The Moshi SFD

(Faecal Sludge (Shit) Flow Diagram)

Supported by

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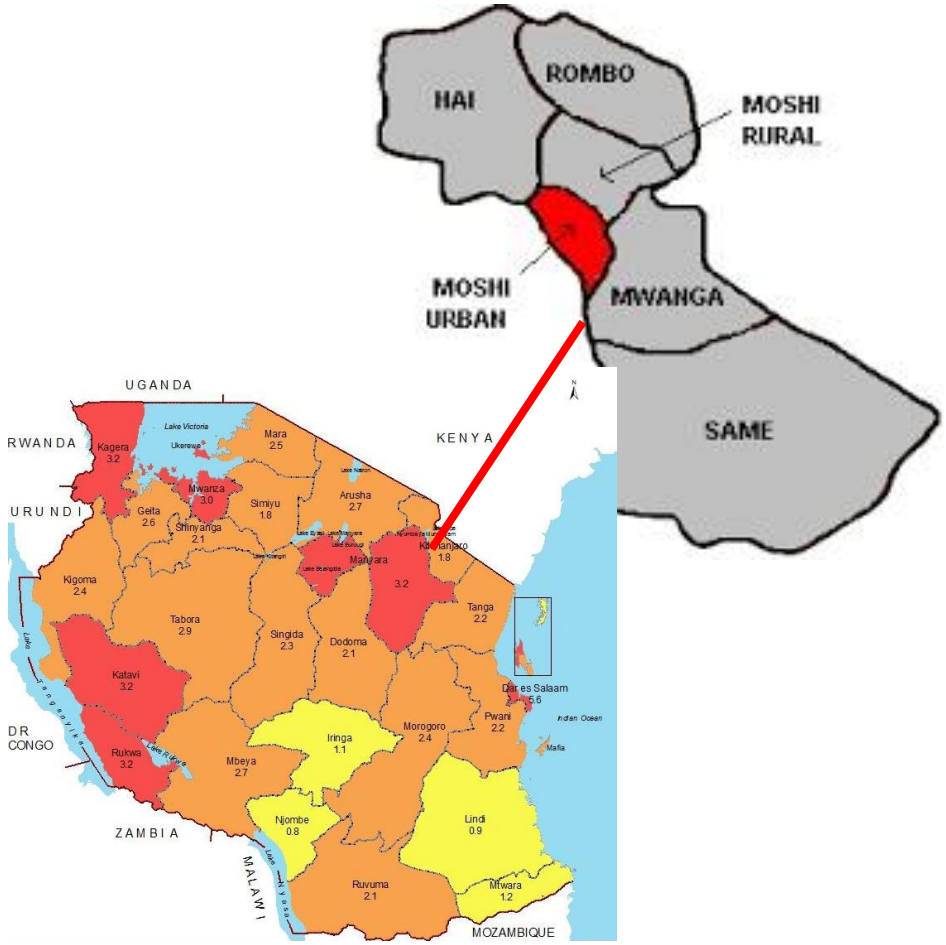
presented by

Sebastian Mgeta (Moshi Municipal Council)

Moshi - Kilimanjaro - Tanzania



184,292 people (2012 census)

2.445 % growth rate

198,137 (estimated 2015)

59 km^2 area

566 km water pipes

22,536 water connections

58 km sewer pipes

2,461 sewer connections

17% sewer coverage

81% on-site sanitation

Tourism (Kilimanjaro)

Coffee, maize, beans

Brewery

Institutional Framework in Moshi

RS

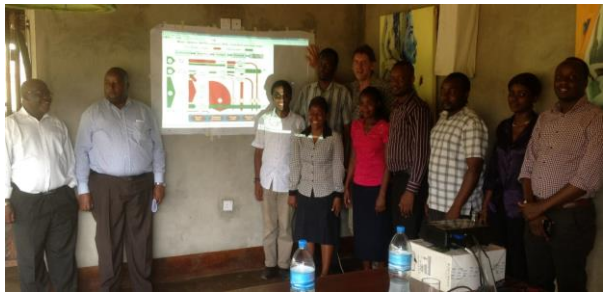
MMC

MUWSA

MoU

Steering Committee

Technical Committee



Task Force

Community

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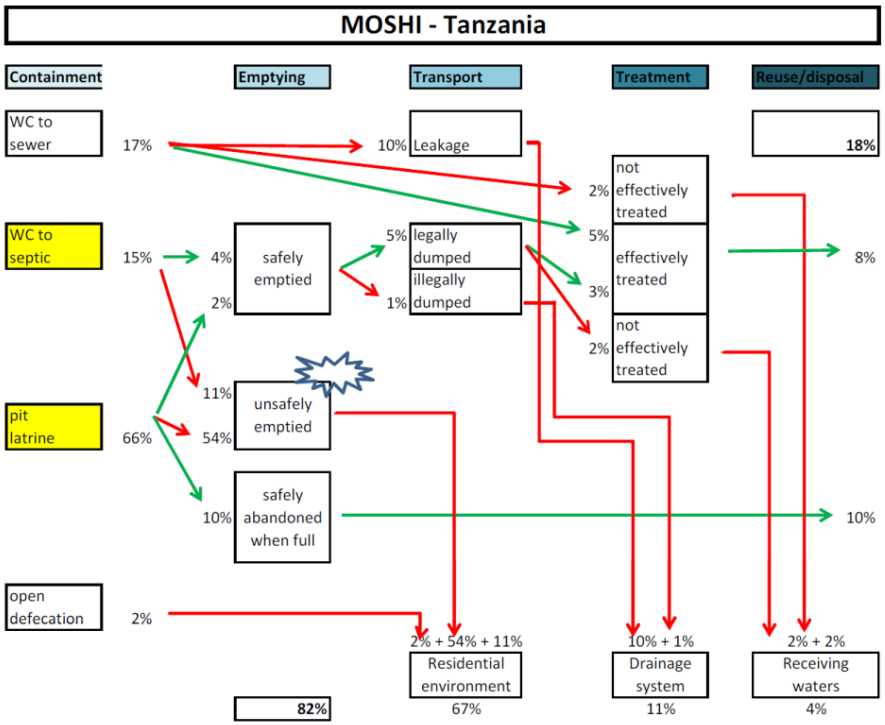

First version in EXCEL

SFD Development based on data from:

- 'Water and Sanitation Concerted Strategy and Action Plans in Moshi' by ARDHI University, Dar es Salaam, 2010;
- Water Sector Status Report 2009, MoWI;
- Current information by MUWSA Sewerage Engineer and MMC Health Department Officials.

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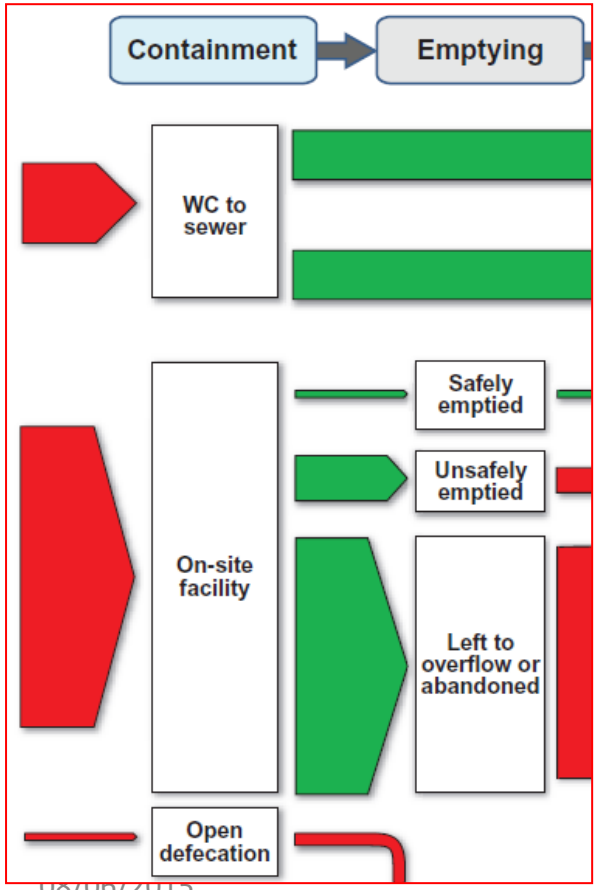
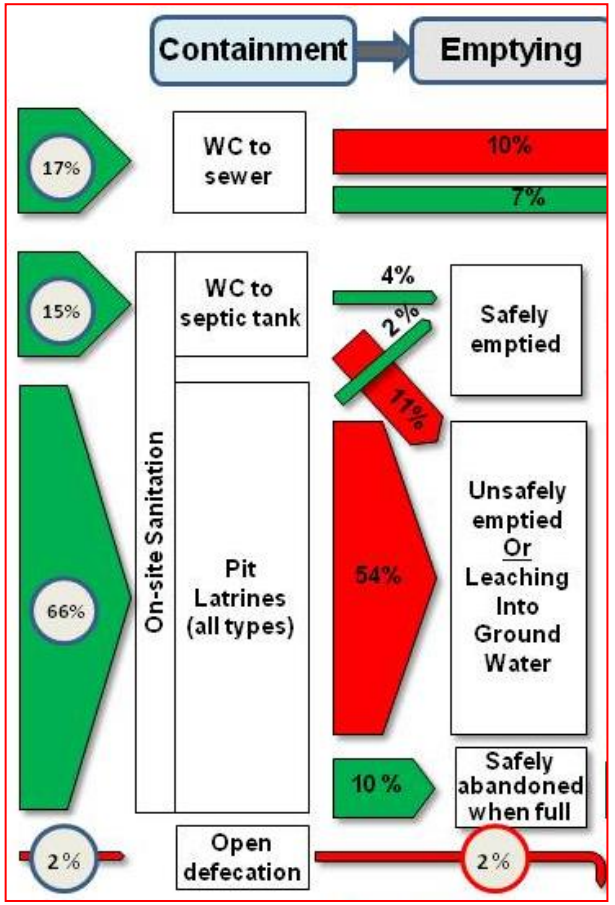
SFD Development included the following adaptations of the original WSP layout:



1.

- splitting of 'on-site facility' into 'septic tanks' and 'pit latrines';
- differentiating 'emptying' of septic and pits accordingly;



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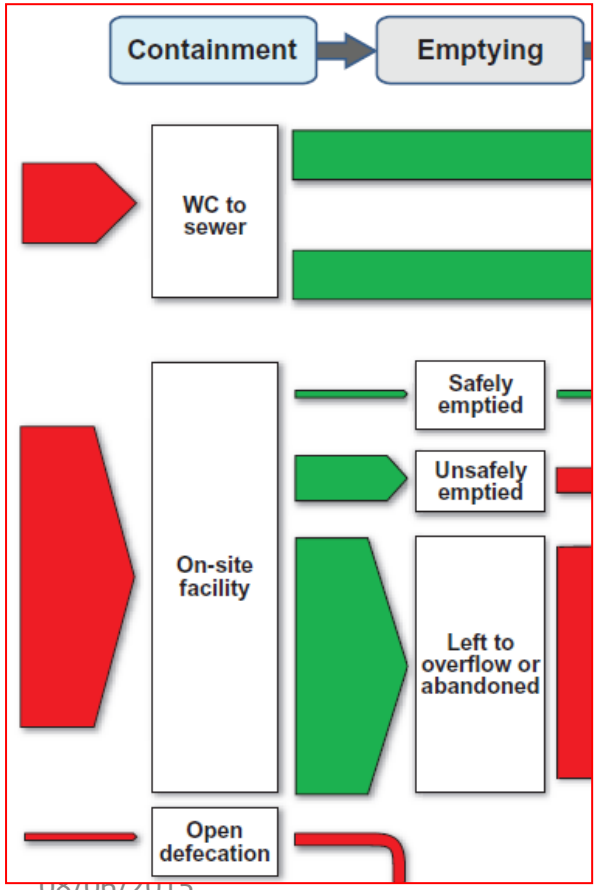
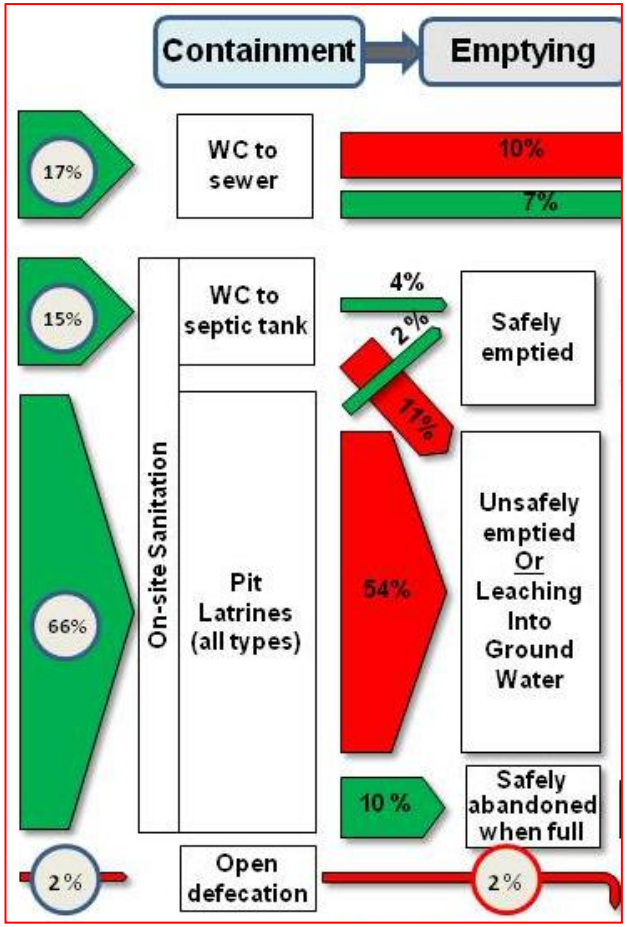


2.

- introducing '%' figures for input as well as for the different streams towards safely and unsafely managed;
- Using any type of toilet is considered as 'safe management' (green) as opposed to open defecation (red)



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SFD Development included the following adaptations of the original WSP layout:

3.

- We introduced ‘Ground Water ‘ as an additional potential target of contamination.
- The receiving environment was enclosed by one box indicating that quantities to each part are unknown.

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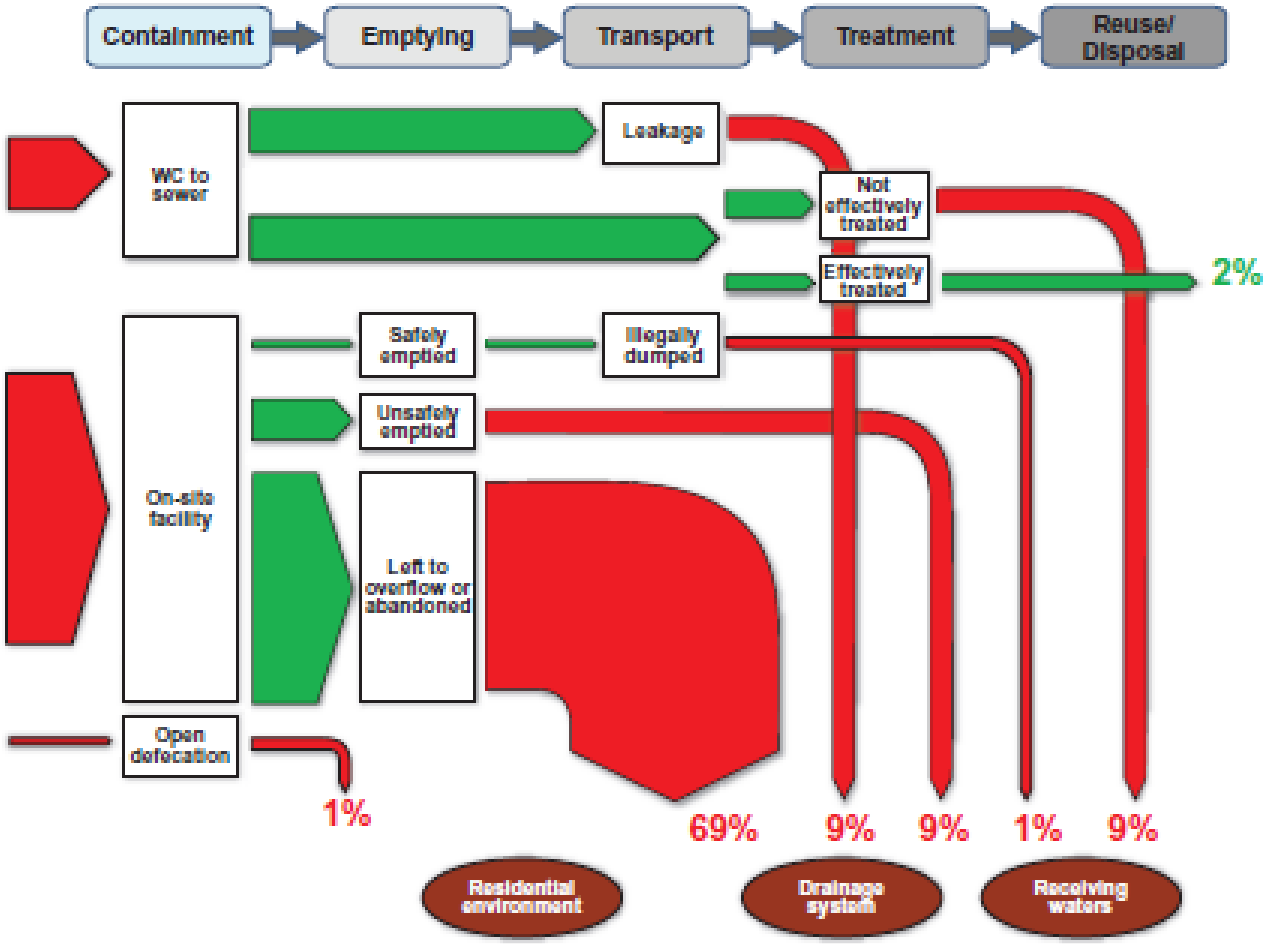
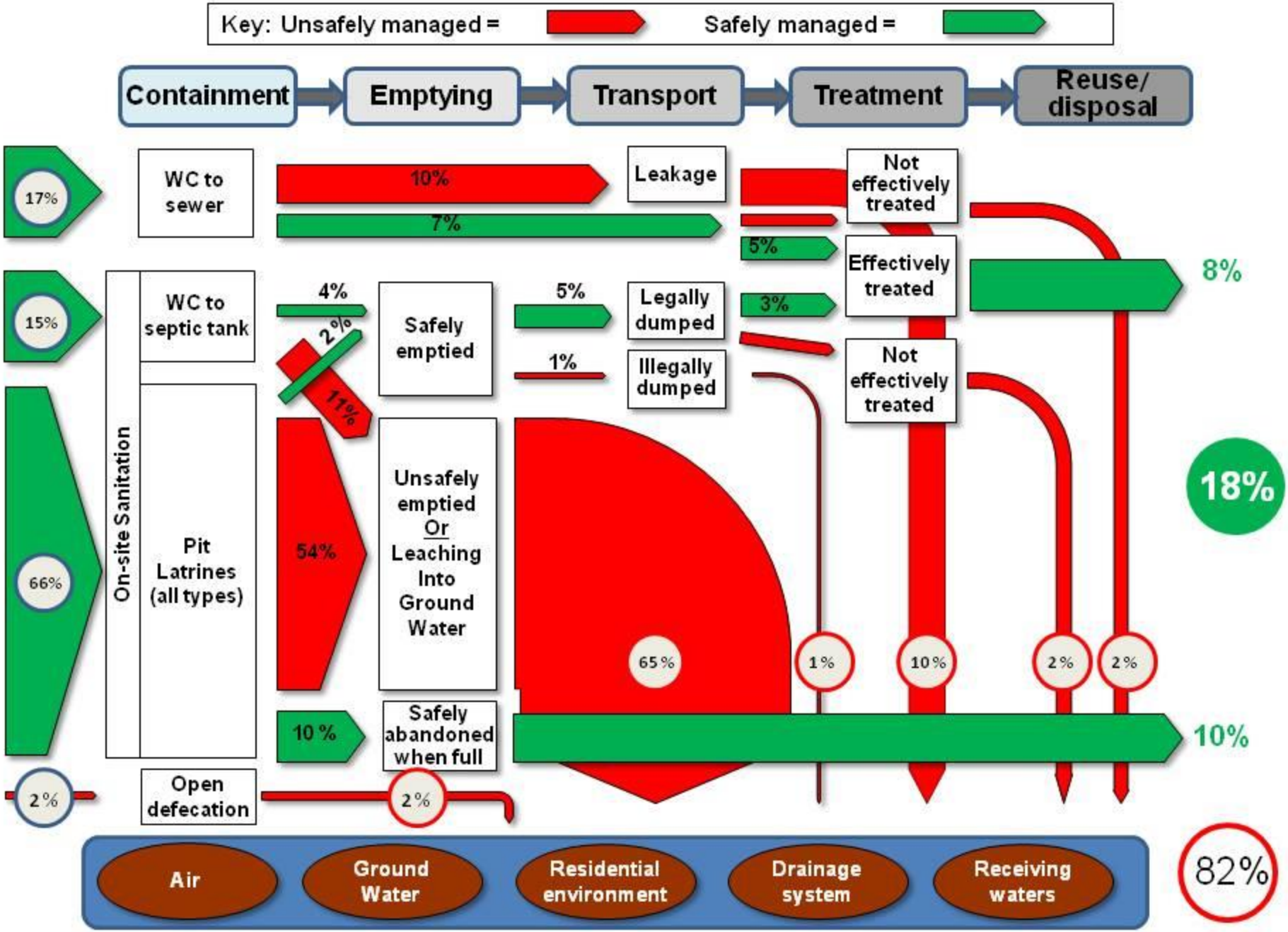


Figure 2: Fecal Waste Flows in Dhaka, Bangladesh

By these changes we transformed this 'naked' SFD into a more sophisticated but also more informative version.

Moshi, Tanzania: Faecal Sludge Flow Diagram (SFD) – v8, May 2015, based on estimates

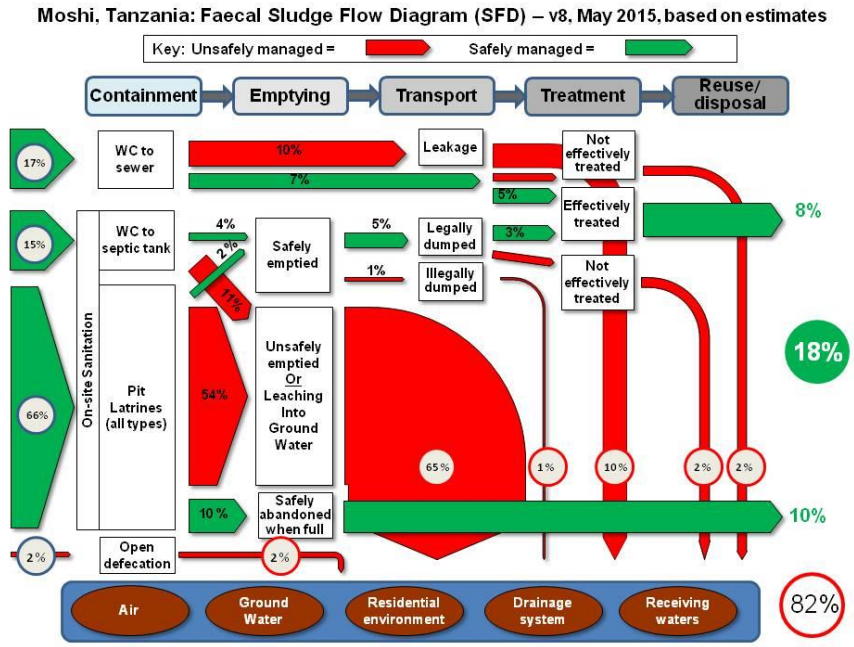


Moshi Sanitation Situation depicted by SFD

- ~ 66% of the population in Moshi use **pit latrines**
- We estimate that about 80% of pit latrines are not properly emptied
- If only half of these pit latrines is safely managed, then the safely managed shit-flows will increase from 18% to 45%

- A considerable number of **septic tanks** is not professionally emptied or **soakaways** leak effluent into the ground water
- Both aspects require closer monitoring by the authorities

Pros and Cons of SFD



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- plenty of information
- on one page
- easy to understand
- points at hot spots
- attractive for policy makers and financiers
- serves as monitoring tool

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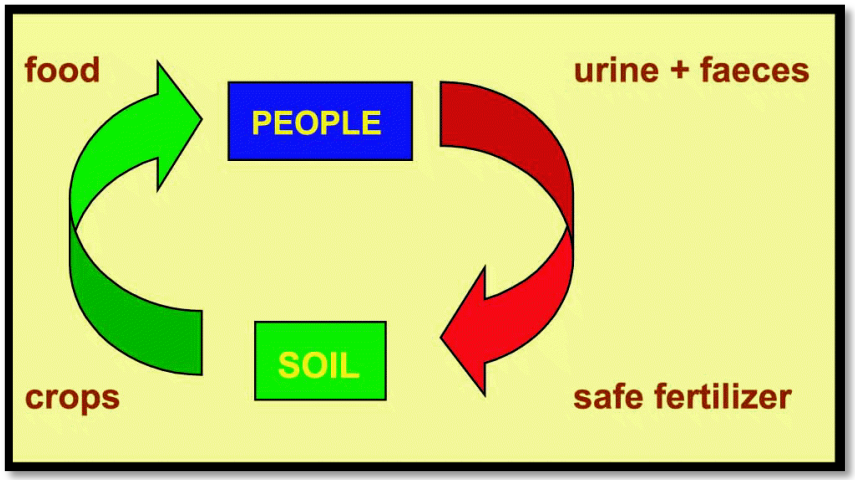
- only safely managed shit-flows can be measured
- at best others are professional estimates
- not really comparable between cities

Our Way Forward



Closing the loop
Source: ecosanres.org

- city-wide sanitation survey
- out of survey extract problematic hotspots
- monitor and investigate international solutions and developments
- design short-/ medium- and long term sanitation development plans including costing
- secure funding for implementation
- strife to implement sanitation systems which 'close the loop'

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Asanteni !

Thank You !