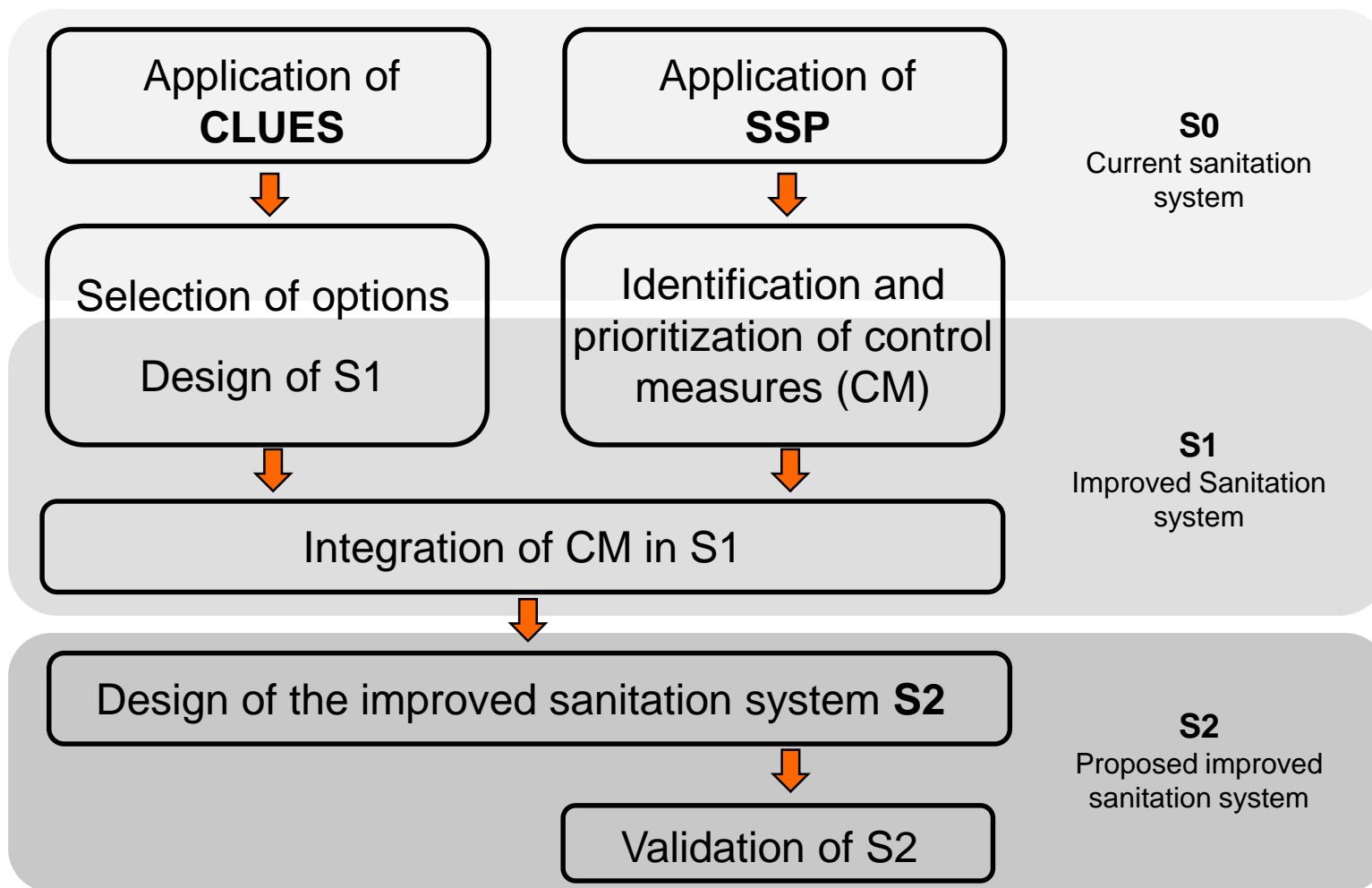
SSP:

Identification and prioritization

of CM for high level risks

Increasing awareness campaigns (cleaning, use of shoes in latrines, Cooking/ boiling, cover pit hole disinfection)
Personal hygiene (dedicated clothes, training, tools and vehicle maintenance and washing)
PPE
Interdict access to working area
Water device near/soap
Full mixing with soil (regulations)
Emptying techniques improvement, use of closed containers

CLUES:
improved system S1

Emptying techniques improvement, use of closed containers

Interdict access to working area

cleaning, use of shoes in latrines, cover pit hole

PPE

tools and vehicle maintenance and washing

cooking, boiling

S2
Incremental improvement action plans - Monitoring and verification plans

7

STRENGTHS and WEAKNESSES

CLUES	SSP

STRENGHTS

+ **Participation**

+ **Ownership / Inclusion**

+ Guidance for **technology choice**

+ Emphasis on **health**

+ Whole sanitation chain / **exposure groups**

+ **Multibarrier** approach

+ **Cost-effective** perspective of interventions

+ What to do in case of **CM failure / prevel**

> **Participatory**
>
> **Guided selection of technology options**

> **Health**
>
> **Whole sanitation chain**
>
> **Multibarrier approach**

WEAKNESSES

- **In**

- **Informed choices**

- "Decentralization" of **power** / **unpredictable**

- Human resources and time

- **Not** s

- Requires **specific skills**

- Complex at **urban** level

- **Quantitative data** involving costs

CONCLUSIONS

❖ SSP demonstrated to:
- be effective for identifying **risks and cost-effective interventions** in the concerned area
- support sanitation planning with **safe reuse and disposal** perspective
- support a deeper study of the current sanitation system

❖ SSP **adaptation** as planning tool and to a specific contest:
- integrated use of CLUES and SSP potentiates their strengths

SIWI | WORLD WATER WEEK
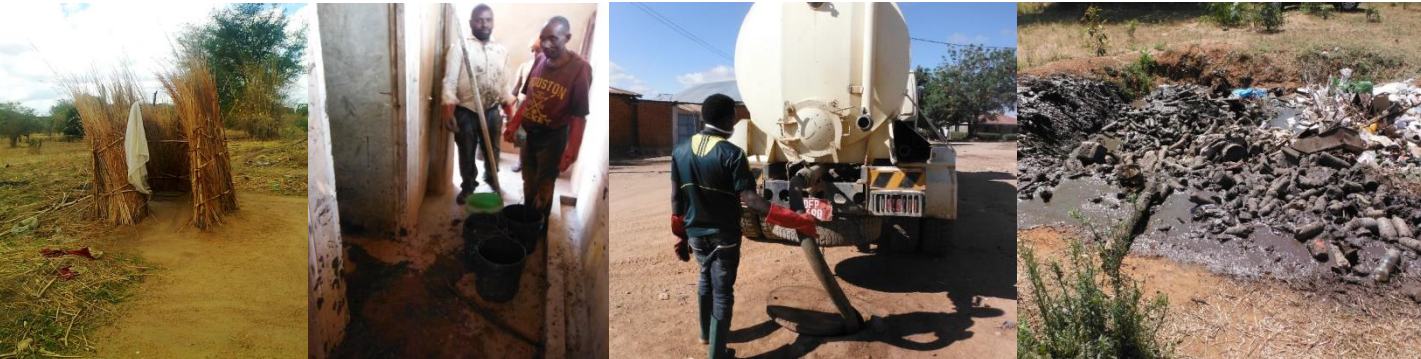
Thanks for your attention!

marta.domini@unibs.it

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