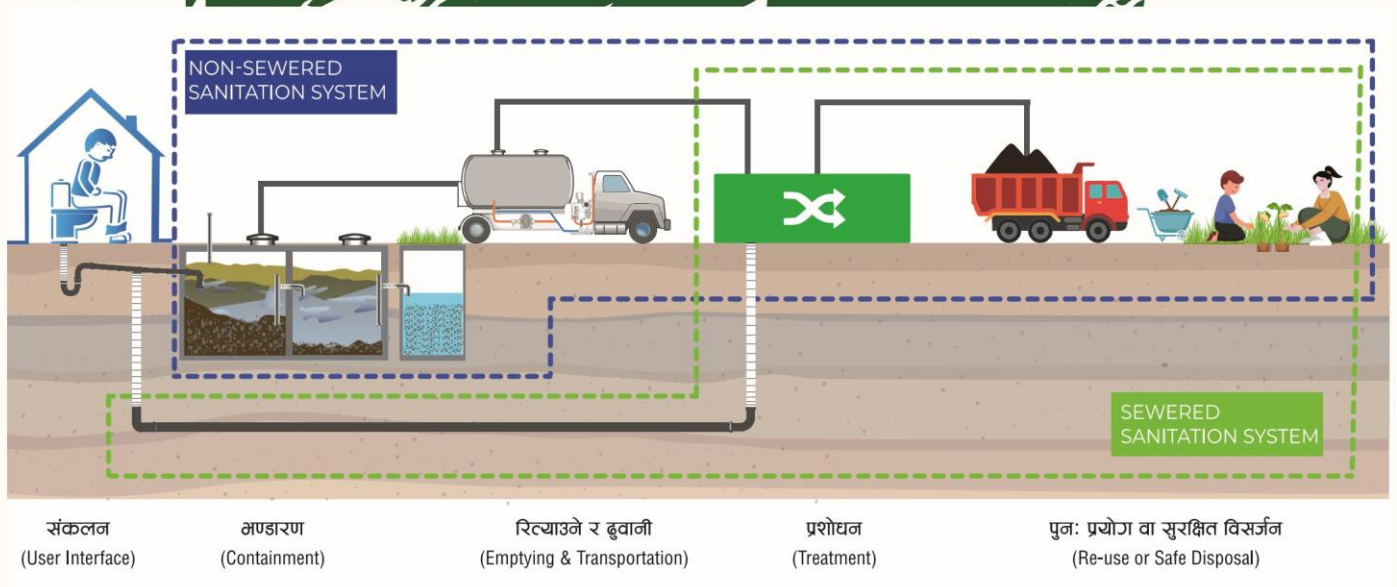


# Citywide Inclusive Sanitation Scaling and Sanitation Innovation

## Training on 'Introduction to Citywide Inclusive Sanitation Approach'



**Power Point Presentation with Slide-Notes for Trainer**  
August, 2022



## **Introduction**

This document, power point presentation with slide notes, is a supporting document for the trainers/ presenter to conduct the “Introduction to CWIS Approach” training. This is a compilation of all the slides to be presented in the training along with the notes for the trainer as of what to describe while presenting the particular slide.

## **Objective**

The main objective of the document is to guide the content that a presenter would be discussing on each slide. To this, it also provides a preview of all the slides contained in the training along with the slide notes.

## **How to Use?**

The document consists of slides from all session. Slide notes for each slide is presented just below the slide itself. The trainer or presenter can go through the notes and describe the slides as per the information provided in the slide notes.

For the effective use of the document, trainer or presented is recommended to use simultaneously with the ‘Trainer Manual’ with instructions.

## **Disclaimer**

**Material and Learning Application:** This material is prepared by Environment and Public Health Organization (ENPHO) with the support of CWISAN Thematic group for Training Material Development and is to be used for training purposes only. Some of the case scenarios presented in the training are for the practice on the topic only and are completely imaginary to meet the objectives and do not bear responsibility for any resembles with any cases in real.

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## Session I: Training Opening

### Slide I

**Citywide Inclusive Sanitation Scaling and Sanitation Innovation**



## Training Opening

**Training on Introduction of Citywide Inclusive Sanitation Approach**

Resource Person




### Slide 2




## Training Introduction

---

### Objectives

1. To introduce the concept of CWIS along with the components of CWIS framework
2. To analyze the existing sanitation services and facilities through the CWIS lens





Introduce self, the host of the training, and welcome participants to the event.

Inform participants about the training:

- a. *This introductory training covers topics related to citywide inclusive training (CWIS) approach.*
- b. *This workshop is designed for sanitation service provider especially engaged at municipalities; engineers, department/section chiefs, focal person, etc.*
- c. *This training is participatory. There are different types of group activities in various sessions.*

Present the objectives of the training.

## Slide 3

### Training Introduction- Objectives

---

The **general objective** of the training is to introduce the concept of CWIS and analyze the sanitation services and facilities through the CWIS lens.

#### Specific Objectives:

1. To introduce the concept of CWIS along with the components of CWIS framework
2. To analyze the existing sanitation services and facilities through the CWIS lens

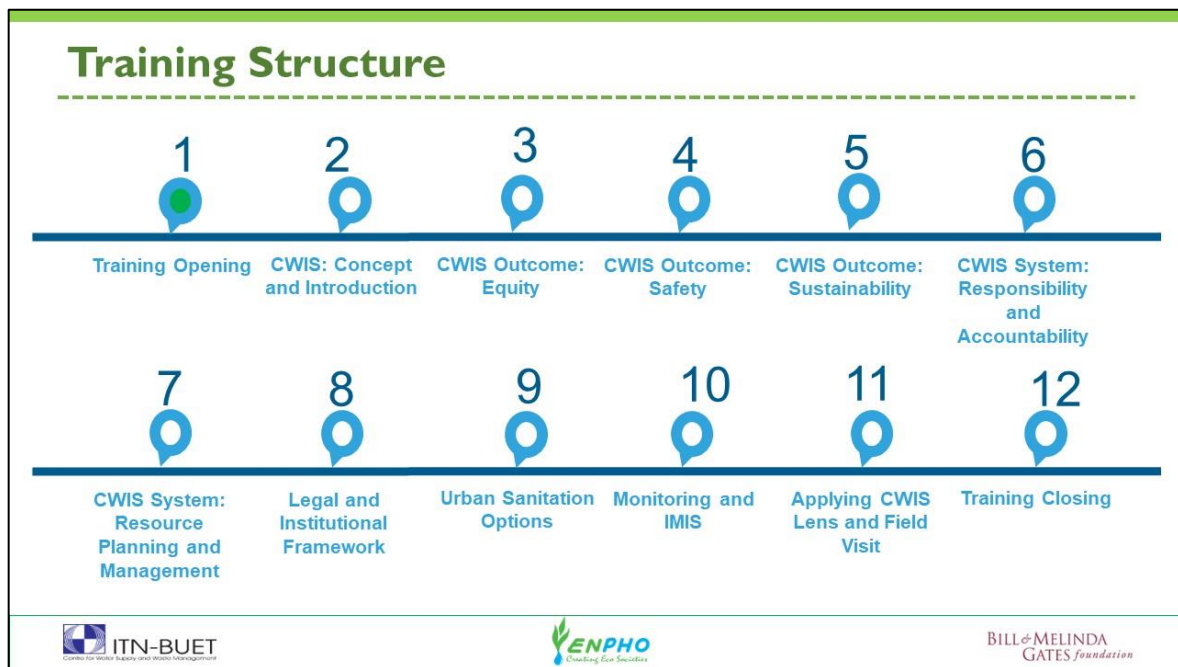
## Slide 4

### Training Structure

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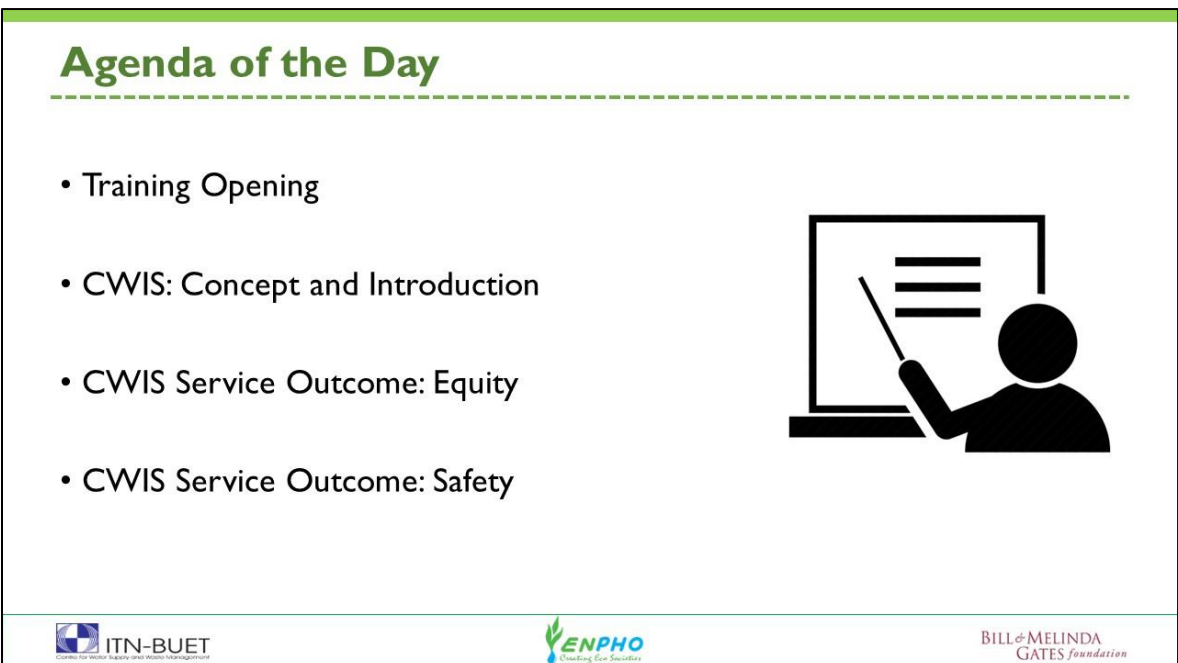
- 10 main sessions
  - CWIS- Concept and Introduction
  - CWIS Service Outcome- Equity
  - CWIS Service Outcome- Safety
  - CWIS Service Outcome- Sustainability
  - CWIS System Functions- Responsibility and Accountability
  - CWIS System Functions- Resource Planning and Management
  - Legal Provisions
  - Urban Sanitation Options
  - Monitoring and IMIS
  - Applying CWIS Lens and Site Visit

Slide 5



This training includes 10 main technical sessions, and a field visit is already incorporated in a session. To this, we have training opening and closing session. If required, present all the session topics to the participants or else inform that they will be covering all these topics in the following days of the training.

Slide 6



Among the session, on day-1, above topics will be covered

## Slide 7

### Building Layout

- Bathroom Location
- Emergency Exits
- First Aid



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For any kind of emergency, contact the host or organizer. For the easy access, the bathroom location is in...

The emergency exits are...

For the first aid kit, ...

## Slide 8

### Participants' Introduction

- Ask participants to introduce themselves
  - Name
  - Designation
  - Organization
  - Experience in urban sanitation
- Ask participants to introduce one by one

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## Slide 9

### Participants' Introduction

- Ask participants to form a circle in alphabetical order
- Ask participants to introduce themselves with the participants at their left and right.
  - Name
  - Designation
  - Organization
  - Experience in urban sanitation
- Ask participants to introduce participant at their right side.
- Once a cycle is complete, ask participants to name the participant at their left side.

## Slide 10

### Introduction

- Name
- Designation
- Organization
- Experience in urban sanitation



Before starting the event, let's introduce with each other. Ask participants to introduce themselves with the above points or do it as per instruction on slide 10.

Name

Designation

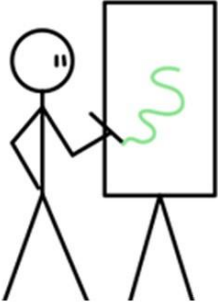
Organization

Experience in Urban sanitation

Slide 11

## Learning Expectations

- Two learning outcomes from each participant
- One on each of the meta-cards



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Once the meta-cards with learning expectations are collected, review the expectation in the large group and discuss in which module it will be addressed  
Collect meta-cards and list the learning expectations of the training

Slide 12

## Assessment

- Pre-test form
- Same form will be used for the post-test
- To evaluate the learning



5-10 minutes

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Inform participants about the pre and post-test and provide the form for pre-test. Provide 10 minutes time for the activity.

## Slide 13

### Daily Program

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- Start each morning at 9 AM
- 15-minute tea and toilet break mid-morning
- 60 minutes lunch break
- 15-minute tea and toilet break mid-afternoon
- Aim to finish by 5 PM



These are the daily schedule for the training. This can be arranged as per the requirements.

## Slide 14

### Workshop Format and Agenda

---

- Experiential, hands-on and learn by doing
- Individual and group activities
- Case studies and learning from others' experience
- Open discussion, questions and answers
- Develop a sense of community and network within the group

We believe on very participatory learning so... (present above points)

Slide 15

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# Thank you

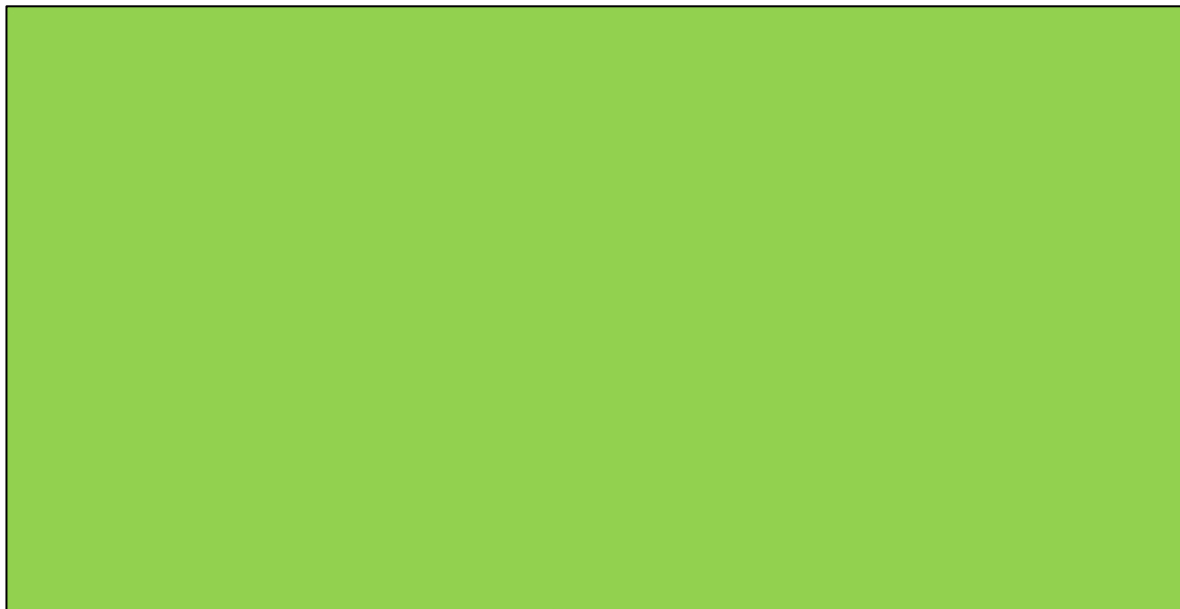
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Slide 16



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## Session 2: CWIS- Concept and Introduction

### Slide 1

# Citywide Inclusive Sanitation Scaling and Sanitation Innovation

**NON-SEWERED SANITATION SYSTEM**

**SEWERED SANITATION SYSTEM**

## CWIS- Concept and Introduction

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person

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### Slide 2

# Sanitation

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Link : What comes in your mind while we say Sanitation?

Possible answers: toilet, hand washing, waste management, cleaning, etc.

Slide 3

## Sanitation








While different things, feelings, achievements, failures or anything that come across our mind while we hear the word sanitation, but let us start from the achievement itself. Nepal achieved a huge milestone in sanitation sector by declaring the nation as an ODF and celebrated it with various programs and events.

Slide 4

## Training Structure

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Training Opening	CWIS: Concept and Introduction	CWIS Outcome: Equity	CWIS Outcome: Safety	CWIS Outcome: Sustainability	CWIS System: Responsibility and Accountability
<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
CWIS System: Resource Planning and Management	Legal and Institutional Framework	Urban Sanitation Options	Monitoring and IMIS	Applying CWIS Lens and Field Visit	Training Closing

This training includes 10 main technical sessions, and are currently on session 2, CWIS concept and introduction.

## Slide 5

### Learning Outcomes

---

- Discuss on sanitation movement in Nepal.
- Describe the Citywide Inclusive Sanitation Approach (principles and framework).



## Slide 6

### Presentation Outline

---

- Sanitation movement in Nepal
- Legal provisions related to urban sanitation
- Current sanitation practices
  
- CWIS- concept
- CWIS principles and framework
- CWIS perspective in sanitation service chain

Slide 7

## Success



30  
September  
2019

5,660,214 toilets

8 Year's effort  
Invested  
Rs. 75,000,000,000

Source: NepaliSansar

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Nepal was declared ODF in 30<sup>th</sup> September 2019

For the ODF declaration- 56 lakh 60 thousand 2 hundred and 14 toilets were constructed with 8 years of effort.

For the same, total investment: NRS 75 arab, that is, NRS. 75 billions

Slide 8

## Reason behind the achievement



सरसफाइ गुरु योजना  
(Sanitation and Hygiene Master Plan)

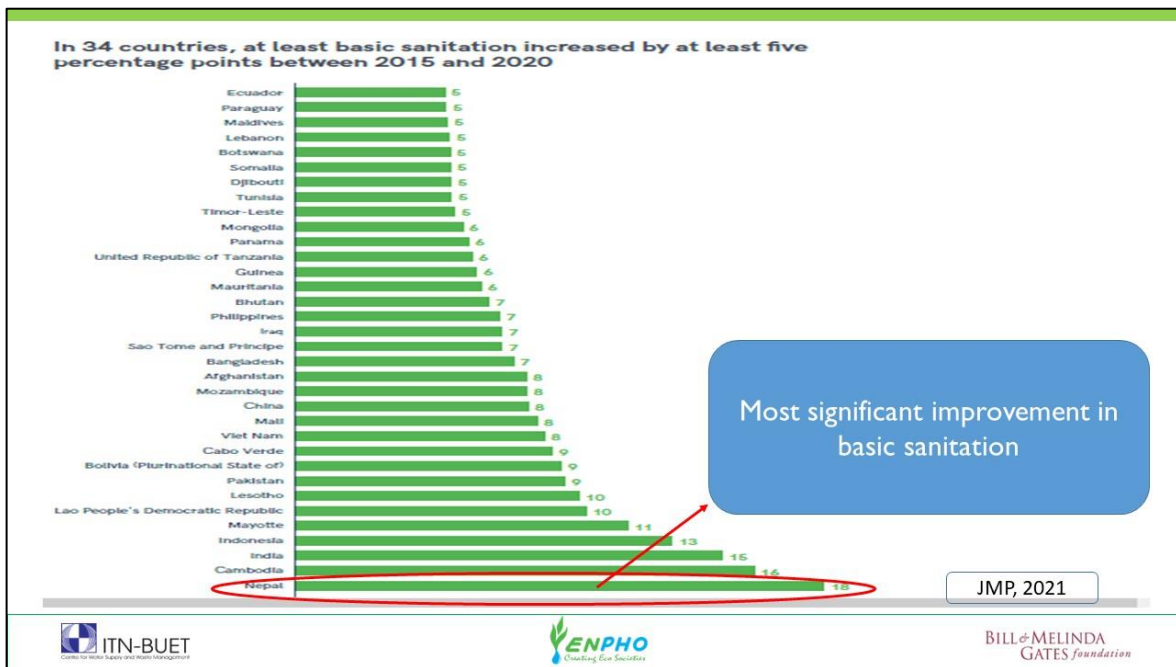
पूर्ण सरसफाइ मार्गदर्शन-२०७३

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Inform that the ODF movement was guided by the Sanitation and hygiene master plan, 2011 and hence forward after achieving the ODF, next target- “safely managed sanitation for all”, has been set by the total sanitation guideline, 2073.



Slide 9



Nepal made the most significant improvement in basic sanitation between 2015 and 2020.

Slide 10

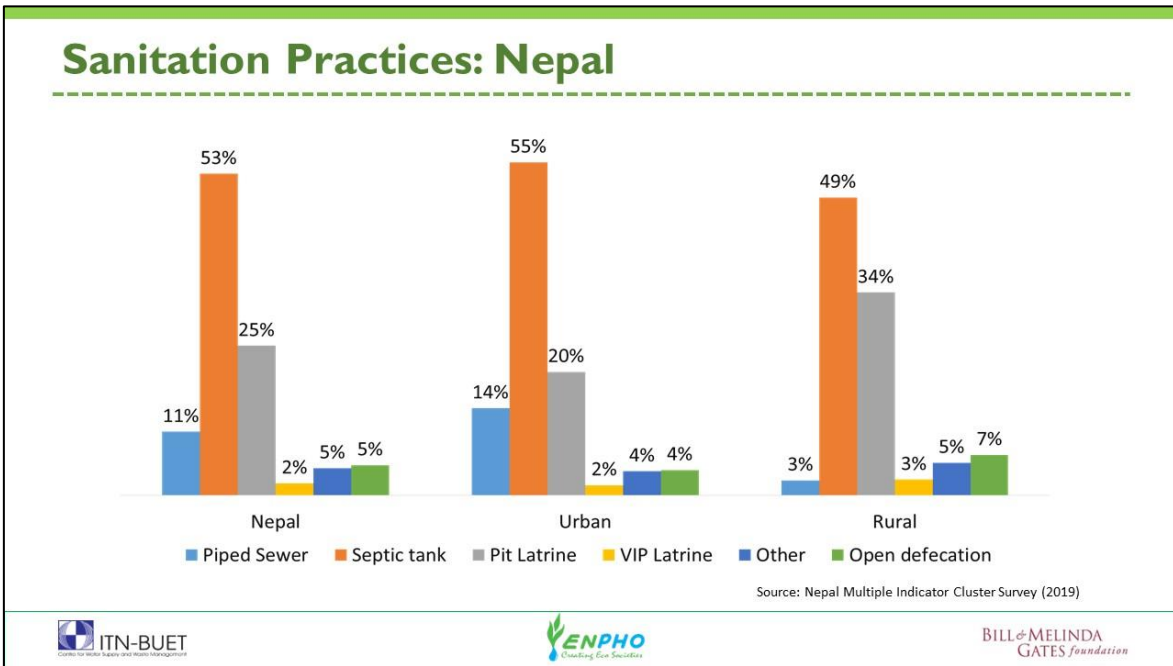
### Safely Managed Sanitation

Service Level	Definition
<b>Safely Managed</b>	Use of improved facilities that are not shared with other households and where excreta are safely disposed of in situ or removed and treated offsite
<b>Basic</b>	Use of improved facilities that are not shared with other households
<b>Limited</b>	Use of improved facilities that are shared with other households
<b>Unimproved</b>	Use of pit latrines without a slab or platform, hanging latrines or bucket latrines
<b>Open Defecation</b>	Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches or other open places, or with solid waste

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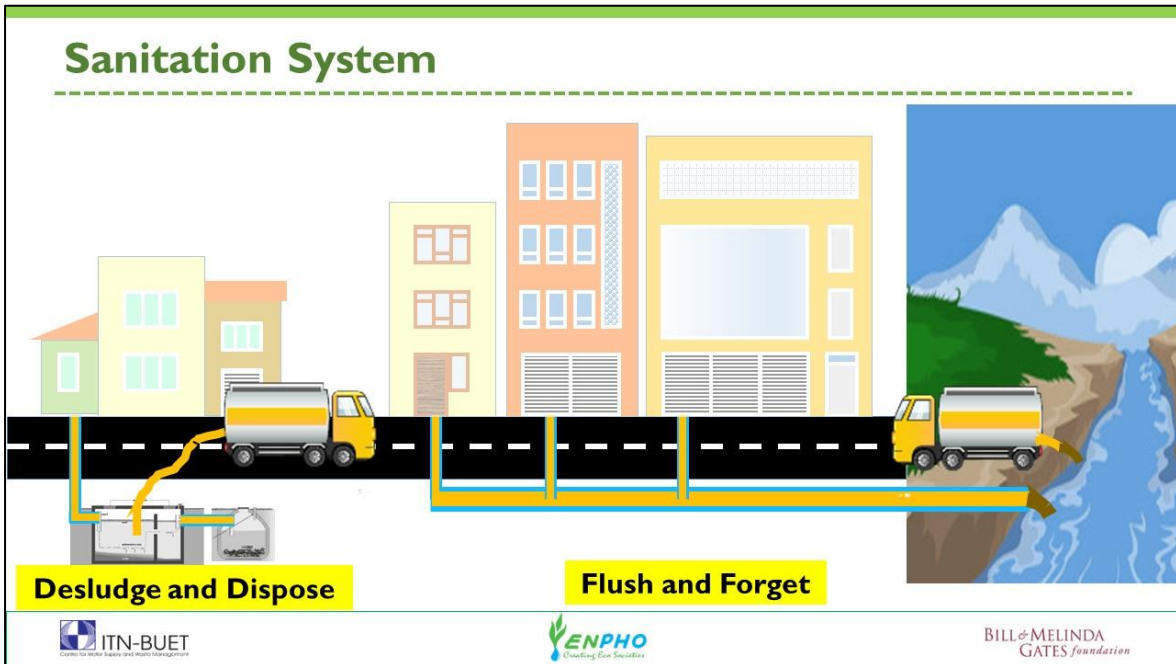
Sanitation services is defined as per the level achieved in terms of sanitation starting from open defecation to unimproved to limited to basic to safely managed sanitation where the terms are defined as above.

Slide 11



This figure shows the distribution of Nepal’s household population using improved and unimproved sanitation facilities that are private, shared with other households, or public facilities. Those using shared or public improved sanitation facilities are classified as having a ‘limited’ service for the purpose of SDG monitoring. Households using improved sanitation facilities that are not shared with other households meet the SDG criteria for ‘basic’ sanitation service, and may be considered ‘safely managed’ depending on how excreta are managed.

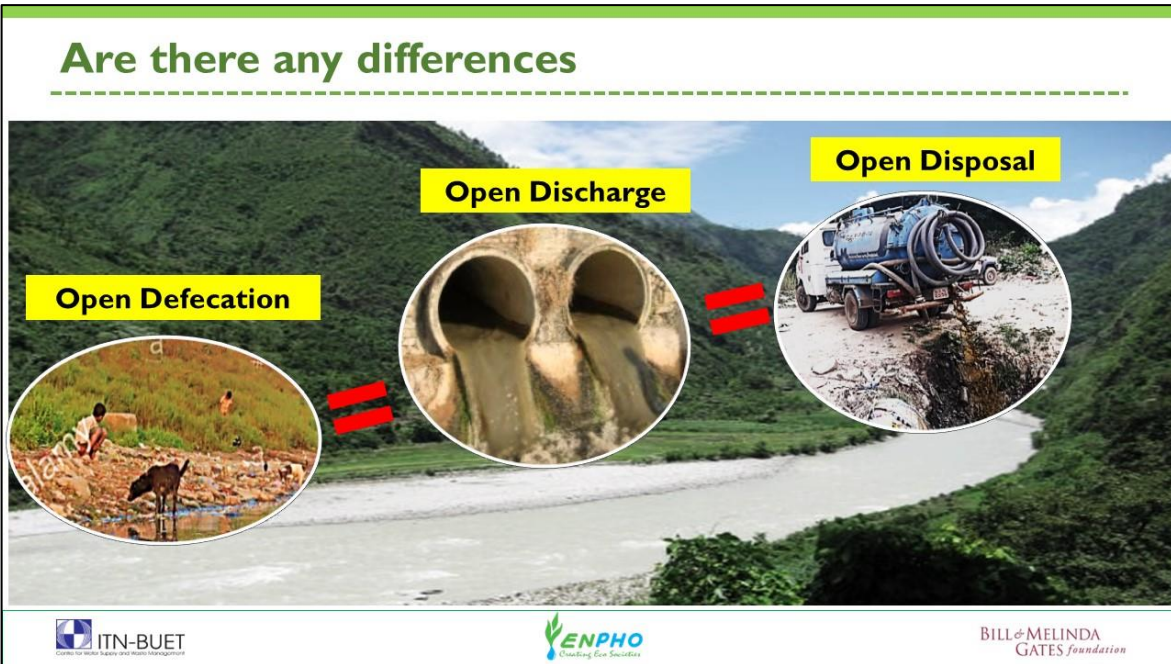
Slide 12



In general, there are two types of sanitation systems: on-site and off-site sanitation systems.

In on-site sanitation systems, the sludge is collected in containment and is desludged. For off-site sanitation, wastewater is transported through a sewer network. In either system, waste should be treated before disposal. However, due to lack of treatment systems, the common practice of on-site sanitation is desludging and disposal of fecal sludge, and flushing and forgetting the wastewater.

**Slide 13**



Nepal has been declared an ODF country. However, the wastewater generated from toilets is going into the environment without any treatment. Therefore, the goal of ODF, which is to safeguard the environment and public health, is not fully achieved. Fecal matter is going into the environment via several different pathways.

**Trainer note:** While describing the slide, make sure not to make it a “blame game.”

Slide 14

## Consequences

**Target/Dream**

**Current scenario**





This the consequences of all the above activities on sanitation. One intend or target the first picture, clean and safe environment while the current scenario is as in other pictures where water bodies are contaminated with FS, WW, and SW. This is the dream that we aspire and the current situation that we live in.

Slide 15

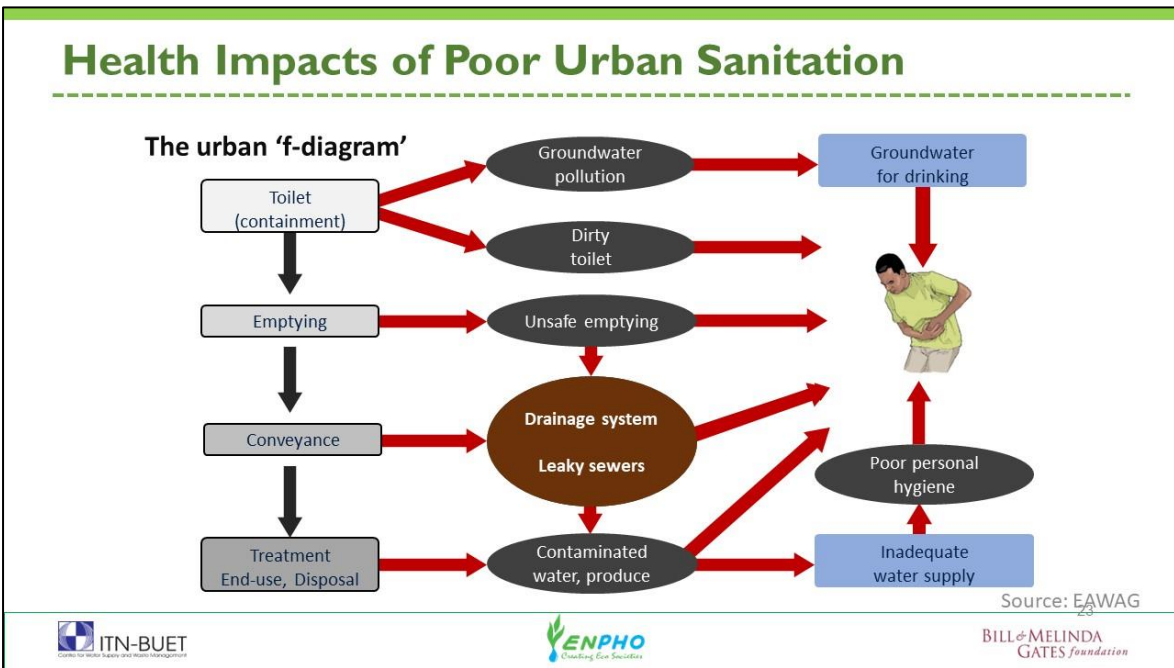
## Consequences





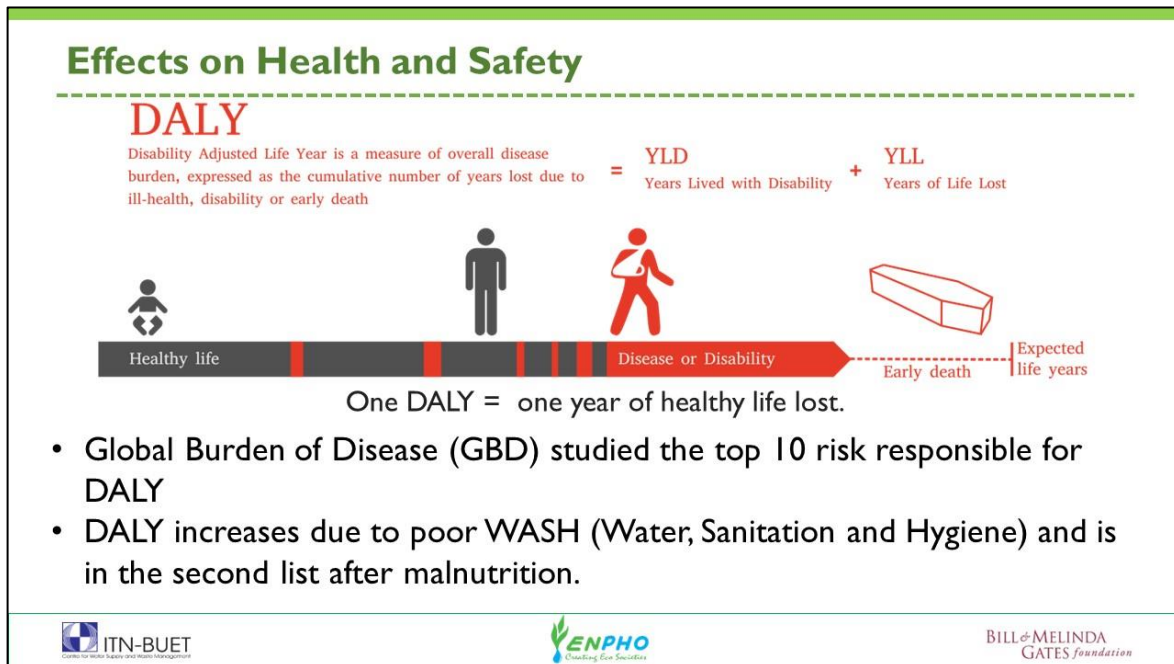
These are the consequences of unmanaged sanitation services. Or result of discharging FS and WW in the open water body.

Slide 16



As you can see, the whole of urban sanitary services and public health are inter-dependant and inter-related. In other words, they are an **integrated system**. Improper toilets and containment result in groundwater pollution, impacting the health of population. Similarly, in the case of emptying and conveyance, unsafe and leakages negatively affects public health. With the lack of treatment plants, untreated wastewater and FS gets into the environment, which has environmental and health consequences. Moreover, occupational health and safety is always at risk, if providers of sanitary services do not use proper personal protective equipment (PPE).

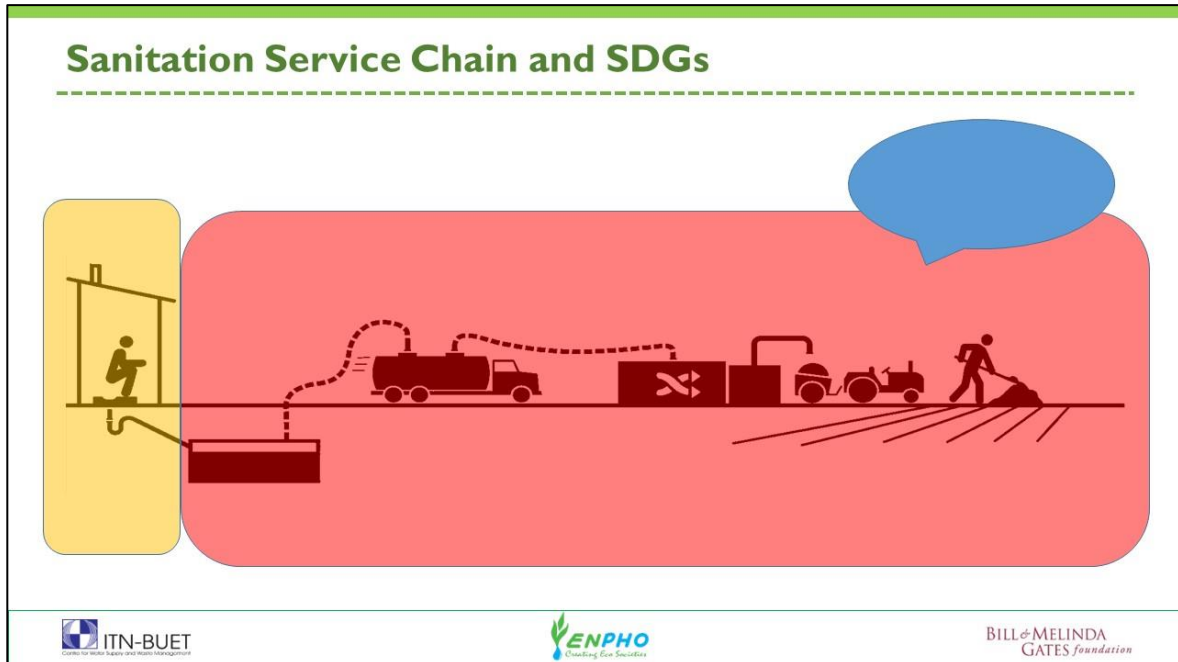
Slide 17



DALYs for a disease or health condition are the sum of the years of life lost to due to premature mortality (YLLs) and the years lived with a disability (YLDs) due to prevalent cases of the disease or health condition in a population.

One DALY represents the loss of the equivalent of one year of full health.

### Slide 18

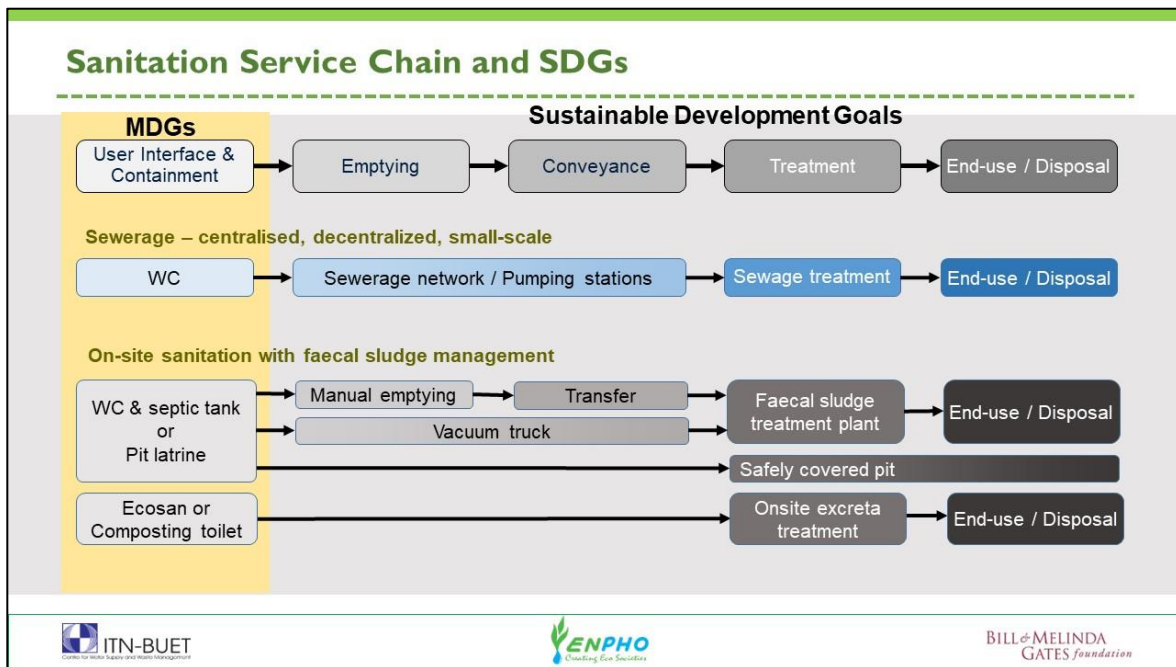


Basically, meeting safely managed sanitation means covering all of the components of sanitation service chain.

Sanitation service chain is combination of different functional units (from the user interface that is toilet to containment, emptying and transportation to treatment and safe disposal or reuse) that allow to manage safely the waste produced from human activities in order to protect public health and the environment health

As up to the basic sanitation, availability of latrine was focused among the components of sanitation service chain. Further, other components should be focused.

Slide 19



MDG was a Toilets Only Approach, quantitative measurement

SDG calls for achieving Safely Managed Sanitation for ALL

This means inclusion of whole sanitation service chain along with the qualitative measures

Slide 20

### Sanitation and Urban Sanitation



**Sanitation**

- Defined as provision of facilities and services for the safe disposal of human urine and feces
- Also refers to the maintenance of hygienic conditions through services such as garbage collection and wastewater disposal (WHO)

**Urban Sanitation**

- Sanitation related to the urban context
- Can be categorized as solid waste management, fecal sludge management, or wastewater management





Ask participants: What does one understand by sanitation and urban sanitation?

Click and discuss definition from Total Sanitation Guideline of Nepal.

Click and discuss definition of sanitation from World Health Organization (WHO).

Click and explain that urban sanitation is the sanitation in the urban context. Urban sanitation can be categorized as solid waste management, fecal sludge management, or wastewater management.

Slide 21

### Why focusing on FSM?

Which one is more serious for public health?



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So, out of all urban sanitation issues, why do we need to focus on FSM? Are not these all equally relevant and need to address it? Or which one is more serious for public health and why?

Slide 22

### Technological updates



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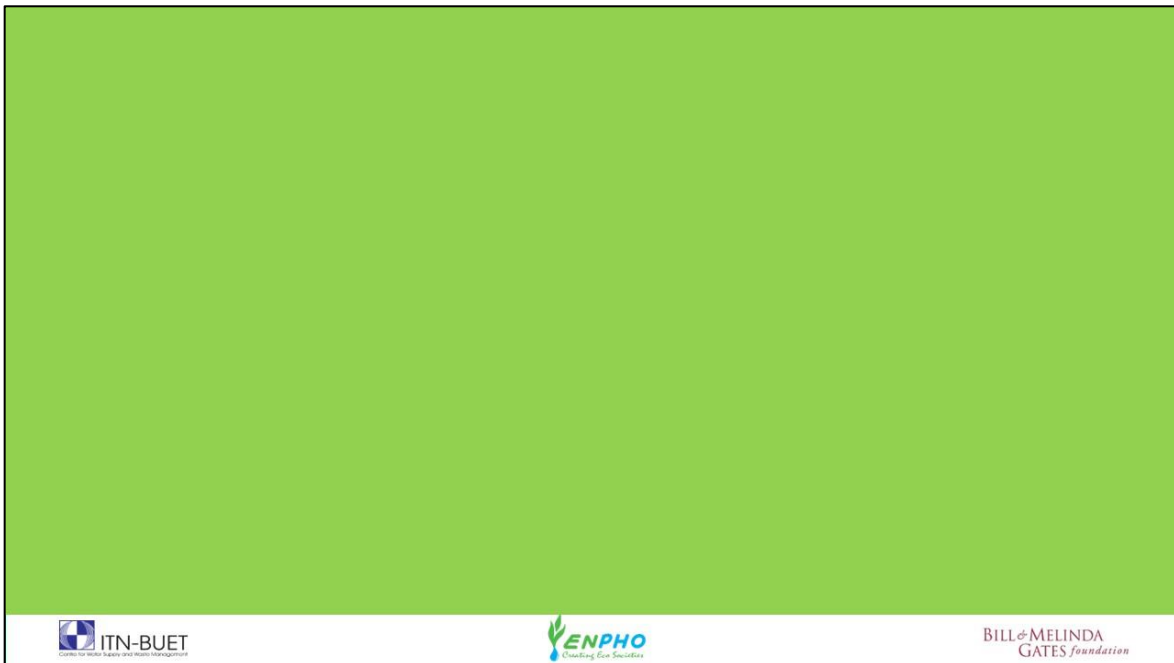
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For the management of FS, which is of public health concern, many innovations are taking place, many researches are going on for the proper management from the nature based to



transformative technologies which will be discussing in detail in Urban sanitation option session

### Slide 23



Ask if participants have any queries or questions. Discuss as per the requirement and interest of time.

### Slide 24

## Facilities under Urban Sanitation

- Public Toilet
- Sewerage system for wastewater management
- Wastewater Treatment Plant
- FSTP
- Dustbin or waste collection bin
- Drainage for rain-water collection
- Waste collection Station



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What type of urban sanitation facilities are constructed in your city or municipality?

Possible answers: Public toilet, drainage, FSTP, etc.

Very good that is necessary enough, BUT.....

Slide 25

Let's think for a moment..

Why do you think municipalities has constructed these infrastructure ?

Protect Public Health

As a social service provider, it is our major responsibility.



Why we construct these urban service facilities: Seek the answers and present your answers.

The main objective is to protect PUBLIC HEALTH

This is only one objective of public service providers.

Slide 26

Why is this happening ????



But why we get this kind of news after few months? Why is the conditions of the facilities like this- toilet and wash basin is clogged, there is no lock in the door, or there is no water or soap

What is this happening?

Share your idea around this.

Possible answer

*Lack of plan for proper O&M*

*Proper monitoring mechanism*

*Lack of human resources with technical information*

*Lack of clear mandates and accountability*


*Not inclusive of all*

This is a case of public toilet only, what about others like FSTP, Drainage, DEWATS, WWTP???

## Slide 27

### Let's think and answer...

- Is there any person/organization appointed for the operation and management of these facilities ?
- Is there any guidelines or performance indicator for the operation of these facilities ?
- Is there proper resources management for the facilities ?
- Are these facilities useful/accessible for all ?
- Are the facilities safe to use ?
- Are the facilities or services sustainable ?



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Let's think about these questions and try to get answer while constructing such urban sanitation facilities?

Let's ensure this questions while planning...

## Citywide Inclusive Sanitation

---


An approach to provide safe and sustainable urban sanitation services to all residence

Public Health


Sanitation systems/  
services

Citywide Inclusive


Responsible and accountable service authorities with proper resource planning and management



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One needs to focus on the public health outcomes and **to achieve a significant public health impact** (positive impacts)....

It's not enough to simply **provide sanitation systems and services**. As you can see from this diagram – that's pretty unstable!

These systems and services must be **city-wide**, and **inclusive** of both **formal** and **informal** areas.

For example, if its City-wide but not inclusive, it will still not achieve the desired public health outcomes.

CWIS builds on, rather than replaces, existing systems of sanitation delivery, based on resources and needs of cities and promotes sanitation systems that foster a process of continuous improvement.

CWIS creates demand for technology and business model innovation. Investments made by the private sector can become meaningful, formalized, and relevant beyond niche markets and pilots.

## Slide 29

### Citywide Inclusive Sanitation (CWIS)

An **approach to urban sanitation**, where **all members of the city** have equitable access to adequate and affordable improved sanitation services through appropriate systems of all scales (**sewered & non-sewered**), without any contamination to the environment along the entire sanitation value chain.



(© Narayan and Lüthi 2020)

Citywide Inclusive Sanitation (CWIS) is a public service approach to planning and implementing urban sanitation systems to achieve outcomes summarized by Sustainable Development Goal 6: safe, equitable, and sustainable sanitation for everyone in an urban area, paying special attention to the needs of the poor, the marginalized, and women and girls.

## Slide 30

### Guiding Principles of CWIS Approach

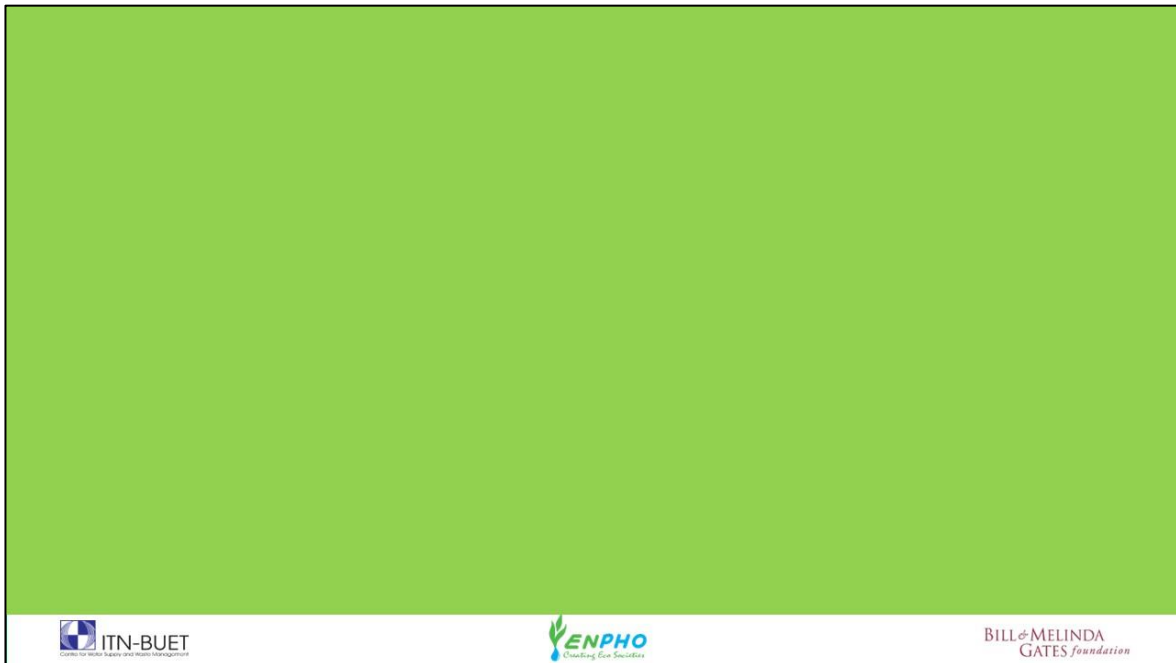
- Sanitation is a human right
- 'Business as usual' will not sustain (centralized systems cannot provide sanitation for all)
- Poor sanitation brings down the economic growth of cities
- Collaboration for shared responsibilities and work



- Access for all: Prioritize the human right of all to sanitation
- Whole sanitation system: Deliver safe management along the whole sanitation service chain
- Thriving economy: Recognise that sanitation contributes to a thriving urban economy

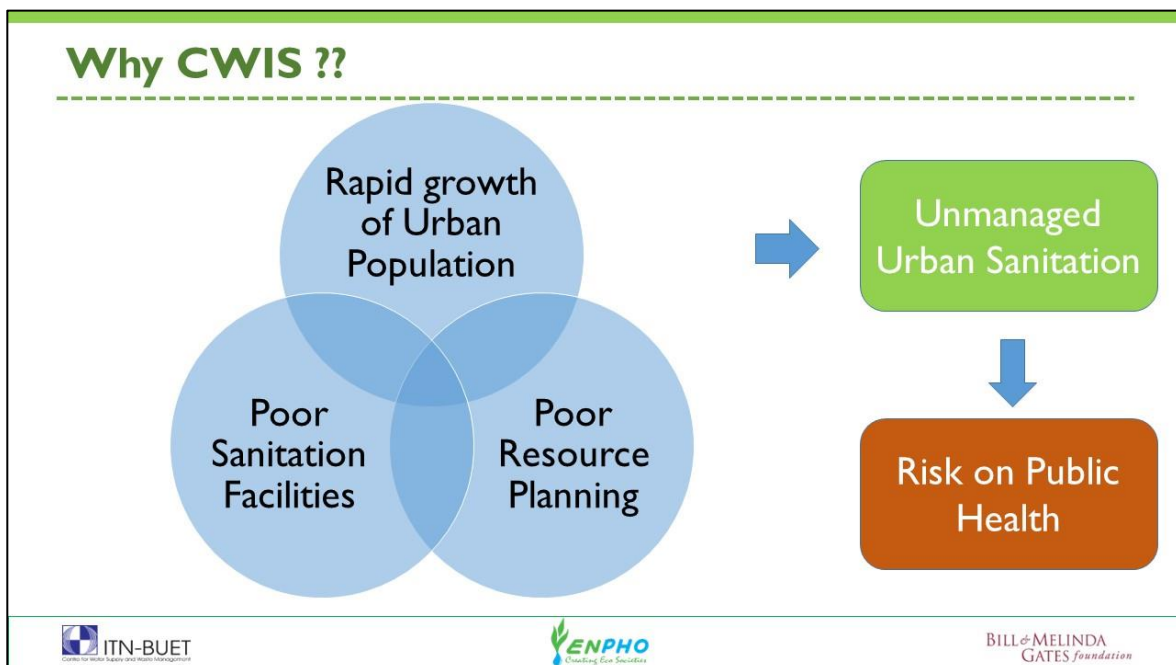
- Working partnerships: Commit to working in partnership to deliver citywide inclusive sanitation

**Slide 31**



Ask participants if they have any queries or questions up to now. If yes, discuss with participants.

**Slide 32**

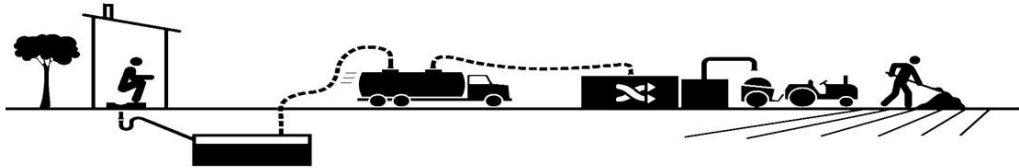


The reason is cities are growing, population is also growing. It causing the excessive use of available sanitation facility and inadequate and poorly managed facility because of poor management of resources.

## Slide 33

### Changes in aspect of Sanitation

- Addressed all Sanitation system
- Include sewerred and non-sewerred technology
- Proper coordination in planning and management including the sectors of Solid waste, sewerage, drinking water, land management
- Result based analysis
- Include all community people



Defining all these perspectives, as the solution for urban sanitation, we need a...

## Slide 34

### Principles of CWIS



As per the CWIS, there are 7 principles:

Slide 35

## Principles of CWIS

---

### Principles of CWIS

**Everyone** in an urban area, including the urban poor benefits from equitable safe sanitation service

**Gender and social equity** are designed into planning management, monitoring

Human waste is **safely managed** along sanitation service chain, starting with containment

**Authorities** operate with a clear, inclusive mandate, performance targets, resources and accountability

Authorities **deploy a range of funding, business and hardware** approaches – sewerer/ non-sewerer to meet goals

**Comprehensive long-term** planning foster demands for innovation and is informed by analysis of needs/resources

**Political will** and accountability systems incentivize service improvements in planning, capacity and Leadership

**In pairs**  
**5 minutes**

Divide participants into pair or in the group of 3 and ask to discuss what are the main points covered in each of the principle.

Provide 5 minutes time for the discussion and after the time ask a pair/group with Principle one to present the points discussed.

Present following slide of principle I adding to the points presented by the group.

Similarly repeat the process with other groups as you proceed with other principles.

Slide 36

## CWIS Framework

---

**CWIS FUNCTIONS**

- National/State Level
- City Level

**CWIS OUTCOMES**

EQUITY      SAFETY      SUSTAINABILITY

RESPONSIBILITY      ACCOUNTABILITY      RESOURCE PLANNING AND MANAGEMENT

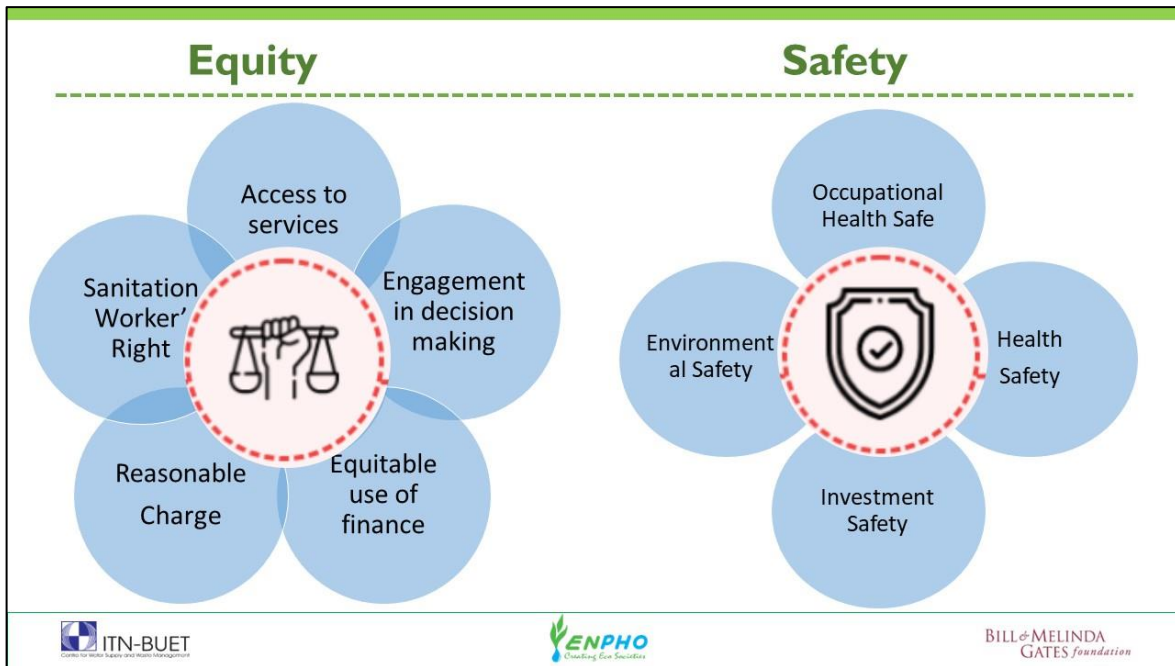
Citywide Inclusive Sanitation (CWIS) initiative support to redesigning urban sanitation service systems of cities. This approach is aimed at advancing safe, equitable, and sustained



services across each city, with a focus on ensuring services reach women, girls, and low-income communities.

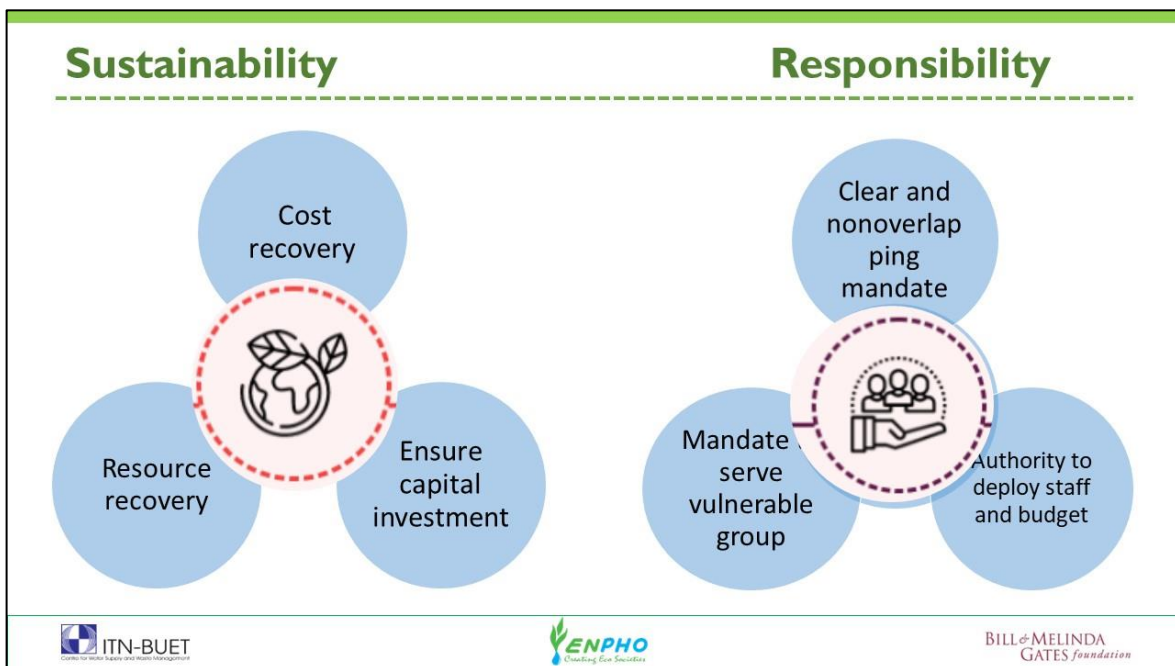
By strengthening the design and implementation of core public system functions of Responsibility, Accountability, and Resource Planning and Management, Citywide Inclusive Sanitation (CWIS), a public service approach advance to Equitable, Safe, and Sustainable outcomes.

**Slide 37**



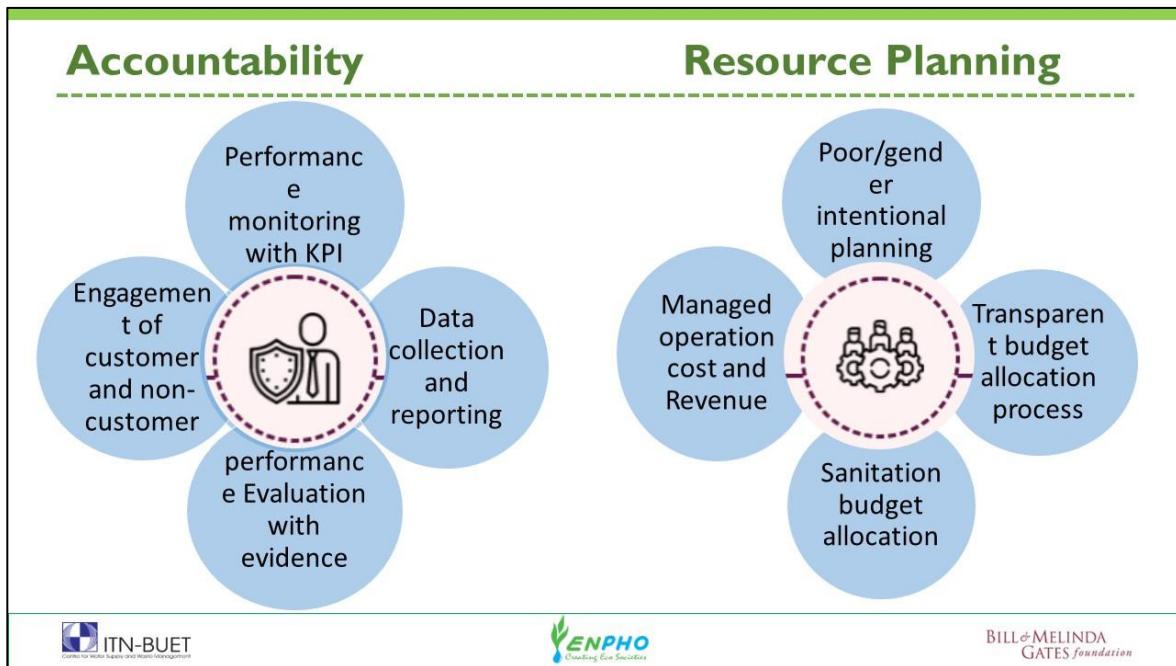
Equity and safety in CWIS address the above-mentioned points. Detail on each of the points will be discuss further in each session of the CWIS framework.

**Slide 38**



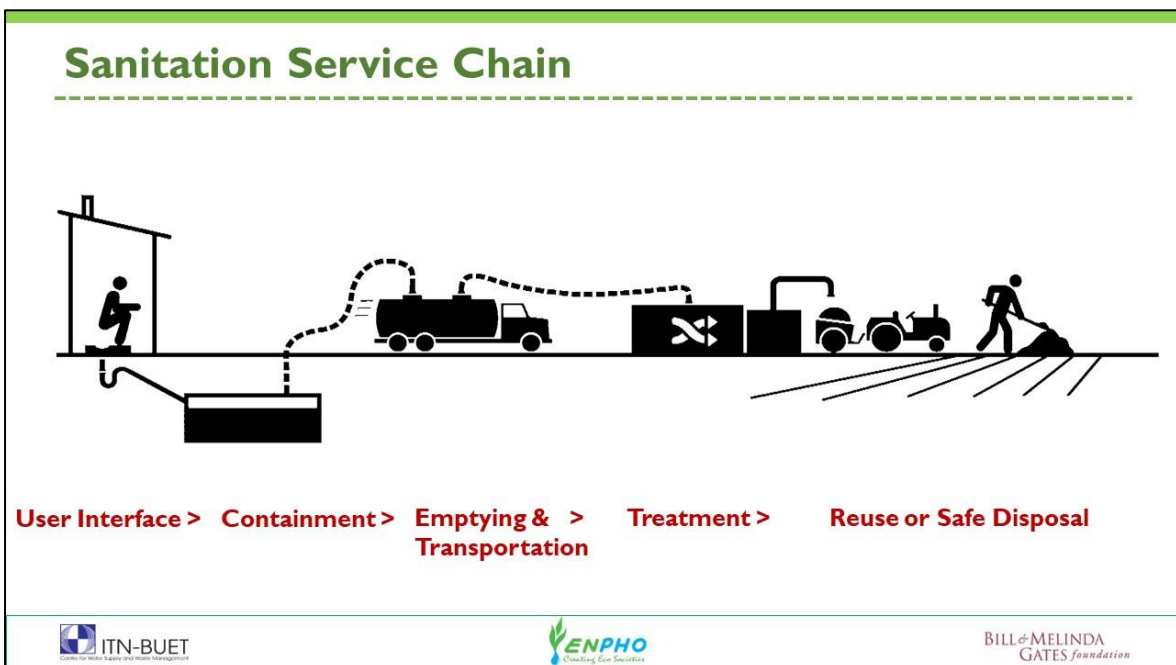
CWIS address the above-mentioned points.  
 Detail on each of the points will be discuss further in each session of the CWIS framework.

**Slide 39**



CWIS address the above-mentioned points.  
 Detail on each of the points will be discuss further in each session of the CWIS framework.

**Slide 40**



Similar to the example presented earlier that of public toilet or the user interface, we need to consider applying CWIS lens through-out the sanitation service chain, from user interface to containment to desludging and transportation to treatment and to safe disposal or reuse.

## Explain in detail

Example:

Containment, it should be safe and well-constructed as per the proper design, it should be affordable (may choose various technique for this or provide subsidy to the needed. For this, the responsible authority should have a clear mandate with proper monitoring mechanism for accountability part as well as should have a good resource planning and management for the same.

Similarly, it is same though-out the other components of SSC; desludging and transportation, treatment and safe disposal or reuse.

Inform participants that the CWIS approach can be implemented in any sector.

### Slide 41

## CWIS is equally applicable for.....

- FSM
- Wastewater
- Solid Waste
- Public Toilet
- Drainage



While we discuss on CWIS, it is an approach to make the sanitation services equitable, safe, sustainable with the fulfillment of the CWIS functions, responsibility, accountability and resource planning and management.


To this, the approach can be implied in any sector of sanitation services or in any other services. One of the example of applying CWIS is the video on next slide.


**Slide 42**

-----

## Applying CWIS lens in Public Toilet

<https://www.youtube.com/watch?v=iOJaOtE19xY>




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The video presented is an example of applying CWIS lens in a public toilet  
Similar perspective can be used in any sanitation services.


**Slide 43**


## Applying CWIS lens, Identify the intervention to address

-----



6 Groups  
5 minutes



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Participants are going for a group work where they will be divided into 6 groups and will be provided 5 minutes time for the activity.




Each group will get a topic as per the CWIS framework and they are to make notes on what strategies were applied in the earlier video to meet the particular component assigned to the group.

Ask them to write on the meta card the points they identified while watching video related to the topic they got.

Give 5 min and make them paste on the blank framework flex after explaining each.

**Slide 44**

<b>Applying CWIS lens, Identify the intervention to address</b>			
<b>Service Outcomes</b>	<b>EQUITY</b>	<b>SAFETY</b>	<b>SUSTAINABILITY</b>
<b>System Functions</b>	<b>RESPONSIBILITY</b>	<b>ACCOUNTABILITY</b>	<b>RESOURCE PLANNING &amp; MANAGEMENT</b>

Ask the participants into 6 groups and handover one topic to each group like safety, equity, sustainability.....

Ask them to write on the meta card the points they identified while watching video related to the topic they got.

Give 5 min and make them paste on the blank framework flex after explaining each.

**Slide 45**

<b>Key Messages</b>
<ul style="list-style-type: none"> <li>• Safely managed sanitation is next target in sanitation sector</li> <li>• CWIS is an approach to meet the safely managed sanitation for all</li> <li>• CWIS is a public service approach to planning and implementing urban sanitation systems</li> <li>• CWIS approach can be used through the sanitation value chain to ensure service provision with safe, equitable and sustainable</li> <li>• Easy and simple actions can be taken to ensure safety, equity and sustainability</li> <li>• This approach can be applied in all sanitation services</li> </ul>





Slide 46

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# Thank you


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Slide 47



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## Session 3: CWIS Service Outcome- Equity

### Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation



**CWIS Service Outcome- Equity**

**Training on Introduction of Citywide Inclusive Sanitation Approach**

Resource Person



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### Slide 2

### Instruction for Intro


---

1. Inform participants that they are going for a small role play.
2. For this, participants will get a scenario and a chit of paper with a role in it.
3. Inform further that as per the role assigned to them (through a chit), they are to move around the hall and stand as per the corner/ station that has been set up.
4. Ask participants if they are clear on the activity.
5. Provide a cut pieces- chit with different roles to each of the participants and ask to imagine themselves.
6. Present the case scenario.
7. After the case scenario, ask participants what kind of participation will be there in the meeting.
8. Ask participants to move around the hall and stand in the station where they think their participation level will be.


- Once all the participants have placed themselves to a station, present the slide with question and discuss with participants



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Carry out the activity as per the instruction on the slide.

### Slide 3

Municipality - Mayor	Sanitation Service provider (Regular waste collector) (M)
Municipality - Deputy Mayor	Sanitation Service provider (Regular waste collector) (F)
Municipality - Chief Administrative Officer (M)	FSM service provider in home (M)
Municipality - Planning Section Chief (M)	Ward Member from Dalit
Municipality - Social Section Chief (M)	Proprietor from private Waste Management
Municipality - Health Section Chief (F)	Squatter representatives from Municipality (M)
Municipality - GESI contact person (F)	Squatter representatives from Municipality (F)
Ward Chairperson (M)	Social worker from main cities (M)
Ward Member Female	Social worker from main cities (F)
Chairperson Toile Improvement Committee (M)	Representative from School (F)
Chairperson Mothers Group	Manager from Vegetable market (M)
Waste collection vehicle or rickshaw driver (M)	Representative from industries and company in cities (M)
Sewerage Service provider	Hardware Business (M)
	Media person (F)

List of stakeholders to be printed for the role-play (refer to the lesson plan for the print)

### Slide 4

## Before Starting...

### Role Play

The municipality has received a fund of Rs 3 crore and that fund is for construction and operation of FSTP. Detail planning and implementation and operation have to be done by the municipality. So, Municipality decided to organize a planning meeting with different stakeholders.



## Slide 5

### Before Starting...

---

#### Stations

- Active Participation
- Passive participation
- Could not attend due to busy schedule
- No information

## Slide 6

### Summary

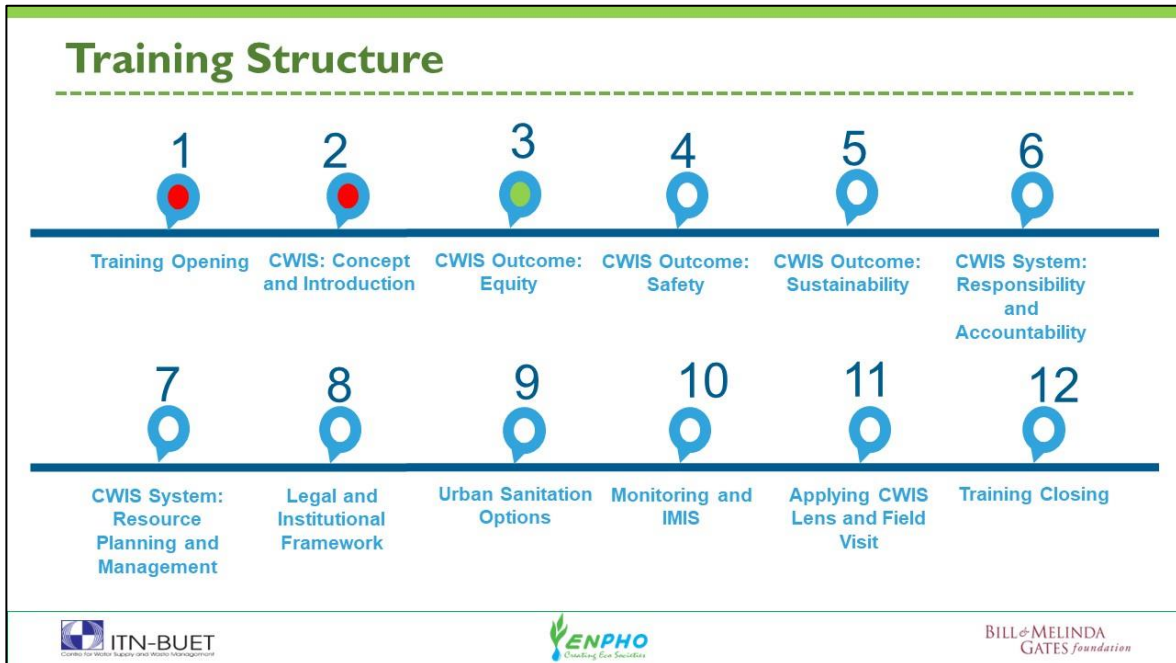
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- In which station the number is maximum ? Why ?
- In which station the number is minimum ? Why ?
- Don't you think this work is relevant to all the stakeholders ?
- How would the situation be like ?

Citywide inclusive Sanitation involve all the stakeholders and assure for their meaning participation.

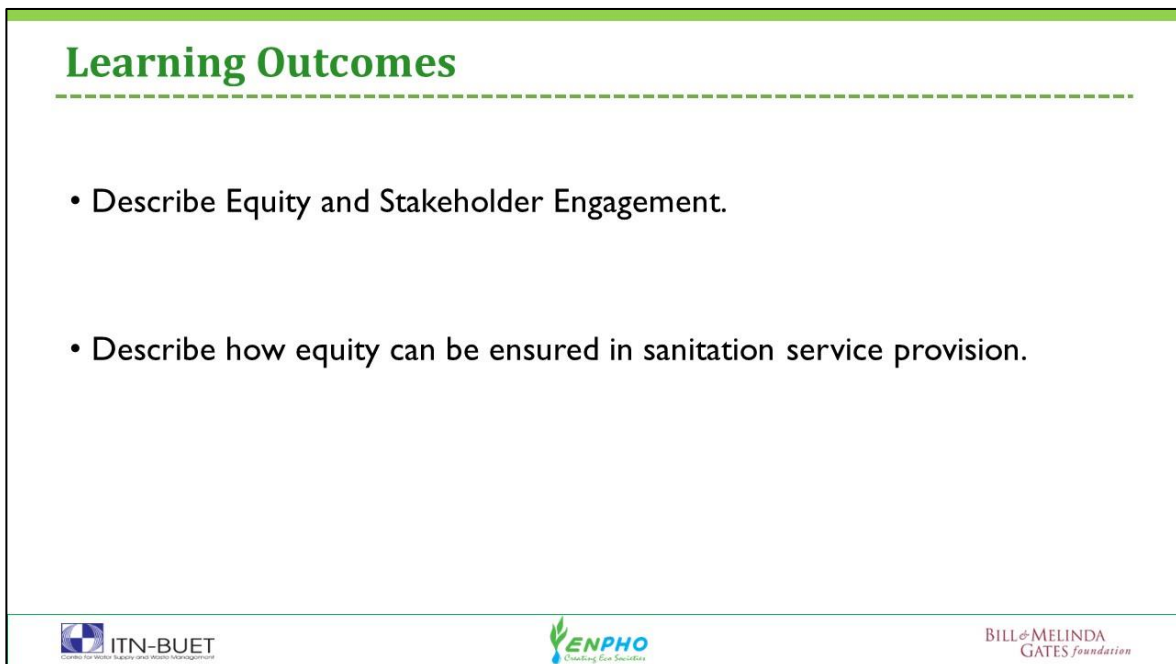
CWIS approach talk about inclusive and meaning engagement of the relevant stakeholders (Low income communities, sanitation workers, PWD, people living in scatter community ) and their rights ,gender equity

## Slide 7



This training includes 10 main technical sessions, and are currently on session 3, CWIS outcome: Equity

## Slide 8



At the end of the session, participants will be able to...

## Slide 9

### Presentation Outline

- Equity, Equality and Justice
- Equity in CWIS framework
- Access to sanitation services

## Slide 10

???



### Equality

All have equal access to all services

### Equity

Provide services as per the need

### Justice

Services access to all without any legal issues

Presenting the pictures, ask participants to analyze the picture.

Provide a minute time

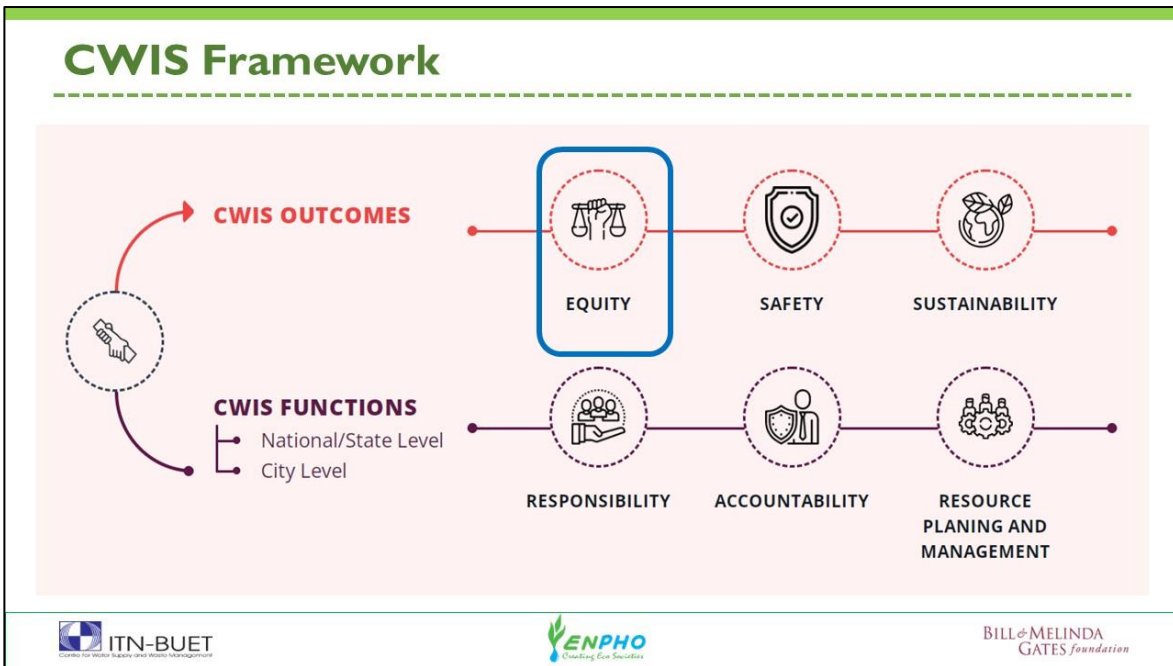
Ask a participant to share his/her idea on the pictures (if possible, only in first picture and ask another participants to explain idea on other 2 pictures)

After sharing from their perspective, present the definition and explain each term and concept.

Further add on information, Equity involves “recognising that people are different and require specific support and measures to overcome the specific impediments that stand in

the way of their being able to access and use services sustainably, in this case safe sanitation and hygiene practices”

**Slide 11**



Citywide Inclusive Sanitation (CWIS) initiative support to redesigning urban sanitation service systems of cities and in the particular session will be discussing on measures to equitable sanitation services.

**Slide 12**

**Equity in CWIS Framework**

**Equity**

- Service reflect fairness in distribution and
- Prioritization of service quality, prices, and deployment of public finance/subsidies

- Constitution of Nepal- Sanitation is basic human right
- SDG- Sanitation for all; accessible to all

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Explain the slide starting from the need for discussion on equity is led by the Constitution of Nepal itself as well as the SDG.

Further present what equity in CWIS means and Equity means positive discrimination, it must take sides, equity is not impartiality. Partiality in the process for the equal end result for all.

### Slide 13

## Equity in CWIS Framework

- ✓ Do **all** have **equal access** to sanitation service ?
- ✓ Do those infrastructure and services **friendly** to all ?
- ✓ Are those services and facilities **affordable** to all ?
- ✓ Does the municipality have managed any **subsidies for low-income, remote, and marginalized group** ?
- ✓ How about the **female participation in decision making** ? How about the participation of **LGBTIQ, physically disabled, Dalits, and poor people in decision making** ?
- ✓ How about people **perspective towards sanitation workers** ?

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While discussing about the sanitation services, let us reflect:

### Slide 14

## Access to Sanitation Service | Equity



Proportionate of urban and low income communities in access to toilet and safely management

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Inform participants if the accessibility to sanitation services is same throughout the city, including both types of settlement (low-income community)

Ask if the services provision are proportionate or not, that is throughout the city and to the low-income community.

Slide 15

## Access to Sanitation Service | User Friendly



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Could these services even be counted in accessibility or not?  
Are these facilities user friendly?

Slide 16

## Access to Sanitation Service | User Friendly



PahiloPost  
Jul 21, 2022 | ५ साउन २०७९

HOME POLITICS NATIONAL ENTERTAINMENT SPORTS CRIME PHOTO NEWS HEALTH COURT

जेन्डर न्यूट्रल ट्वाइलेट माग्दै लैंगिक अल्पसंख्यक,  
'छिर्नुपर्छ 'पुरुष' लेखिएतर्फ तर महिनावारीमा झनै  
सकस'

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This kind of news making headlines shows us the gender inclusion in sanitation service provision

Slide 17

## Sanitation Service are Affordable to all



If the services being provided are affordable or not  
Paying certain charges might not be a problem to a certain group but will it be same to all?  
What about the person who is living his/her life on daily wages? Will it be possible to pay for each use?

Slide 18

## Subsidies on Sanitation Service



Sanitation Services in peri-urban area



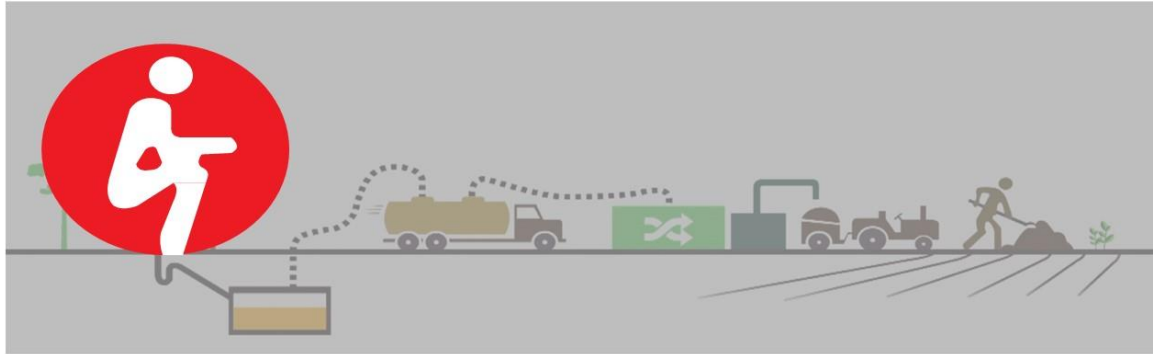
Sanitation Services in urban area

This slide questions on the equity of the investment of each household along with the distribution of public finances.  
As a core city area have a huge finance in Sewered Sanitation while the peri-urban area has less investment of public finances hence an individual households must invest hugely on sanitation services.

Slide 19

## Stakeholders' Engagement

In the Sanitation Service Chain, the person sitting in the pan (toilet) is the major part, but s/he is not considered.



We are talking about chain not about this person, but the person him/herself is a relevant stakeholder. And equity is only achievable when we have engaged the relevant stakeholder which is missing while discussing about the entire sanitation service chain.

Slide 20

## Perspective towards Sanitation Worker



While discussing on the equity, are we fair with the sanitation service providers? Are we fair with the social perspective that these workers are seen through?  
To this, what about the special needs of women like at the time of menstruation, are they being addressed?



What about the sexual misbehavior at workplace if it is being discussed and addressed or not?

### Slide 21

## Results

**Routine of Nepal banda** 13h · 🌐

Sad News: Chitwan ko Rampur ma safety tank safa garne bela 2 jana ko death vayeko cha. Suru ma ek jana faseko awatha ma bachauna jada arko ko pani death vayeko khuleko cha. 😞

😞👍 21K 899 Comments 32 Shares

👍 Like    💬 Comment    ➦ Share







Sanitation workers takes these kind of life threatening risk for us but we are not able to provide them a neutral perspective, is it equitable?

### Slide 22

## Problems and Issues

- Lack of rules and regulation or weak planning
- Gender Equality and Social discriminator
- Geographical discrimination
- Professional discrimination





To sum up the whole issues, we can list the issues as such:

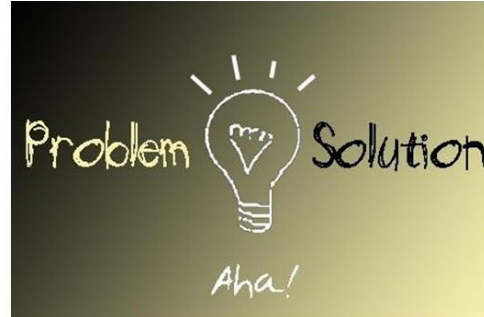
Let us go for a group work where participants will be divided into 4 groups and each group will get a topic/ problems and issues from the slide.

The groups are to discuss on the measures to overcome such problems and issues.

Slide 23

## What is the Solution? How to get the Solution ?

- Rules and regulation with proper planning
- Stakeholder Engagement
- Gender and Social Inclusion
- Social mobilization
- Subsidy to needed



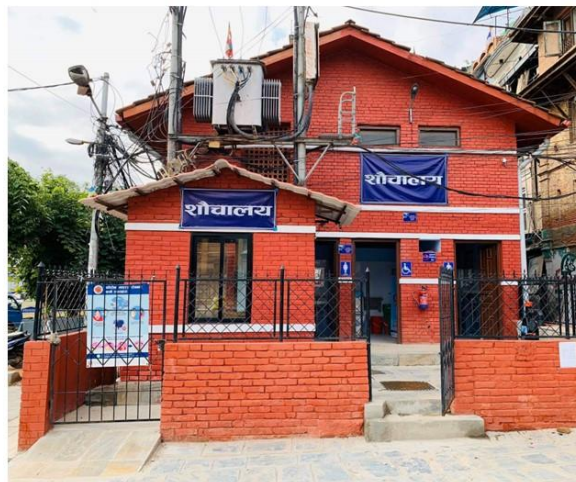
For the mitigation measures, these might be some of the possible solution.

Like: mainstreaming GESI across the sanitation service chain in relevant policies, guidelines, laws, and regulations

Involving all relevant stakeholders, GESI integration, social mobilization and subsidy to the needed one.

Slide 24

## Access along user friendly



For the access to the sanitation services, these kind of facilities could support with user friendly facilities

## Social Inclusion



Aiming Gender equality and social inclusion in our services, we should conduct situation analysis, and must have positive attitude and willingness to do.

Along with user friendliness, social inclusion is not about gender. It is about individuals and groups who are disadvantaged or excluded because of their identity. For this or for gender equity and social inclusiveness, financial investment and awareness is required. To this, the investment for this group is not an additional investment but is the basic right of the group.

These kind of measures could be used for user friendly facilities.

First picture- AEROSAN toilet in Patandhoka, Lalitpur

Second picture- Gender friendly public toilet in Gulariya

## Social Mobilization



Technical solution itself can not make the service sustainable without participation of the whole community.

Service continues in case of change in political leadership

Motivating the barriers to change their mindset towards FSM

To eradicate the social stigma or misconception regarding FSM

**Slide 27**

<b>Some Good initiations</b>	
<b>Local Government</b>	<b>Some Examples related to Planning</b>
Narayan Municipality, Dailekh	Establish Breast feeding room
Suklaphata Municipality, Ward no. 8, Kanchanpur	Declaration of equal wages to male and female for same work
Panauti Municipality, Kavre	Declaration of equal wages to male and female for same work, Declaration to provide allowance for unmarried female

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Some examples relating to initiation for equity

**Slide 28**

### Subsidy in Equitable Sanitation Service

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## Equitable Sanitation Service



Stakeholder Engagement

Female participation in decision making



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Gender intentional representation in decision-making

## Equitable Service



Wages to male and female for same work

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Equitable services means equal wages to male and female for same work as well

Slide 31

## Equitable Sanitation Service



Perspectives towards Sanitation Workers

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Next measure for equitable services is changing our lens or perspective towards the sanitation workers and should use a neutral perspective towards the sanitation workers

Slide 32



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Please click the link for English version of the video  
<https://www.youtube.com/watch?v=NecZFRcLCuw>

Slide 33

## Group Work



Groups  
5 minutes

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Optional activity: group work for a given case scenario

Refer to the lesson plan

Slide 34

## Key Message

- Sanitation for All- Equal access as defined by the constitution of Nepal as basic human right
- Active participation of all stakeholders in decision making and throughout
- Equitable services to all (including gender, caste, geography, disable) in sanitation
- Equitable sanitation services with support to meet Sustainable Development Goals and National Goals on Sanitation

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Slide 35

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# Thank you

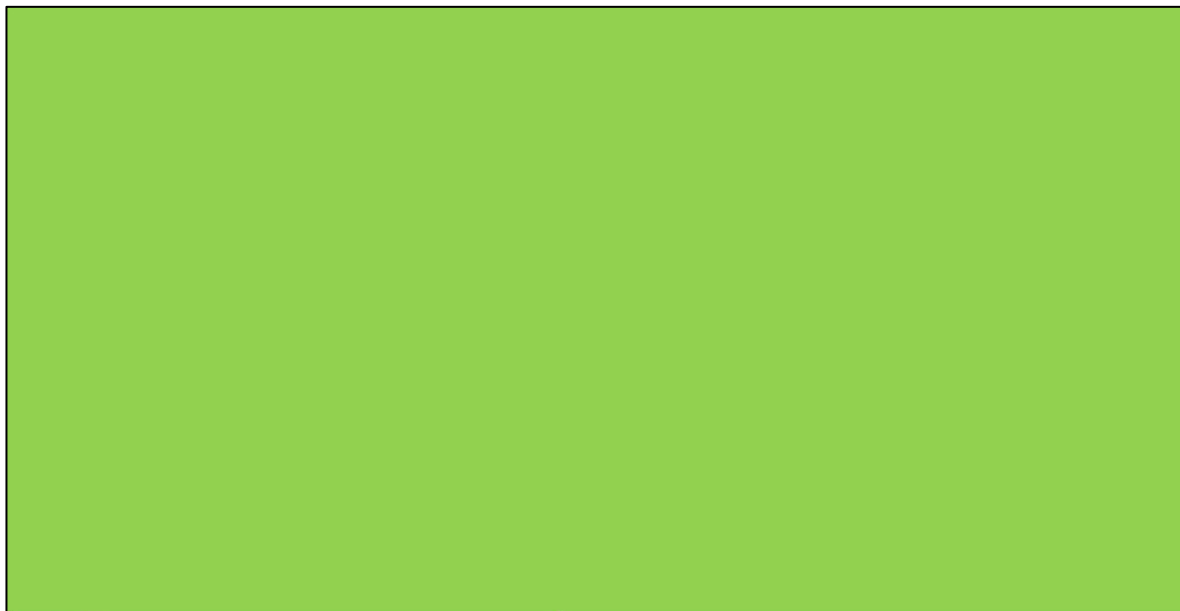
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Slide 36



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## Session 4: Safety

### Slide 1

# Citywide Inclusive Sanitation Scaling and Sanitation Innovation

**NON-SEWERED SANITATION SYSTEM**

**SEWERED SANITATION SYSTEM**

## CWIS Service Outcome– Safety

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person

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### Slide 2

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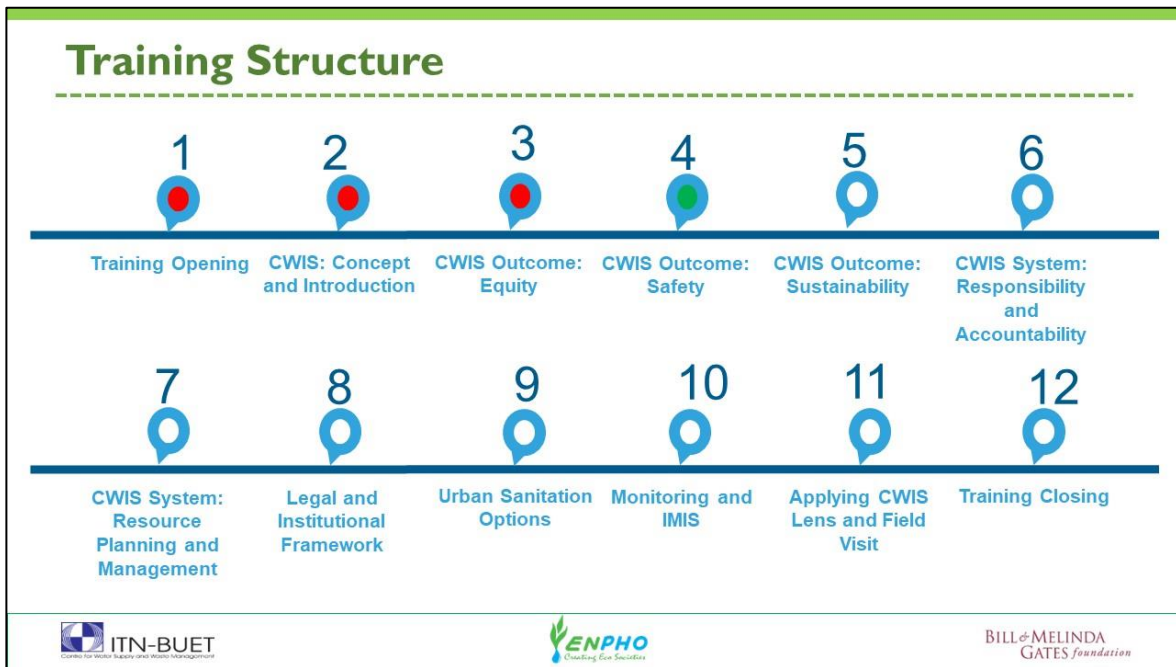
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Play the video:

<https://youtu.be/Apw-dYWjmjs>

Inform participants that we are now discussing on urban sanitation technologies

**Slide 3**



This training includes 10 main technical sessions, and are currently on session 3, CWIS outcome: Safety

**Slide 4**

### Learning Outcomes

- Discuss the CWIS service outcome 'safety' along with issues related to safety
- Explain Measures to attain safety

SAFETY

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At the end of the session, participants will be able to ...

Slide 5

## Presentation Outline

- Concept and Measurement Indicators of CWIS component- safety
- Public Health and Safety
- Environmental Safety
- Financial Safety
- Occupational Health and Safety (OHS) for Sanitation Workers

Slide 6

## CWIS Framework



Citywide Inclusive Sanitation (CWIS) initiative support to redesigning urban sanitation service systems of cities and in the session will be discussing on measures to equitable sanitation services.

## Slide 7

### Safety

- Services safeguard customers, workers, and communities from unsafety and health risks by reaching everyone with safe sanitation
  - Residents and city users have access to adequate toilet facilities
  - Toilet facilities and waste services are managed to protect public health and environmental outcomes
  - Waste disposal and treatment facilities are sufficient and operational

Services safeguard customers, workers and communities from safety and health risks by reaching everyone with safe sanitation

- Residents and city users have access to adequate toilet facilities in residential, community & public spaces, school & healthcare facilities
- Toilet facilities and waste services are managed to protect public health and environmental outcomes
- Waste disposal and treatment facilities are sufficient and operational

## Slide 8

### Safety Indicators

- SF-1: % safely managed sanitation (citywide Individual Household Latrines/ IHHLs)
- SF-2: % safely managed sanitation for LIC IHHLs
- SF-3: % safely managed liquid waste for shared facilities (shared HH toilets + Community Toilets/ CTs)
- SF-4: % of public spaces that have adequate sanitation facilities (Public Toilet/ PT)
- SF-5: % of educational institutions where Fecal Sludge/ Wastewater (FS/WW) generated is safely transported to TP or safely disposed in situ
- SF-6: % of healthcare facilities where FS/WW generated is safely transported to TP or safely disposed in situ

First 3 points focus on the latrine part of SSC  
Second points focus on the other components of SSC

Slide 9

## Safety Indicators

- SF-7: % of **desludging services** completed mechanically or semi-mechanically (gulper)
- SF-8: % of **desludging vehicles** which comply with maintenance standards
- SF-11: [Indicator Area] **Sanitation worker safety**
- SF-9: % of **water contamination compliance** (on fecal coliform)
- SF-10: Incidence (per 1000) of **fecal-oral pathway diseases**
- SF-12: Presence of **certification mechanism** for which treated WW/FS has to qualify

First one focus on the whole SSC

Second and third point focus on the safety of sanitation worker and safety of environment

While the rest of the indicators focus on water contamination compliance, fecal oral pathway diseases and certification mechanism

Slide 10

## Safety Questions



Safety measures incorporate all the components of SSC and along with it, also includes the sanitation workers safety, environmental safety.

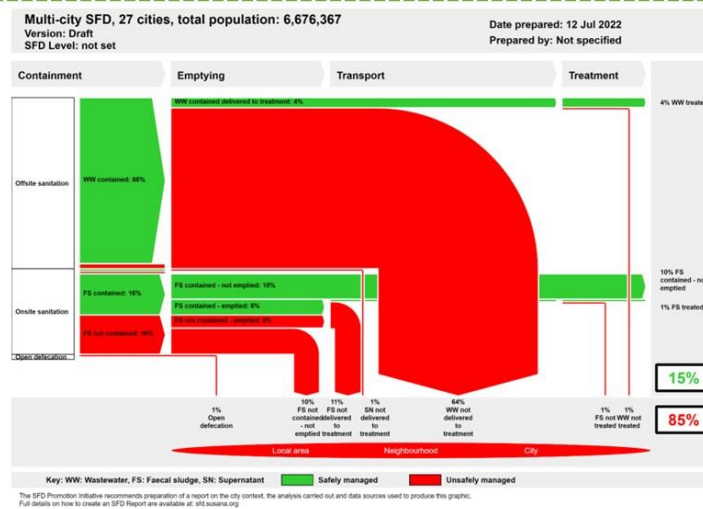
## Slide 11

### Safety in terms of...

- Public Health
- Environment
- Financial Investment
- Occupational Health and Safety (OHS) for Sanitation Workers

## Slide 12

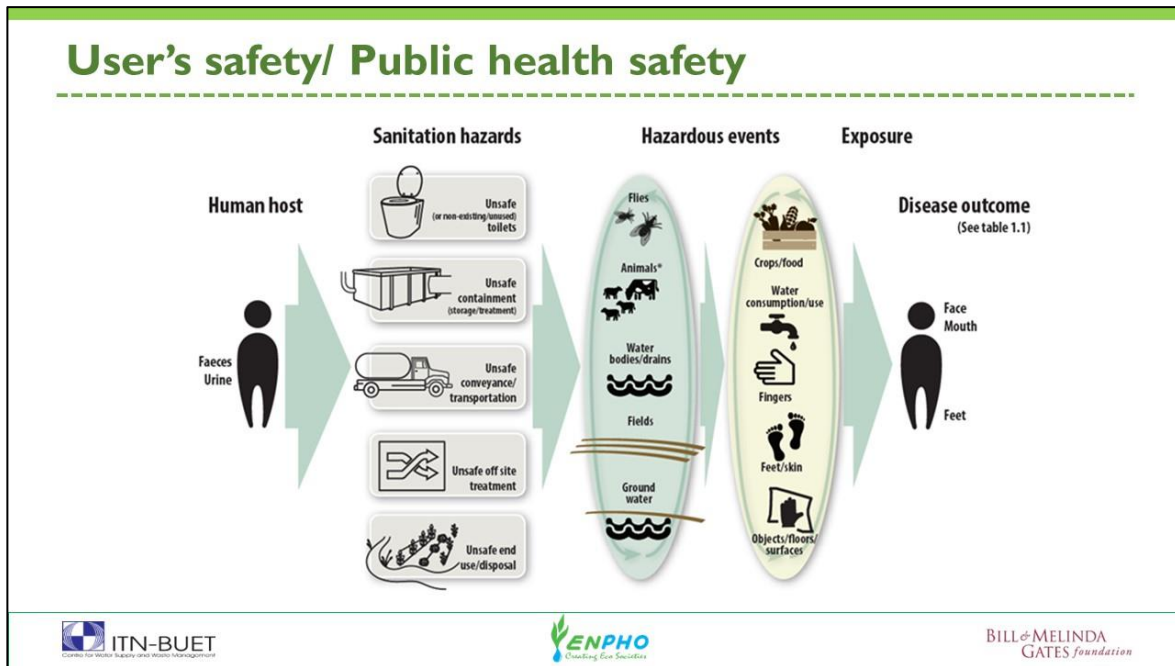
### Shit Flow Diagram (SFD) of Nepal



Only 15% of wastewater and faecal sludge is safely managed while still 85% of WW and FS is unsafe creating high health and environmental risk.

Red arrow in the diagram indicates high health risk so our ultimate aim is to attain green arrow to ensure entire safety of the city and nation.

Slide 13



Urban Sanitary Services And Public Health - F Diagram

Public health might face different sanitation hazards through-out sanitation service chain and might have a consequences of hazardous events.

Slide 14

## Public health issue hindering safety

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These are some of the examples of hazardous events that are the consequences of the exposure to sanitation hazards.

## Slide 15

### Measures for Public health and safety

- Ensure public health and safety through risk-based management and proper planning of **sanitation systems**
- Reduce adverse **health impact** from the use of wastewater, effluents and greywater, while...
- Maximizing the **benefits** of their use in productive agriculture and aquaculture

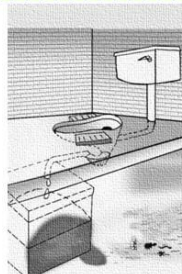


What the measures for public health and safety?

## Slide 16

### Environmental issues hindering safety

- Leakage from septic tank
- Contamination during transportation (including transportation after desludging and sewerline)
- Desludging and open disposal
- Open Defecation



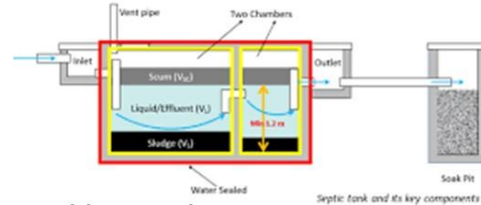
Similarly, these are the environmental issues hindering safety



Slide 17

## Measures for Environmental Safety

- Minimize potential contamination of water resources
- Prevent the leakage of raw sewage
- Maintenance of sewer line to prevent the blockage
- Construction of proper septic tank
- Proper and safe transportation
- Safe disposal into treatment plants
- Monitoring and certification of effluent and by-products



Include the identification of ground water table and distance under minimizing potential contamination of water resources and prevent the leakage of raw sewage.

Slide 18

## Financial issues hindering safety

- Financial burden because of poor Public health;
- Institutional arrangements hindering access to finance
- Less attraction of private sector to invest in Sanitation service -return not insured;
- Low priority and less budget allocation for sanitation in most of the municipalities
- Example: **FSTP is low priority and less investment (Investment in sanitation service facility) so there is not allocated operational investment as well;**



Other aspects of safety is related to the financial issues. The financial insecurity, public health burden and less attraction of different actors to invest in sanitation and technology failure because of improper financial planning are some of the key issues.

The direct support like finance related to capacity building should also be considered while it is not given much importance.

Slide 19

## Measures for financial safety

- Establish institutional capacity
  - Clarification of legal and regulatory systems and institutional roles
  - Capacity-building for regulation
  - Allocation of budgets for regulation and enforcement
- Develop regulation
  - Incremental approach over five or more years
  - Be realistic about enforcement capacity and incentives
- Address critical regulatory needs
  - Containment
  - Mandatory safe disposal
  - Licensing/contract

- ✓ Improves safe sanitation
- ✓ Helps generate business

Slide 20



[Desludgers video](https://www.youtube.com/watch?v=8Dx9PWJSEyo)

<https://www.youtube.com/watch?v=8Dx9PWJSEyo>

This highlights the issues faced by the sanitation workers/ FS deslugger while they are proving the services to the public.

## Slide 21

### Health and Safety Issues

#### Physical hazards

- Collapse of the septic tank/pit wall
- Slips, trips, and falls
- Exposure to sharp objects contained in sludge (glass, metal, blade, etc.)

#### Chemical hazards

- Suffocation from harmful gases from septic tank (methane, ammonia, sulfur dioxide, carbon dioxide, etc.)
- Fire



Other issues are:

## Slide 22

<https://www.youtube.com/watch?v=IbqhUAO--IY>

Animated video

Other issues of desludgers...

## Slide 23

### Measures for OHS

- Mandatory to wear Personal Protective Equipment (PPE) to avoid any
- To avoid hazard while carrying out desludging services
- to avoid direct exposure to Faecal Sludge.
- Avoid unsafe working practices like entering into containment
- Avoid smoking while carrying out desludging services



## Slide 24

### Measures for OHS

#### Immunization for Health and Safety

- Desludging workers should be immunized for: (Tetanus, Hepatitis A & B and Diphtheria)
- First-Aid equipment
- Emergency eye wash facilities
- Emergency contact numbers
- Deworming Tablets (once in three months)

**Provide medical/health/life insurance to the sanitation workers**

#### Training Program

- Training program for desludging operators including emptier on health and safety measures
- Training program on use of PPE
- Training program on use of First-Aid

## Operational Monitoring plan

### Operational monitoring

- What is monitored?
- How is it monitored?
- Where is it monitored?
- Who monitors it?
- When it is monitored?

### Corrective actions for non-compliances

- What action is to be taken?
- Who takes action?
- When it is taken?
- Who needs to be informed of the action?

1. Operational monitoring plan for: Occupational health and safety of Pit Emptyers				
Operational limits or compliance criteria	Operational monitoring of the control measure		Corrective action when the operational limit is exceeded or not complied with	
100% of vacutug operators comply with standard occupational health and safety protocols while performing mechanical emptying, complete elimination of manual emptying practice in the municipality	What is monitored?	Frequency of use of proper personal protective equipment (clothing, boots, goggles, masks), washing hands with soap after work, cleaning equipment after desludging, observing emptying practice of households	What action is to be taken?	<ul style="list-style-type: none"> <li>• Identify why the mechanical emptiers are not wearing PPE.</li> <li>• Communicating the hazard of manual emptying practice</li> <li>• Education and communication program.</li> </ul>
	How is monitored?	Observation, survey		
	Where is monitored?	Individual households	Who takes the action?	Municipality conservancy officer (with technical guidance from DPHE)
	Who monitors it?	Municipality conservancy officer, any surveyor hired by the municipality	When it is taken?	Once a month, until 100% compliance reached
	When it is monitored?	During cleaning operation	Who needs to be informed of the action?	Sakhipur SSP Committee



WASH facility for sanitation worker

<https://www.youtube.com/watch?v=mQF8v2uEcf0>

<https://www.youtube.com/watch?v=nH0MeZguXeY>

Slide 27

## Measures for OHS

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Present this as an example of measure for OHS relating to the video from earlier slide. If required present the video in next slide for more information on the facility centre.

Slide 28


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<https://www.youtube.com/watch?v=nH0MeZguXeY>

## Slide 29



4 Groups  
5 minutes



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they are going for a group work. For this, participants will be provided a case and will be divided into 4 groups

## Slide 30

### Group Activity

- Group Work
- Public Health and Safety
- Environmental Safety
- Financial safety
- OHS
- Into 4 groups
- Provide a case scenario on FSM
- One topic to each group and carry out discussion inline with topic
- What actions can be done to ensure Safety in-terms of CWIS ?

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## Slide 31

### Key Messages

---

- Safety: Services safeguard customers, workers and communities from safety and health risks by reaching everyone with safe sanitation
- Services ensure access to toilet and safely managed sanitation
- The ultimate goal of safety is the public health outcome or public health safety through environmental safety, financial safety of investment in sanitation and occupational health and safety of all the sanitation related workers.

## Slide 32

### References

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- <https://youtu.be/Apw-dYWJmjs>
- <https://www.youtube.com/watch?v=8Dx9PWJSEyo>
- <https://www.youtube.com/watch?v=IbqhUAO--IY>
- <https://www.youtube.com/watch?v=mQF8v2uEcfo>
- <https://www.youtube.com/watch?v=nH0MeZguXeY>



Slide 33



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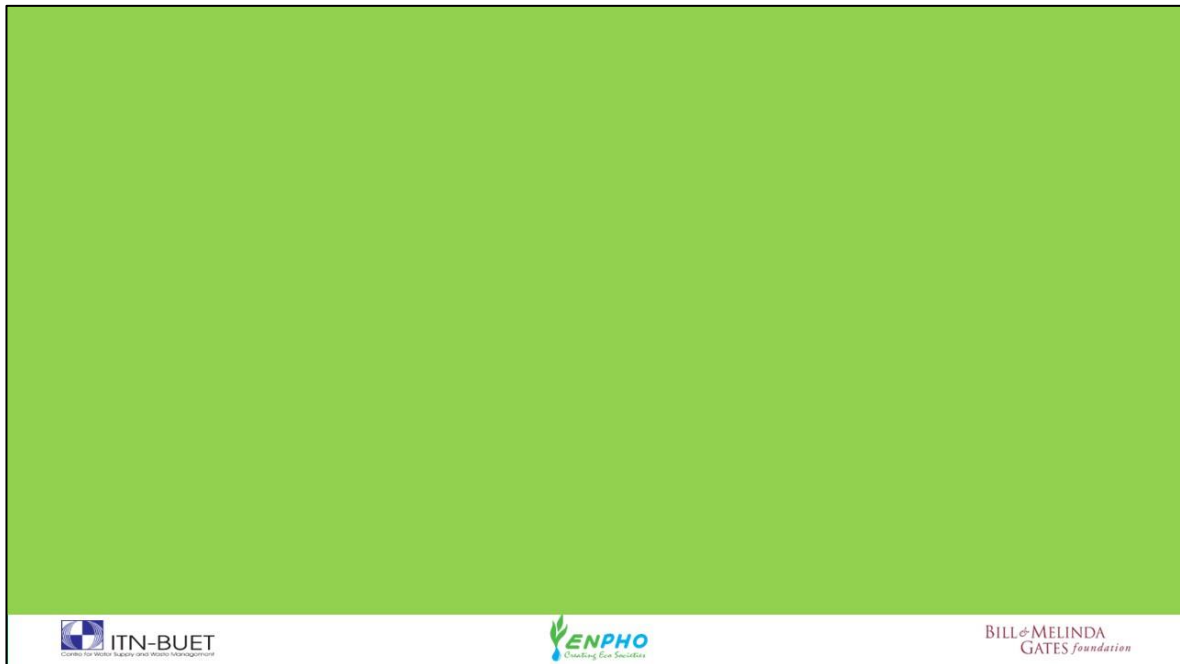
# Thank you


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Slide 34



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## Session 5: Sustainability

### Slide 1

# Citywide Inclusive Sanitation Scaling and Sanitation Innovation

**NON-SEWERED SANITATION SYSTEM**

**SEWERED SANITATION SYSTEM**

## CWIS Service Outcome: Sustainability

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person

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Challenging Our Sanitation

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### Slide 2

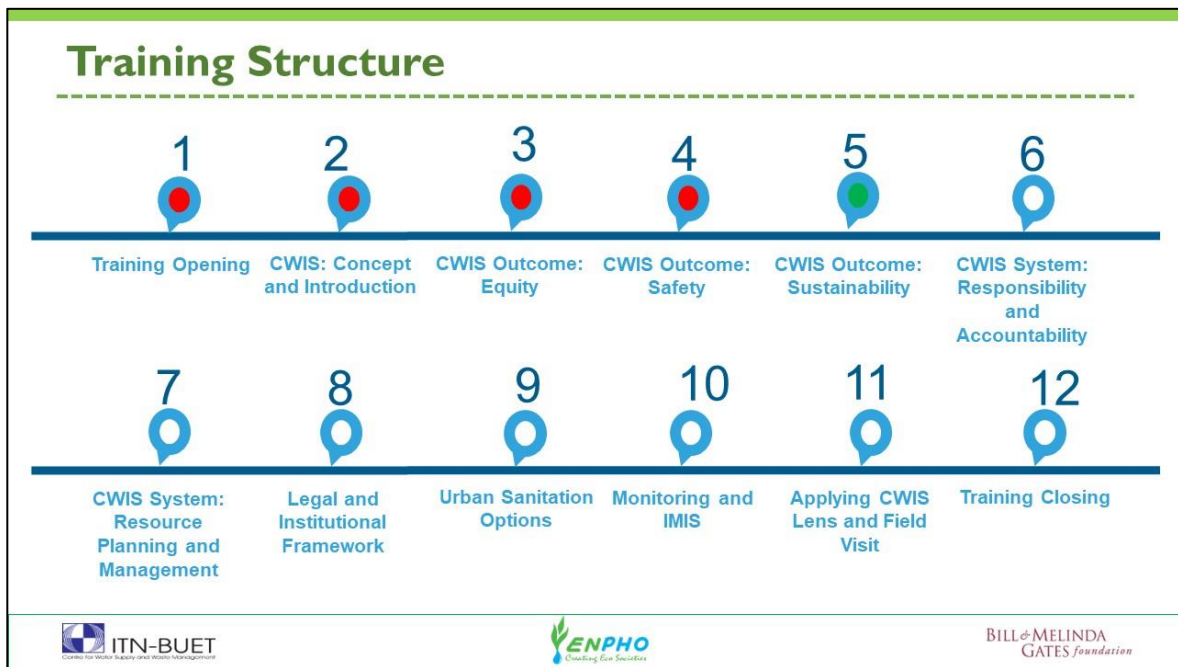
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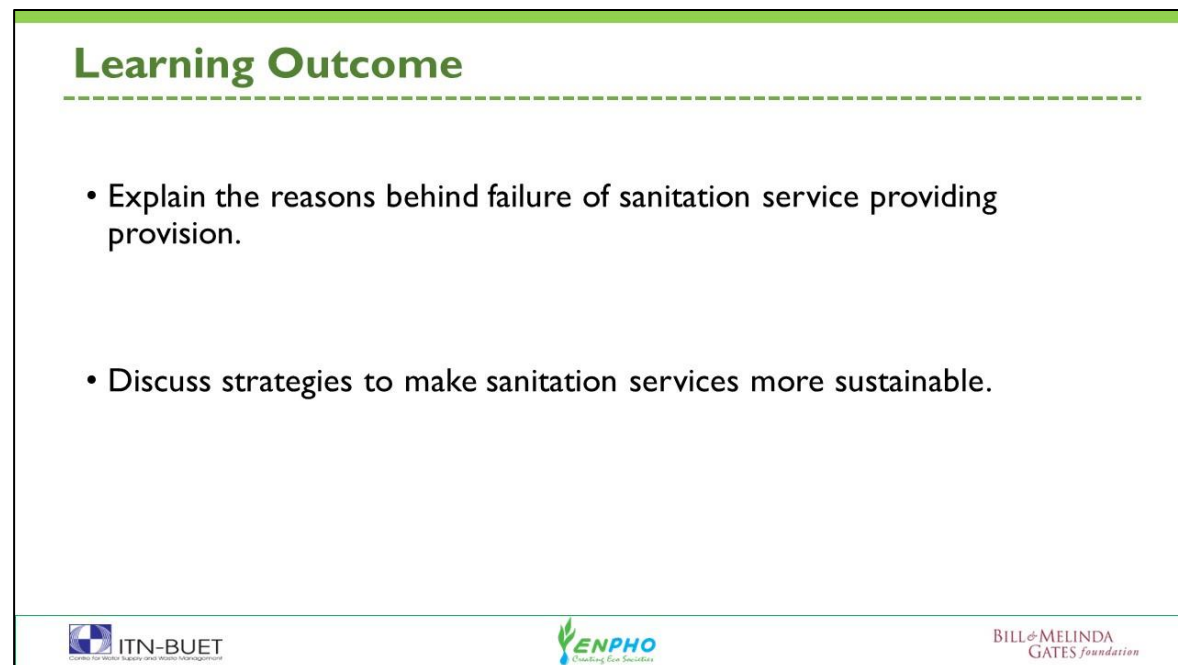
Ask to participants, if you want to handover this car to your child after 10 years in the very good condition and looking as new, what activities do you need to do over this time?  
Just like this, if we want to use our sanitation services/infrastructures, we need to do some specific activities. We are going to discuss about sustainability of sanitation services in this session.

### Slide 3



This training includes 10 main technical sessions, and a field visit is already incorporated in a session. To this, we have training opening and closing session. If required, present all the session topics to the participants or else inform that they will be covering all these topics in the following days of the training.

### Slide 4



At the end of the session, participants will be able to ...

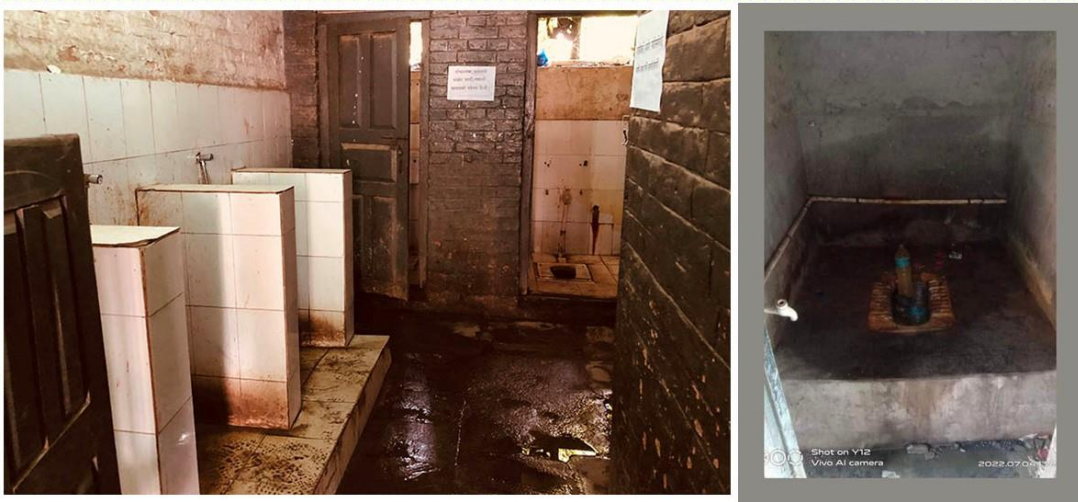
## Slide 5

### Presentation Outline

- Present scenario of sanitation services/facilities
- Reasons behind the unsustainable sanitation services/facilities
- Interventions for sustainable sanitation service
- Key messages

## Slide 6

### Do you want to use this public toilet?



Like we want to pass the brand new car to our next generation, don't we want them to use these sanitation services as well? Don't we want them to pass these facilities in good condition or do we want them to face the problem related to sanitation. Why don't we want to use this toilet anymore.

Slide 7

## Some more examples of sanitation services



And these facilities...

Let alone passing it to next generation, we are not able to use for our own generation as all

Slide 8

## Some more examples of sanitation services



**Teku, 1998**






Why can't we give such attention to these facilities, why can't we maintain it for our own purpose?

Slide 9

## What are the reasons behind the failure of sanitation service ?

<ul style="list-style-type: none"> <li>• Equitable Sanitation Service</li> <li>• Safe Sanitation Service</li> </ul>	Service Outcomes	EQUITY	SAFETY	SUSTAINABILITY
<ul style="list-style-type: none"> <li>• Responsible Stakeholders</li> <li>• Accountable Stakeholders</li> <li>• Proper Resource Planning and Management</li> </ul>	System Functions	RESPONSIBILITY	ACCOUNTABILITY	RESOURCE PLANNING & MANAGEMENT







What are the reasons find the failure? Let us write 2 reasons in 2 different meta cards

Slide 10

## Sustainability

- Services are **reliably and continually delivered** based on
- **effective management** of
- **human, financial and natural resources**







What does sustainable means?

## Slide 11

### What interventions can be done to make sustainable?

- Equitable Sanitation Service
- Safe Sanitation Service
- Responsible Stakeholders
- Accountable Stakeholders
- Proper Resource Planning and Management



Based on the previous reasons – What are possible interventions to avoid the failure or to make the sanitation service sustainable?

Ask participants to come up with the interventions through different perspectives of users and service providers.

Divide participants in 5 groups and ask to discuss in group and note down the interventions to make the sanitation services more sustainable under 5 components of CWIS Framework (Equity, Safety, Responsibility, Accountability, Resource Planning and Management)

## Slide 12

### Equitable Sanitation Service for Sustainability (How?)

- Stakeholder Engagement
- Equal Wages
- Ensure Accessible Equitable Services
- Special Support Provision for LIC
- Workplan and guidelines for use and operation
- Develop Positive Attitude



Ensure meaningful representation of relevant stakeholders

- Ensure equitable services are accessible- user friendly for all,
- Affordable charge for sanitation services
- Equitable provision of services
- Workplan and guidelines for use and operation
- Develop positive attitude towards sanitation profession- professional dignity

**Slide 13**

## Safe Sanitation Service for Sustainability (How?)

---

- Easy and Comfortable PPEs
- Safe Environment
- Safe End Products from FS
- Public Health-Centered
- Regular operation and maintenance
- Appropriate sanitation service model









- Safe environment:  
 Provision of facilities for sanitation workers  
 Appropriate sanitation service model: Ex- Pay per use service, door to door service, etc

**Slide 14**

## Responsible Stakeholders for Sustainability (How?)

---

- National and Province Level Policy and Guideline
- Municipal Policy and By-laws Formulation
- Job Description of Individuals with Clear Mandate for Action
- Community Level Awareness
- Capacity Development in Sanitation Sector











Creating an environment that fosters behavioral change in general public for proper use of sanitation services  
Public should be made clear about the concept that the sanitation services are as important as water supply or any other

**Slide 15**

## Accountable Stakeholders for Sustainability (How?)

- Clarity in Benchmarks
- Transparency in Each Activity
- Documentation with Evidences
- Monitoring and Evaluation Mechanism
- Promotion and Punishment Provision
- Social Auditing



**Slide 16**

## Proper Resource Planning and Management for Sustainability (How?)

- Assessment of Available Resources
- Fund Collection for Infrastructure Construction and O & M
- Capacity Building for Stakeholders
- Business Plan
- Coordination with Stakeholders



## Slide 17

### Key Messages

---

- Initiation of sanitation service/facility is important, but its sustainability is more crucial.
- There are plenty of reasons behind the failure or discontinuity of sanitation service such as lack of ownership, not user friendly, hard to accept the treatment technology or FS products, too low- or high-class equipment, etc. and these points should be considered for sustainability
- For sustainable sanitation services, key interventions under other components of CWIS Framework are essential.

## Slide 18

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*Thank  
you*

## Session 6: CWIS System Function- Responsibility and Accountability

### Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation

**CWIS System Function – Responsibility and Accountability**

**Training on Introduction of Citywide Inclusive Sanitation Approach**


Resource Person






### Slide 2

### Before Starting...

- Have you ever faced the clogging of your toilet at your home, and did you know the reason behind that?
- When your toilet (in your house) is clogged, what do you do? Why?
- When a man-hole or a drain is clogged, what do you do? Why?





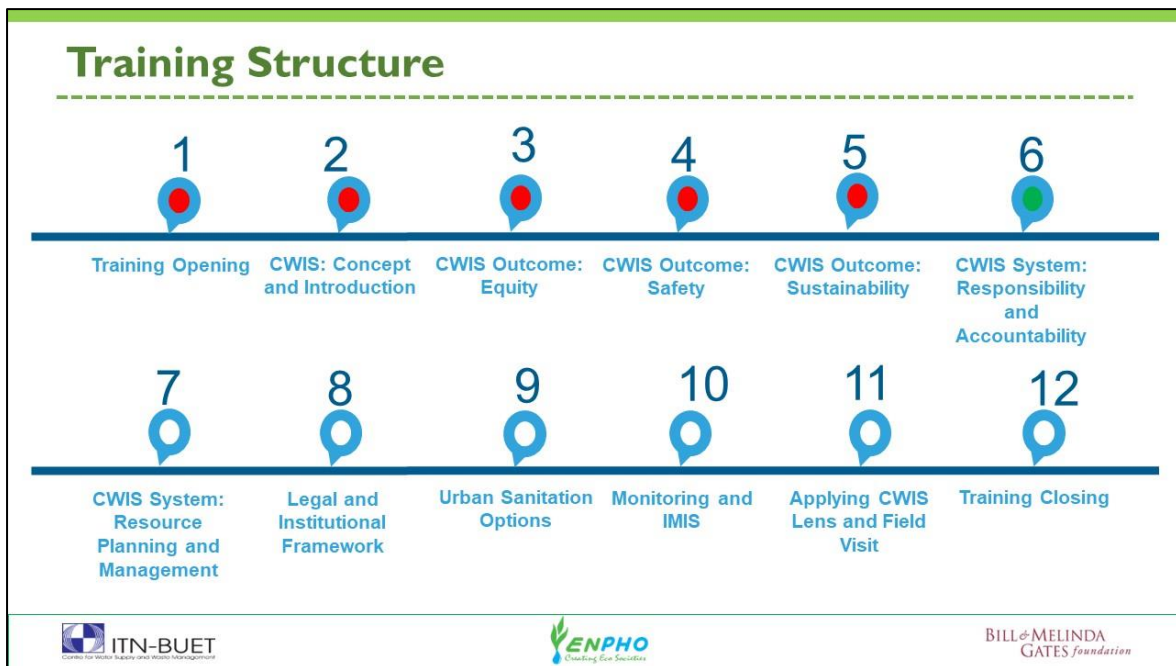
Relating to the responsible entity the action will be taken, as for example, when the toilet in your house is clogged, it is your responsibility

But when a drain or sewer is clogged, the responsible entity is the local governance and will act upon similarly by placing a call/ complain etc.

Now, what if the responsible entity does not respond?

Link the responses to accountability as due to lack of accountability they might not have respond and as they do not get the desired incentives (positive or negative) they might not feel accountable for their action or toward their responsibility. For this one need to have a monitoring mechanism and will be discussing on it in the session.

### Slide 3



This training includes 10 main technical sessions, and are currently on session 3, CWIS Functions: Responsibility and Accountability

### Slide 4

## Learning Outcomes

- Describe on the CWIS system function 'Responsibility' and 'Accountability' along the sanitation service chain
- Identify Key Stakeholders for the Responsibility and Accountability in participants' context
- Explain the roles and responsibilities for delivery of sanitation services




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At the end of the session, participants will be able to ...

Slide 5

## Presentation Outline

- Understanding Responsibility and Accountability– Concept
- Responsibility and service delivery to the poor
- Responsibility and Accountability of different entities in the Sanitation Service Chain
- Role of private sector
- How does responsibility relate to accountability and resource planning

Slide 6

## What do we want to see in our Cities?

Service OUTCOMES	<b>EQUITABLE</b>	<b>SAFE</b>	<b>SUSTAINABLE</b>
	<b>'Everyone benefits</b> from services, prices and public investment <b>equitably</b> , with a focus on ensure social and gender inclusion	Human waste is <b>safely</b> managed from <b>containment to reuse/disposal</b>	<b>Financial, human, environmental</b> resources can sustain services across areas and time

We want sanitation services to be equitable, safe and sustainable

Slide 7



The responsibility and accountability of relevant stakeholders including the requirement for making policy, institutional set ups and regulations

Slide 8

### CWIS System Function – Responsibility

Authority(ies) executes a clear public mandate to ensure *safe, equitable, and sustainable sanitation for all.*

- Clear and non-overlapping mandate covering the entire service chain
- Mandates cover all urban areas without exclusions related to land tenure or artificial administrative boundaries
- Mandate is explicitly pro-poor, gender intentional, and inclusive of other vulnerable groups or status
- Develop legal provisions, regulatory framework and institutional arrangements with clear mandates.

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## Slide 9

### Responsibility and Serving the Poorest

- The service jurisdiction of mandates should be complete and inclusive
- Clear responsibilities for serving the poorest begin at the Constitutional level
- The definition of city boundaries is key to inclusive mandates
- Responsibilities should include all residents within the authority's jurisdiction
- Number of authorities are proactively engaging to address the specific challenges of sanitation service provision to informal settlements

Use as a **trainer reference** to explain the point 'Mandate is explicitly pro-poor, gender intentional, and inclusive of other vulnerable groups or status' from the earlier slide.

## Slide 10

### CWIS System Function – Responsibility

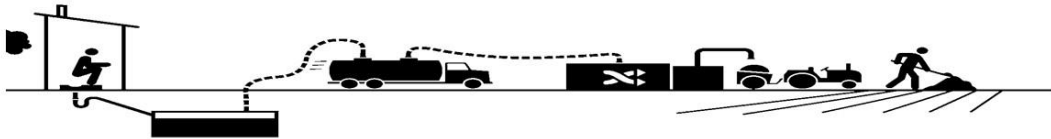
Authority(ies) executes a clear public mandate to ensure *safe, equitable, and sustainable sanitation for all*.

- Mandated authorities are **delivering inclusive services**
- Authorities deploy **sufficient staff and budget** to execute their mandate
  - Sanitation budget is a **separate line item** independent of water, solid waste management, health, or environment
- Sanitation revenue is **ringfenced**

Slide 11

## Clear Responsibilities are Necessary

- Who is to be held accountable?
- Fragmented and unclear mandates, **no single entity clearly responsible**
- Limits of responsibility is equally important



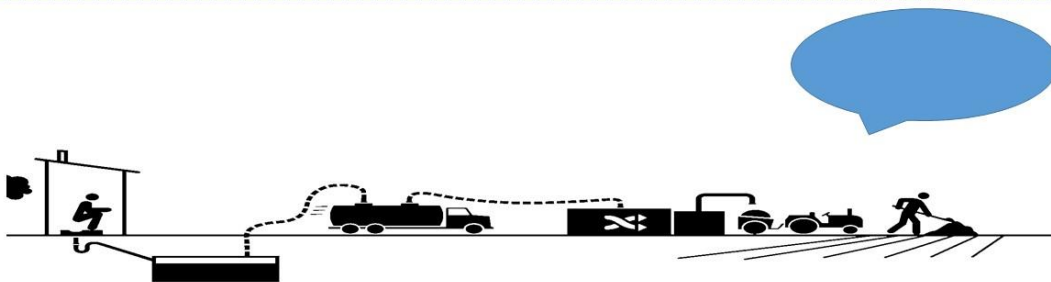
Who is to be held **accountable for ensuring public goods and services** are delivered?

Particularly **in the case of non-sewered sanitation, fragmented and unclear mandates**, with no single entity clearly responsible for ensuring that a city's sanitation (sewered and non-sewered) is functioning effectively and inclusively

Understanding the **limits of responsibility is equally important**: often public authorities are expected to act on social needs that are beyond the scope of their legal mandate.

Slide 12

## Responsibility Though-out Sanitation Service Chain

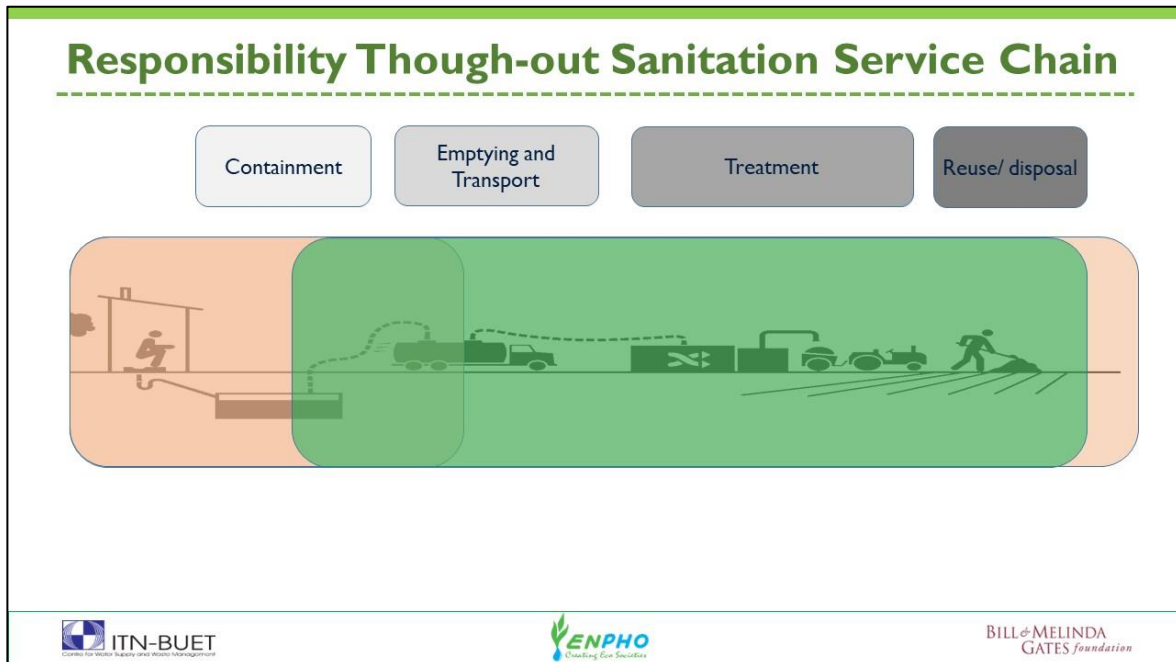


Who is responsible entity along the Sanitation Service Chain?  
And why?



Present Sanitation Service Chain and ask participant who is the responsible entity for the service provision through-out the sanitation service chain?  
Ask participants to answer component wise.  
Conclude with following slide

**Slide 13**

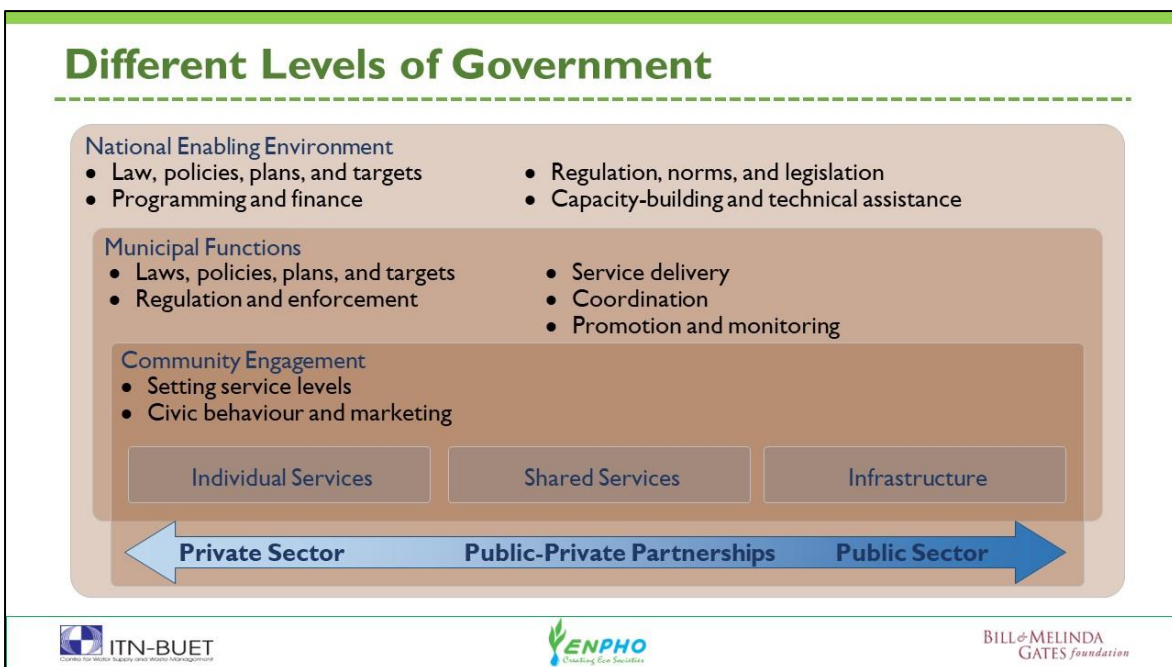


The responsibility of toilet and desludging is mainly based up on the household or the individual level while the service provision responsibility of the rest of the component of the service chain rely on the local governance.

To this, the service provision through-out the SSC, rely on municipality. Although, the individual or HH are responsible up to toilet construction and desludging, what if the individual or HH are not able to construct or use it. It is the responsibility of the local governance for the services. Similarly, a private entity could be engaged and can support to local governance to provide such services as for desludging and transportation, operation and maintenance of the FSTP and WWTP and reuse of by-products.

Conclude with following slide

## Slide 14



We know that there's a range of stakeholders involved in developing a conducive enabling environment and delivering the range of service. Let's look now at their specific roles in urban sanitation.

National (or state level) government provides the overall enabling environment for Local Government and community engagement.

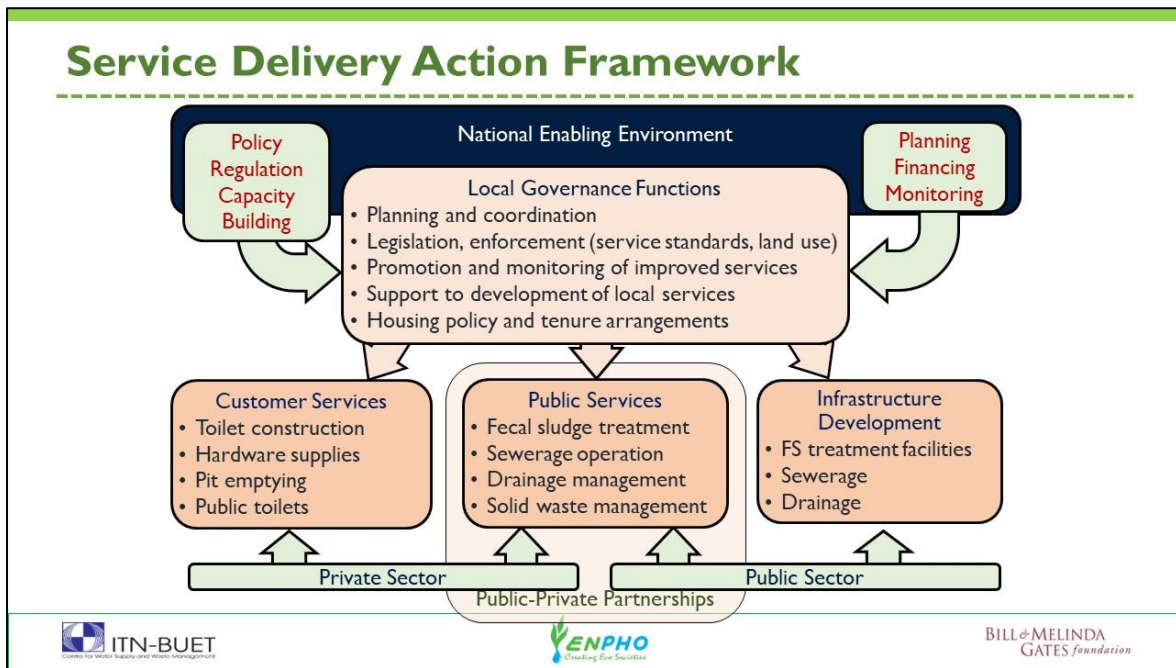
For example, it should set policy, and the legislative, regulatory and monitoring frameworks; coordinate the multiple stakeholders to avoid gaps and overlaps, plan and provide finance for capital work; and ensure adequate human resources and technical capacity.

Municipalities have a crucial role in bringing out local sanitation laws and regulating them, coordinating sanitation with related basic urban services, and enforcing standards.

They need to ensure that effective sanitation service providers are in place and must monitor outcomes.

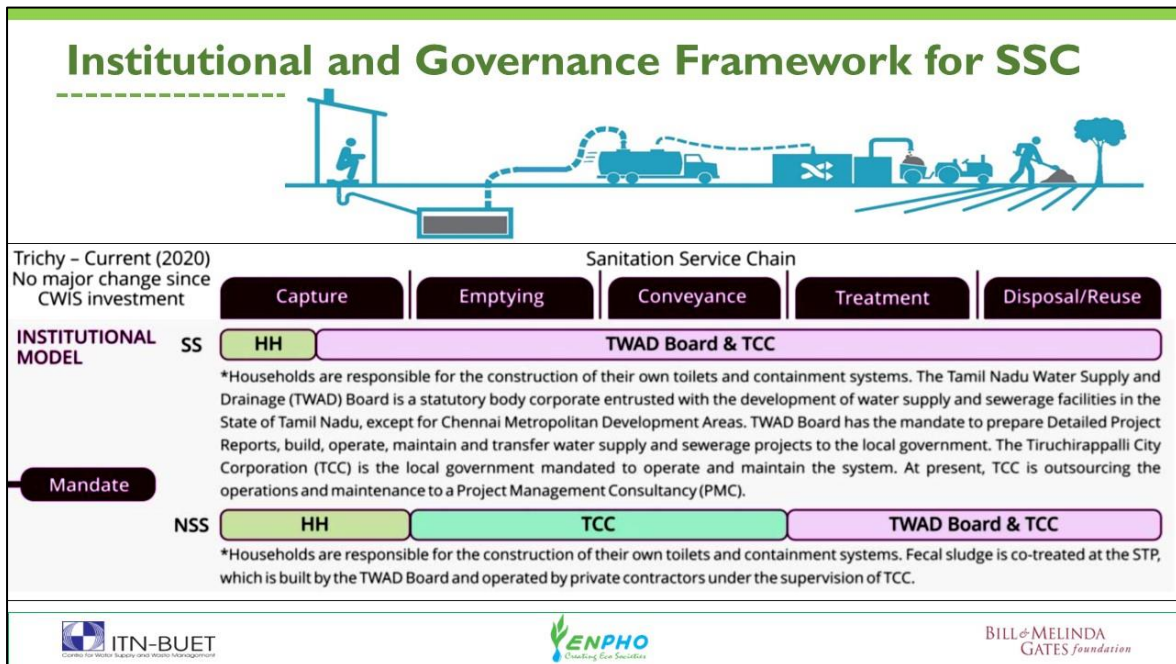
Where services interface directly with individual customers, community engagement is vital, to ensure that the right services are provided and that they are used.

Slide 15



Many factors need to come together to achieve a positive sanitation outcome. These are some of the key ones. Both the public and private sectors will typically be involved. At the upstream end of the service chain, people are usually willing to pay to free themselves of fecal waste, but they may be less willing or able to pay for the public benefits provided by the downstream parts of the chain, so public funds are usually required as well. Whoever provides the services, effective local governance is needed to provide an enabling environment, which itself depends on the national policy, legal, institutional, regulatory and financial environment.

Slide 16



For the SS in Trichy, HH are responsible for the construction of their own toilet and containment systems.

TWAD (Tamil Nadu Water supply and Drainage) board is responsible for the rest of the services and transfer to TCC, local government.

TCC is outsourcing the operations and maintenance to a PMC (project management consultancy).

NSS,




HH are responsible for the construction of their own toilet and containment systems- as SS

For the rest of the services, TCC is responsible where the sludge is co-treated at the STP built by TWAD board and operated by private contractors under the supervision of TCC.

**Slide 17**

Role of Local Government in FSM								
Stakeholders	Policy and Guidelines	Coordination	Collection & Transport	Treatment	Disposal/ end use	Regulation	Capacity Building	Monitoring
MoWSS and MoFALD	•	•				•	•	•
MoPE	•	•				•	•	•
Municipality/ VDC/Utility	•	•	•	•	•	•	•	•
WUSCs		•	•	•	•		•	•
Private Sector/ Entrepreneurs			•	•	•			
Research/ Academia	•						•	•
DPs/INGOs	•	•					•	

Source: Institutional and Regulatory Framework for Fecal Sludge Management in Urban Areas of Nepal

The chart defined in IRF-FSM, 2017 clarifies the role and responsibilities of stakeholders. Since the documents has been prepared before the restructuring of administrative governance unit/level, the stakeholder mentioned in the chart is not as per the new structure. So need to relate with present context.


It is noteworthy that the local governments have the role on all the activities starting from the policy formulation to monitoring. Thus local government's role is crucial in FSM.

**Role of local governments**

- Responsible for **planning and monitoring** the management of fecal sludge
- Provide necessary **land and access road** to set up FS treatment plant
- **Form committees** to ensure proper implementation of FSM
- Prepare, approve and disseminate **designs, institutional mechanisms, business plans and operational guidelines** for FSM
- **Engage user committees and private sector** for collection, transport and reuse of fecal sludge


Slide 18

## Trainer note: Overall Responsibility for FSM




The local bodies shall be the key agency responsible for FSM services




Planning,  
Implementation,  
Monitoring and  
Development and application of business model for service delivery



Local Bodies may seek support from different agency



Local Bodies may/ shall establish public health and environment section (as per Need) which shall oversee the activities related to planning, implementation and monitoring of FSM




Explain this information in above 2 slides (slide number 14 to 15)

Slide 19

## Role and Responsibility of Private Sector in FSM

Stakeholders	Policy and Guidelines	Coordination	Collection & Transport	Treatment	Disposal/ end use	Regulation	Capacity Building	Monitoring
MoWSS and MoFALD	•	•				•	•	•
MoPE	•	•				•	•	•
Municipality/ VDC/Utility	•	•	•	•	•	•	•	•
WUSCs		•	•	•	•		•	•
Private Sector/ Entrepreneurs			•	•	•			
Research/ Academia	•						•	•
DPs/INGOs	•	•					•	

Source: Institutional and Regulatory Framework for Fecal Sludge Management in Urban Areas of Nepal

Explain how this slide has informed about the role of private sector in the SSC.




- **Engage user committees and private sector** for collection, transport and reuse of fecal sludge

Slide 20

## Private Sector Role

---

Institution	User Interface	Containment	Collection	Transport	Treatment	Reuse
Private	Building toilets	Building septic tanks	Desludging	Transport of FS	Construction	Resource recovery
					Operation	Sale of by Products

Relating to the earlier slide, present the points on private sector role and engagement in providing services throughout the SSC.

Slide 21

## PPPs: Why Involve the Private Sector?

---

**Market discipline** ✓

**Individual services**

- Lower prices
- Flexible response to client demand
- Expansion and movement to new areas

**Shared services**


- Competitive tendering
- Performance targets



**Resource mobilisation** ✓

- Already present – formally or informally
- Experienced staff
- Equipment, tools and materials
- Access to loans and own capital

**But markets might not deliver** ✗

- Reliable quality
- Affordable products for the poorest



- Market discipline
- Individual services**
- Lower prices
  - Flexible response to client demand
  - Expansion and movement to new areas
- Shared services**
- Competitive tendering

- Performance targets

**Resource mobilisation**

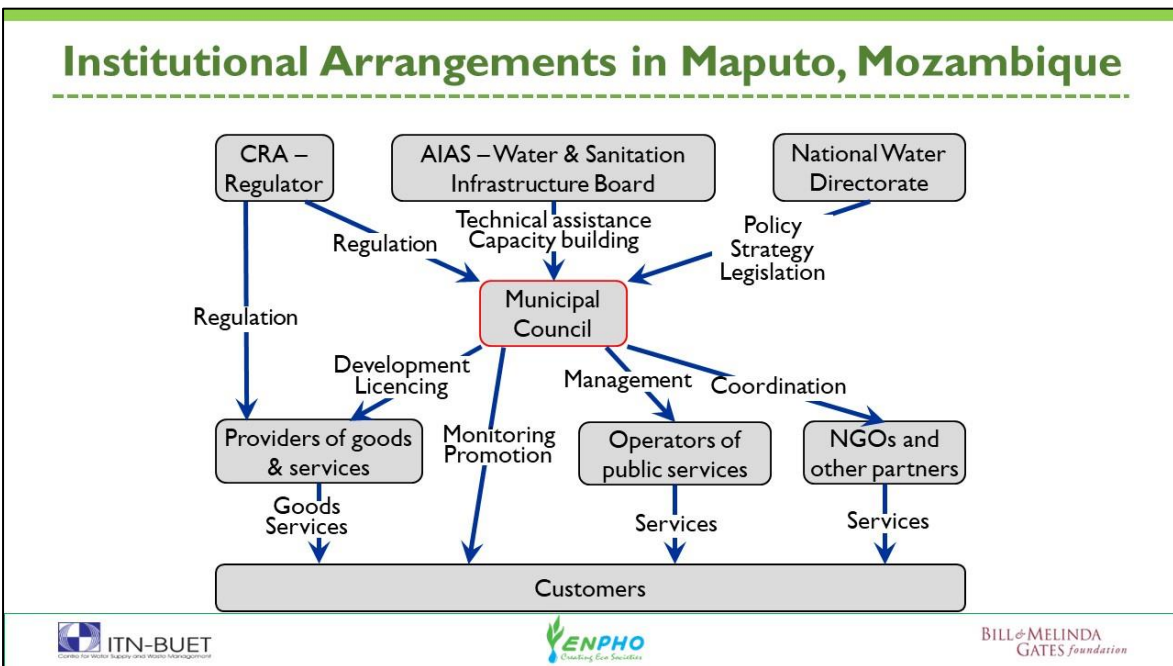
- Already present – formally or informally
- Experienced staff
- Equipment, tools and materials
- Access to loans and own capital

But, there is a **potential downside**.

A completely free market doesn't necessarily guarantee quality, or goods and services at prices affordable to the poorest customers.

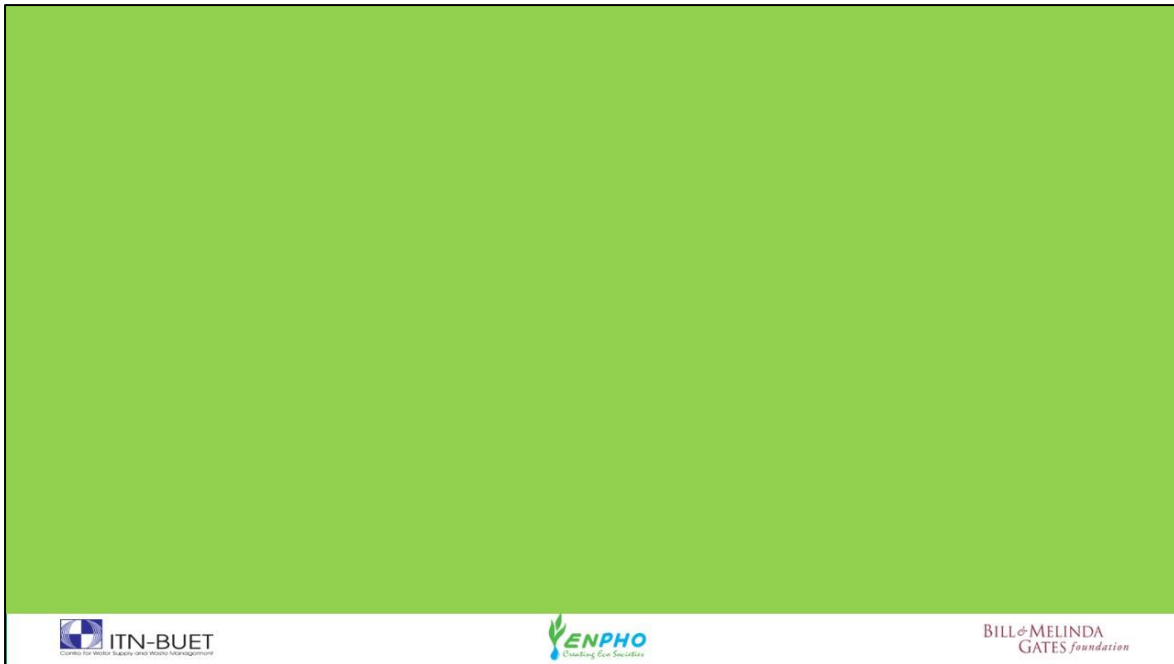
That's why we also need regulation to ensure adequate quality and affordable prices, as we discussed in the previous session.

**Slide 22**



Here we see a situation where there is no utility involved, with the municipal council playing a pivotal integrating and coordinating role. However, in practice, many of these functions are not being carried out. In addition, financing recurrent costs is a problem, and the municipality is introducing a sanitation fee to be charged on water bills collected by the water utility and passed on to the municipal council.

**Slide 23**



Ask if participants have any questions or queries and discuss accordingly

**Slide 24**

<b>CWIS Framework</b>			
<b>Service Outcomes</b>	<b>EQUITY</b> ‘Fairness’ in distribution and prioritization of service quality, service prices, and public finance/subsidies	<b>SAFETY</b> Human waste is safely managed to protect public goods	<b>SUSTAINABILITY</b> Resources and revenues sustain performance
<b>System Functions</b>	<b>RESPONSIBILITY</b> Authority or authorities have clear mandate for ensuring inclusive, safe sanitation services	<b>ACCOUNTABILITY</b> Performance is transparently monitored and managed with +/- incentives	<b>RESOURCE PLANNING &amp; MANAGEMENT</b> Resources are managed to support implementation of mandate and achieve goals across time / space

Discuss in detail about +/- incentives are highlighted in accountability. If one performs greatly what is the incentives and if one performs poorly what is the consequences. This point is highlighted in the accountability part in CWIS.



## Slide 25

### Accountability

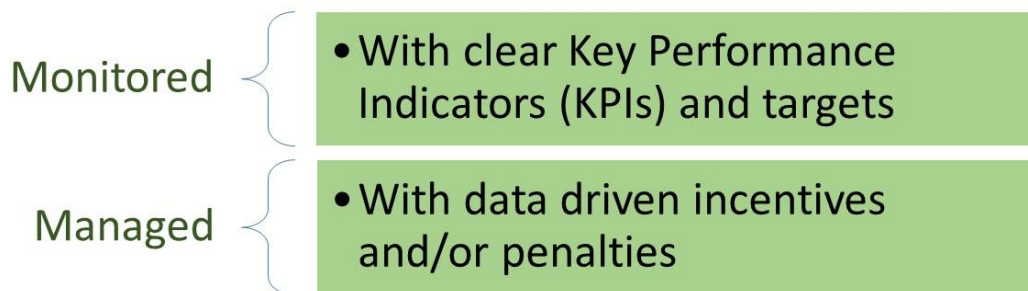
- Being responsible for one's actions, products, decisions and policies.
- Being answerable for resulting consequences of one's actions.



## Slide 26

### CWIS System Function – Accountability

- Authorities' performance against their mandate is monitored and managed with **data, transparency and incentives**.



data that is representative of the entire city, including in low-income settlements and on vulnerable groups

Authorities actively report on performance indicators with transparency

Data is used to inform and manage service delivery and enforcement of performance incentives

Slide 27

## Accountability vs. Responsibility

Responsibility may be bestowed

Responsibility can be given or received, even assumed

It's possible to bear responsibility for something or someone

BUT

Accountability must be taken

that doesn't automatically guarantee that accountability will be taken

still lack accountability






“Responsibility may be bestowed, but accountability must be taken. In other words, responsibility can be given or received, even assumed, but that doesn’t automatically guarantee that accountability will be taken. It’s possible to bear responsibility for something or someone and still lack accountability.”




Slide 28

## Institutional and Governance Framework for SSC



Sanitation Service Chain

	Capture	Emptying	Conveyance	Treatment	Disposal/Reuse										
<b>INSTITUTIONAL MODEL</b>  <b>Accountability</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">SS</td> <td style="width: 15%; text-align: center;">TCC</td> <td style="width: 45%; text-align: center;">CMA (MAWS)</td> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;">TNPCB</td> </tr> </table> <p>*TCC approves building designs and regulates and enforces prescribed standards for toilets constructed by households. The Municipal Administration and Water Supply (MAWS) department of the Government of Tamil Nadu (GoTN) directly oversees the TWAD Board. Minister of the MAWS department also chairs the TWAD Board. MAWS is the regulator of ULB performance across the service chain and also regulates prices/tariffs for SS. Meanwhile, the Tamil Nadu Pollution Control Board (TNPCB) is the environmental regulator for wastewater discharge.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%; text-align: center;">NSS</td> <td style="width: 15%; text-align: center;">TCC</td> <td style="width: 45%; text-align: center;">CMA (MAWS)</td> <td style="width: 15%;"></td> <td style="width: 15%; text-align: center;">TNPCB</td> </tr> </table> <p>*TCC approves building designs and regulates and enforces prescribed standards for containment systems constructed by households. Same as SS, MAWS oversees ULB performance on NSS. There is no regulation on price/ tariff setting for NSS.</p>					SS	TCC	CMA (MAWS)		TNPCB	NSS	TCC	CMA (MAWS)		TNPCB
SS	TCC	CMA (MAWS)		TNPCB											
NSS	TCC	CMA (MAWS)		TNPCB											

Local government, that is, municipality approves building designs and regulates and enforces prescribed standards for toilets constructed by households. ...

Slide 29

## Group Work



4 Groups  
5 minutes

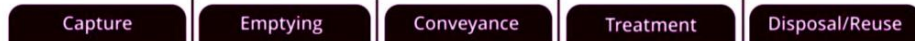


Slide 30

## Group Exercise : Institutional and Governance Framework for SSC



Sanitation Service Chain



Mandate

Accountability

Slide 31

## Responsibility related to Accountability and RPM

- **How?**
- **How is responsibility related to accountability and resource planning and Management?**



Responsibility, accountability and resource planning and management are related to each-other. In presence or absence of one other two are hampered. Ask participants what the relation are between these 3. Collect participants response and present the points and discuss accordingly.

Slide 32

## Responsibility related to Accountability and RPM

- Sanitation mandates often lack associated accountability or financing mechanisms to incentivize implementation
- Clear responsibilities are a pre-requisite if accountability mechanisms are to be effective; and
- Responsibilities cannot be fully executed unless the resourcing mechanisms are in place



## Slide 33

### Responsibility related to Accountability and RPM

- Depending on the level of fiscal autonomy, local governments may be able to supplement transfers through own-revenue generation
- The resourcing gap has implications for accountability



If this is the relation between responsibility and accountability, what is accountability. Let's dig further and present following slide.

## Slide 34

### Key Messages

- Mandates must provide clarity on who is responsible for ensuring different elements of the sanitation service chain.
- Formal legal mandates and actual practice must be aligned.
- Responsibilities for sewered and non-sewered sanitation should be integrated where feasible.
- The service jurisdiction of mandates must include informal settlements.
- Authorities' performance against their mandate is monitored and managed with data, transparency and incentives.

Slide 35

“When performance is measured,  
performance improves.

When performance is measured and  
reported, the rate of improvement  
accelerates.”

– Thomas S. Monson



Slide 36

Thank  
you

## Session 7: CWIS System Function- Resource Planning and Management

### Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation

## CWIS System Function – Resource Planning and Management

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person





### Slide 2

## What do we want to see in our Cities?

<b>Service OUTCOMES</b>	<b>EQUITABLE</b>	<b>SAFE</b>	<b>SUSTAINABLE</b>
	<p><b>'Everyone benefits</b> from services, prices and public investment <b>equitably</b>, with a focus on ensure social and gender inclusion</p>	<p>Human waste is <b>safely</b> managed from <b>containment</b> to <b>reuse/disposal</b></p>	<p><b>Financial, human, environmental</b> resources can sustain services across areas and time</p>





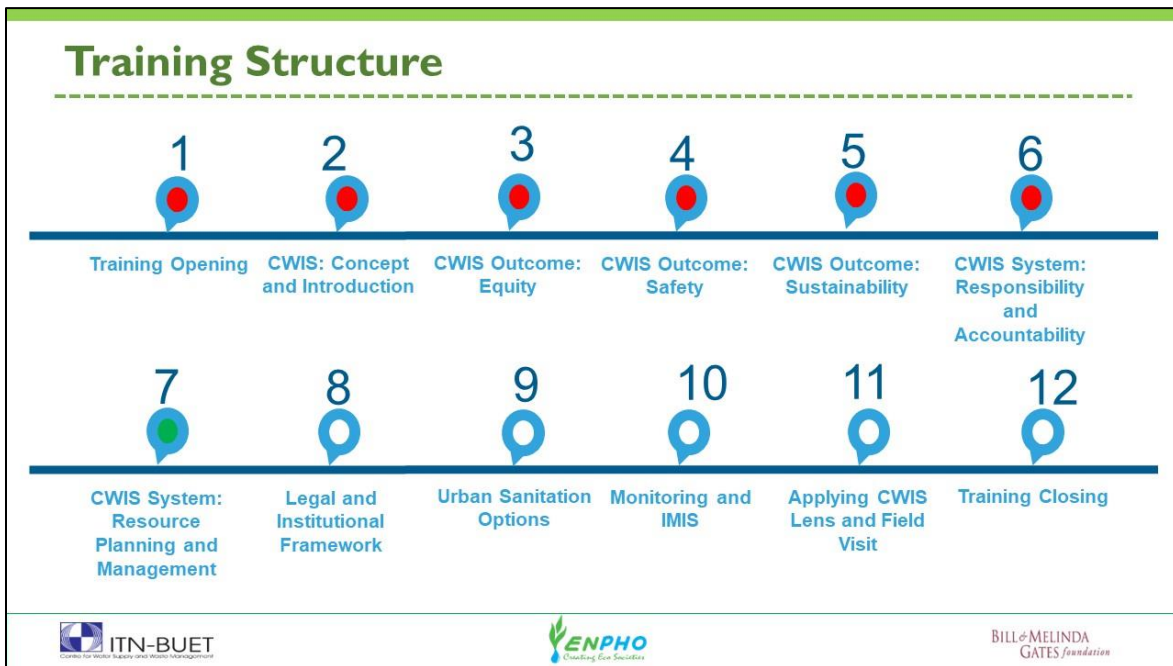
We want sanitation services to be equitable, safe and sustainable

Slide 3



One of the core functions to meet the equitable, safe and sustainable sanitation is RPM

Slide 4



This training includes 10 main technical sessions, and are currently on session 7, CWIS Functions: Resource Planning and Management



## Slide 5

### Learning Outcomes

---

- Explain resource planning and management along with CWIS financial framework
- Analyze the financial flows of municipality and identify the gaps

At the end of the session, participants will be able to:

1. Explain resource planning and management along with CWIS financial framework
2. Analyze the financial flows of municipality and identify the gaps

## Slide 6

### Presentation Outline

---

- Resource Planning and Management
- Financing framework development
- Components of CWIS financing framework
- Financing flows of municipality
- Financial flow throughout SSC and gap identification
- Common Gaps and Issues with Financing Frameworks

Inform participants that they will be discussing on the above topics throughout the session.

## Slide 7

### Resources Planning and Management

---

- **Resources** – human, natural, financial, equipment, assets, facilities, and more.
- **Resource Planning** - A process of **identifying, forecasting, and allocating** resources at the **right time and cost**.
- **Resource Management** - A process of **pre-planning, scheduling, and allocating** resources **efficiently and effectively** to get the best value out of them.

Resource planning maximizes efficiency by helping to manage their utilization rates, track capacity, and monitor progress, to keep projects on budget and work on track. While discussing about RPM in CWIS, resources are effectively managed at all level-national, state and city level to fulfill the mandate across time/ space.

## Slide 8

### Resources Planning and Management

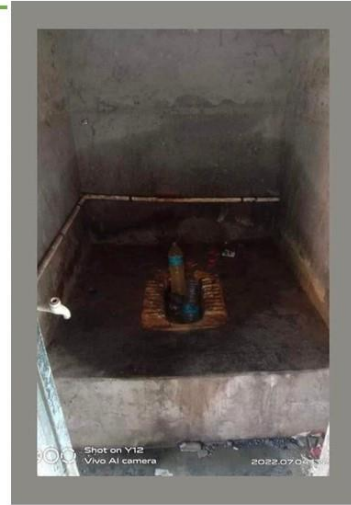
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- Covers the identifying, allocation, distribution, spending and monitoring of resources (financial, assets and people) across time and place.
- Ensure effective allocation and use, and this requires a clear understanding of resourcing needs
- Require engagement of multiple actors
- Investment planning and prioritization processes should be clearly documented, transparent and engage relevant stakeholders

## Slide 9

### RPM Questions

- Are there any clear financing framework to guide allocation of resources?
- Are the decision-making process for sanitation budget allocation transparent, inclusive and informed?
- Is the cost- impact (benefit) analysis done for sanitation investment?
- Are sanitation revenue generation and operating cost managed?



Inform participants that while discussing about the RPM, one should be clear about some of the questions related.

Clear financing framework- to guide sanitation budget allocation based on mandate and service area strategies

Decision making process- are the pro-poor, gender intentional and inclusive

Sanitation revenue and operating cost are managed

If the answer to anyone of the above questions is 'no' there will be a question mark in the achievement of CWIS service outcome. So as to fulfill the CWIS service outcome, one needs to deal with the questions posed and the answer to all should be yes.

## Slide 10

### Financing Framework Development

#### Assessment & Diagnostic

- Sector Policies –
- Priorities and Targets
- Costs and Financial Needs
- Identifying sources
- Stakeholder Engagement
- Risk Assessment



#### Strategy & Monitoring

- Financial Principles and Investment Plans
- Financial flows and mechanisms
- Resource Mobilization
- Monitoring for Results



#### Outcomes




- Appropriate use of Finance
- Attainment of Investment Outcomes
- Scalability of Financing Models
- Sustainability of Finance

For the financing framework development for the proper budget allocation or for the RPM, these things should be considered and describe as per the slide.

**Slide 11**

## Components of CWIS financing framework

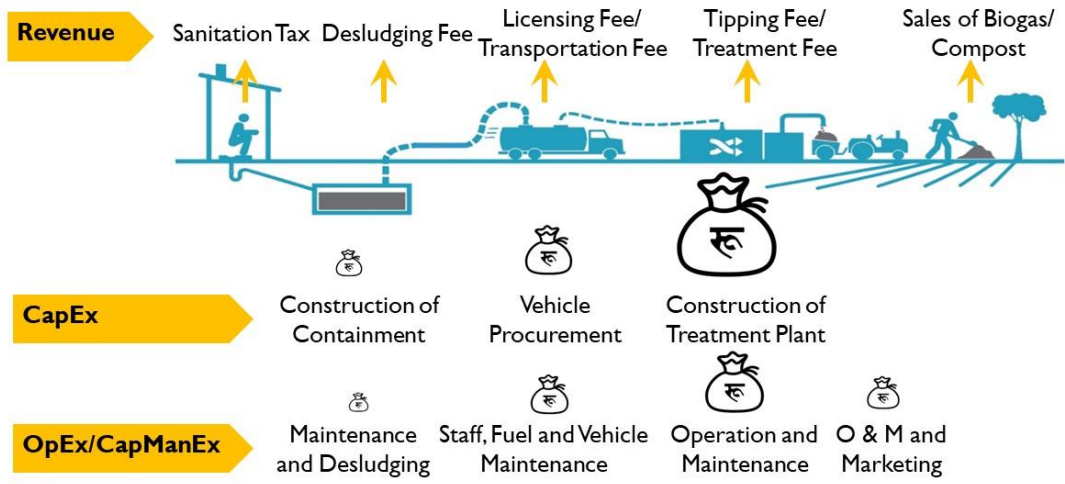
- Precondition to developing a financing framework with clear sector priorities targets and responsibilities, set out in sector strategies and policies
- Requires components that support the assessment and diagnosis of financial needs and revenue sources, and strategic elements that guide the allocation and flow of finance




Budget allocation should be done based on the mandate and city/ service area strategies Sanitation revenue and operating cost are understood and managed , and budgets are allocated to meet targets

**Slide 12**

## Financial Flows: Sanitation Service Chain



Revenue	Sanitation Tax	Desludging Fee	Licensing Fee/ Transportation Fee	Tipping Fee/ Treatment Fee	Sales of Biogas/ Compost
CapEx	Construction of Containment		Vehicle Procurement	Construction of Treatment Plant	
OpEx/CapManEx	Maintenance and Desludging		Staff, Fuel and Vehicle Maintenance	Operation and Maintenance	O & M and Marketing

Financial flow can be explained mainly as revenue, CapEx and OpEx/CapManex

In the slide, the size of the *Thaili* is symbolic to the amount required in each stage. For ex. the cost for construction of treatment plant is larger in comparison to other meaning, the construction cost is higher than other cost.

#### **Revenue streams comprises following provisions**

- Sanitation Tax- Currently, people are paying sanitation tax along with water tariff but people who have no access to water supply are not liable to the sanitation tax. So, it could be a point of discussion that how can every people take under sanitation tax provision.
- Desludging fee (This also includes transportation fee as well)
- Tipping fee- This is the service charge that has to be paid for treatment operator to discharge FS. It also can be termed as treatment fee.
- Sales of end products (compost, biogas etc.)- Particularly, in case of nature based treatment technology, revenue from sales of end products can be enough to bear operating cost.

#### **Capital costs is required for following activities**

- Construction of containment- In Nepal, the cost of construction of containment is solely upon the household level.
- Purchase of suction vehicle- In Nepal, the private sector and municipality are providing desludging services so the capital cost for purchase of suction vehicle is solely upon the private sector or municipality.
- Construction of treatment facility- In Nepal, for the construction of treatment facility requires highest investment and operation and maintenance and most of the financial flow for this is from Government and development partners. However, engagement of private for investment in FST is one of the most challenging and equally important.

#### **Operating costs is required for following activities**

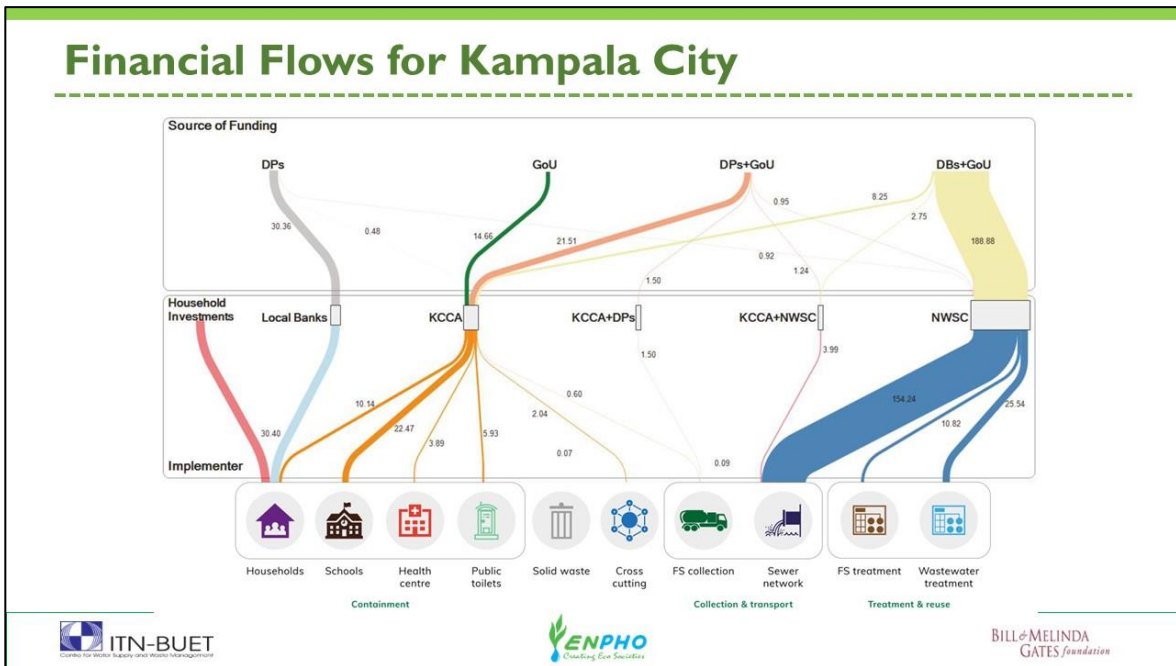
- Maintenance of containment (household level)
- emptying of the containment (household level)
- Staff salary of desludger/treatment plant operator
- Maintenance of vehicle and treatment plant
- Packaging and cost for end products supply

#### **Income from revenue can cover annual O&M costs**

Cap Maintenance Expenditure is major maintenance which require capital cost that should be managed.

Many did not consider. At the time of the major damage, There may require capital cost for maintenance.


Slide 13




Present the slide as an example of financial flows. The main source of Funding for Kampala city is Development banks and the Government of Uganda while other sources includes Development partners and household investments. Similarly, the major portion of investment is done in the sewer network while relatively very less budget is invested on FS treatment and wastewater treatment.

Slide 14

### Group Work



3 Groups  
10 minutes



Ask participants to work on the financial flows of their municipality. You may show the earlier slide as an example for their exercise

Slide 15




## Group Exercise: Financial Flows

---

Funding Source

Implementer

Project






Ask participants to work on the financial flows of their municipality. You may show the earlier slide as an example for their exercise. Inform participants that projects means the head of the budget for expenditure like health, education, sanitation and etc.




Slide 16

## Institutional and Governance Framework for SSC

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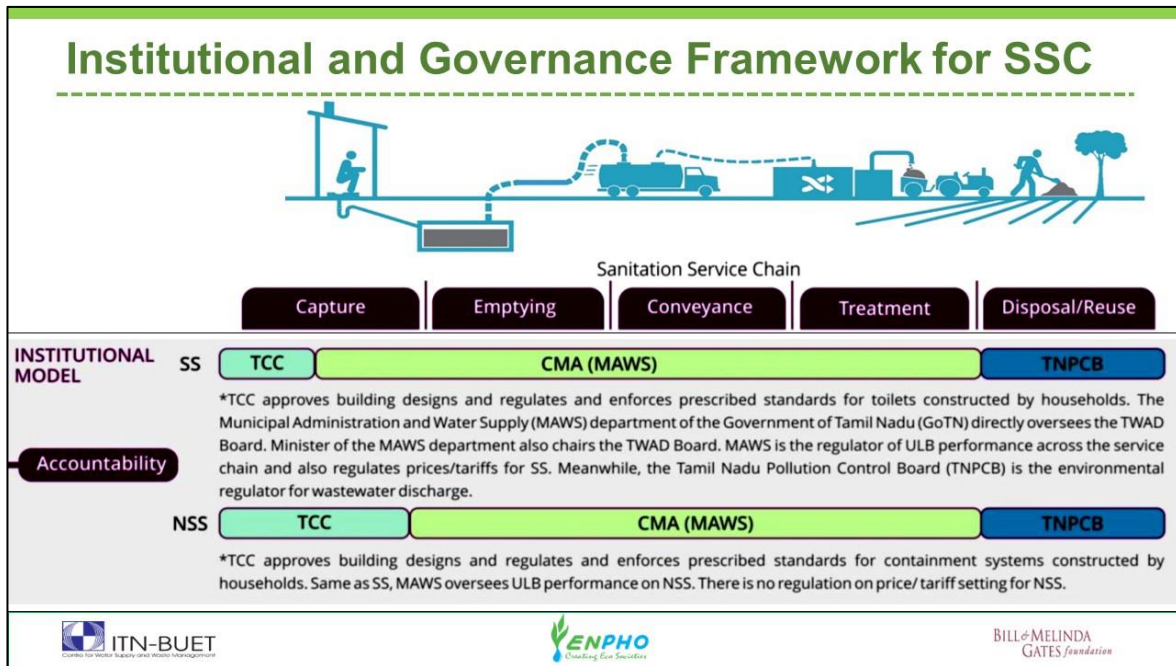


		Sanitation Service Chain				
		Capture	Emptying	Conveyance	Treatment	Disposal/Reuse
<p>Trichy - Current (2020) No major change since CWIS investment</p>	<p><b>INSTITUTIONAL MODEL</b></p> <p>SS</p>	HH	TWAD Board & TCC			
<p><b>Mandate</b></p>		<p>*Households are responsible for the construction of their own toilets and containment systems. The Tamil Nadu Water Supply and Drainage (TWAD) Board is a statutory body corporate entrusted with the development of water supply and sewerage facilities in the State of Tamil Nadu, except for Chennai Metropolitan Development Areas. TWAD Board has the mandate to prepare Detailed Project Reports, build, operate, maintain and transfer water supply and sewerage projects to the local government. The Tiruchirappalli City Corporation (TCC) is the local government mandated to operate and maintain the system. At present, TCC is outsourcing the operations and maintenance to a Project Management Consultancy (PMC).</p>				
	<p>NSS</p>	HH	TCC	TWAD Board & TCC		
		<p>*Households are responsible for the construction of their own toilets and containment systems. Fecal sludge is co-treated at the STP, which is built by the TWAD Board and operated by private contractors under the supervision of TCC.</p>				

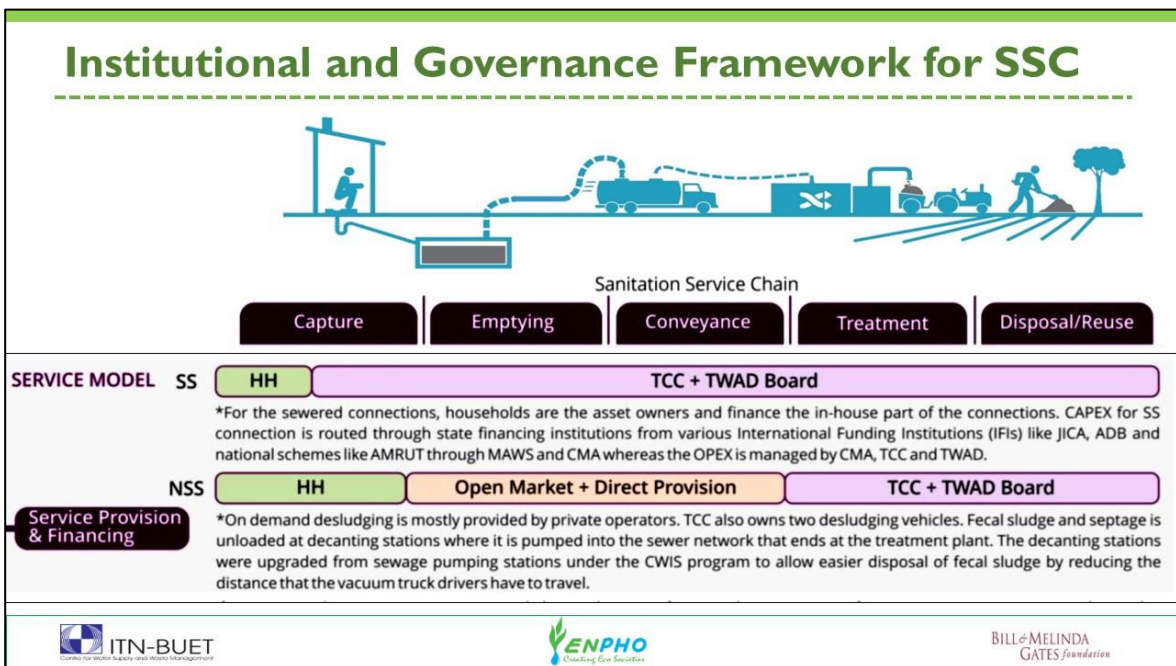
Present this slide as an example only as this is already presented in earlier session.

Slide 17



Present this slide as an example only as this is already presented in earlier session.

Slide 18



Explain in detail about the slide.

For both sanitation systems (SS and NSS), HH are the asset owners and finance the in-house part of the sanitation system.

For the CapEx for SS connections routed through state financing institutions from various International Funding Institutions (IFIs) and national schemes whereas the OpEx is managed by local governance.



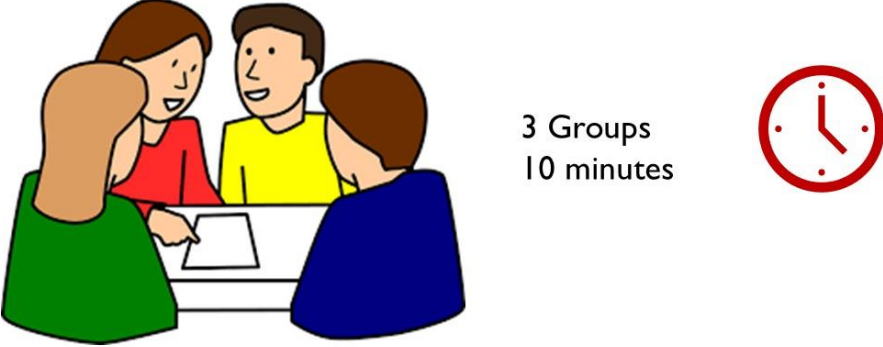
In the NSS, desludging and transportation is again invested by the HH while the service is provided by the private operators and the local governance as well. The whole responsibility of the treatment and disposal is under the local governance and the service providing utility body.

The mandate for urban sanitation resides in 2 institutions:


- Local government and
- The utility (public and or private)
- If the jurisdiction of service authority is at the national, regional or city level

**Slide 19**


**Group Work**



3 Groups  
10 minutes



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Ask participants to work on the financial flows of their municipality. You may show the earlier slide as an example for their exercise

Slide 20

## Group work

The diagram illustrates the Sanitation Service Chain as a horizontal flow from left to right. It starts with a person using a toilet, followed by a pipe leading to a septic tank. From there, a truck is shown emptying the tank. The waste is then transported to a treatment facility, represented by a building with a recycling symbol. Finally, the treated waste is disposed of or reused, shown by a person spreading material on a field. Below the flow, five stages are listed in black boxes: Capture, Emptying, Conveyance, Treatment, and Disposal/Reuse. A large orange arrow points to the right, containing the text 'Service Provision and Financing'.

Sanitation Service Chain

- Capture
- Emptying
- Conveyance
- Treatment
- Disposal/Reuse

- Service Provision and Financing

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Again, ask participants to note the responsible entity for the service delivery and financing mechanism throughout the sanitation service chain. You may present the earlier slide for the reference.

Slide 21

## What are the Gaps ?

### Four Steps of Gap Analysis

The flowchart consists of four orange arrows pointing to the right, arranged in a descending staircase pattern. The steps are: 'Know current status', 'Know your target', 'Know your Gap', and 'Develop Action Plan to fill up the Gap'.

- Know current status
- Know your target
- Know your Gap
- Develop Action Plan to fill up the Gap


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After the presentation of the group work from earlier activity, ask participants if they felt any kind of gap in sanitation budget allocation and explain that for the gap analysis there are four steps and present as per the slide.





Slide 22

## Group Work

---



3 Groups  
5 minutes




Going back to their earlier work, ask participants to find the key gaps in sanitation sector.




Slide 23

## Common Gaps and Issues

---



- Weak alignment between urban sanitation strategies, targets and financing
- Existing balance of finance is not always clear
- Poor understanding of future investment needs
- Government tax allocations do not reflect public service nature of improved sanitation outcomes
- Tariffs remain an important part of financing mix, but evidence suggests full cost recovery is infeasible



Slide 24

## Common Gaps and Issues



- Split responsibilities can hamper cross-subsidies for non-sewered sanitation
- Private sector engagement and commercial finance present an opportunity, provided barriers can be overcome
- The misalignment of responsibilities, decision-making and incentives
- KPIs for urban sanitation are weak and insufficient to guide finance priorities
- Poor and informal communities remain marginalized in finance priorities

Slide 25

## Key Messages

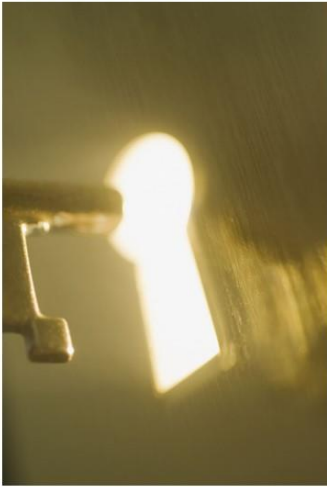


- Financing frameworks are key.
- Better understanding of the cost of CWIS is crucial
- Investments in software along with hard infrastructure
- Affordability remains a constraint to a balanced funding mix and viable service delivery
- Evidence based monitoring to improve performance, drive investment and address inequality

## Slide 26

### Key Messages

---



- Financing and investment decisions, asset ownership and operations often sit with different stakeholders.
- Achieving the right mix of finance is critical for long term services, as well as equity and viability of results.
- The tracking of investment results is imperative, but currently overlooked by both lenders and borrowers.

## Slide 27

---

**“Give me six hours to chop down  
a tree and I will spend the first  
four hours sharpening the axe.”**

**Abraham Lincoln, 16<sup>th</sup> President of USA**

---

Thank  
you

## Session 8: Enabling Environment- Legal Framework and Institutional Arrangements

### Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation



**NON-SEWERED SANITATION SYSTEM**

**SEWERED SANITATION SYSTEM**

## Enabling Environment: Legal Framework & Institutional Arrangements

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person



### Slide 2

### Before Starting...





Presenting first picture, what is this?

*Expected answer: Foundation*

What is the importance of such structure?

*Expected answer: For a strong building, foundation should be strong*

What other components need to be added to make it live-able?

*Expected answer: wall, doors and windows, roof, plaster and paint, furniture etc...*

As there are different enabling factors to make a house liveable, similarly to apply CWIS, particularly in FSM one needs a base or foundation as well as an enabling environment. Hence will be discussing more on it in the session.




**Slide 3**

### Instruction for Intro

---

**Before presenting the learning outcome:**

- Presenting the picture from earlier slide, ask participants, (take 2 to 3 voices for each question)
  - Importance of such structure for a strong building/ house
  - What other components need to be added to make it liveable? (P/A: wall, doors and windows, roof, plaster and paint, furniture, etc)
- Inform participants as they have responded, to make a house liveable, there are different enabling factors.
- Similarly, to work on any given/ specific topic, FSM for instance, we need a base or foundation as well as an enabling factors/ environment for the implementation of the same. Hence, we are discussing on the enabling environment required for the implementation of CWIS focusing on FSM.
- Present the learning outcomes of the session




Or to organizational policy, how a policy of an organization support for the enabling environment for a productive output/ outcomes.

**Slide 4**

### Training Structure

---

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
Training Opening	CWIS: Concept and Introduction	CWIS Outcome: Equity	CWIS Outcome: Safety	CWIS Outcome: Sustainability	CWIS System: Responsibility and Accountability
<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>
CWIS System: Resource Planning and Management	Legal and Institutional Framework	Urban Sanitation Options	Monitoring and IMIS	Applying CWIS Lens and Field Visit	Training Closing

This training includes 10 main technical sessions, and are currently on session 8, Enabling environment- Legal and institutional framework



## Slide 5

### Learning Outcomes

---

- Summarize the importance of institutional and legal framework for FSM
- Define FSM policy framework, regulations and institutional arrangements in context of Nepal
- List out SDG indicators on sanitation and relevance of FSM in Total Sanitation Guideline

At the end of the session, participants will be able to...

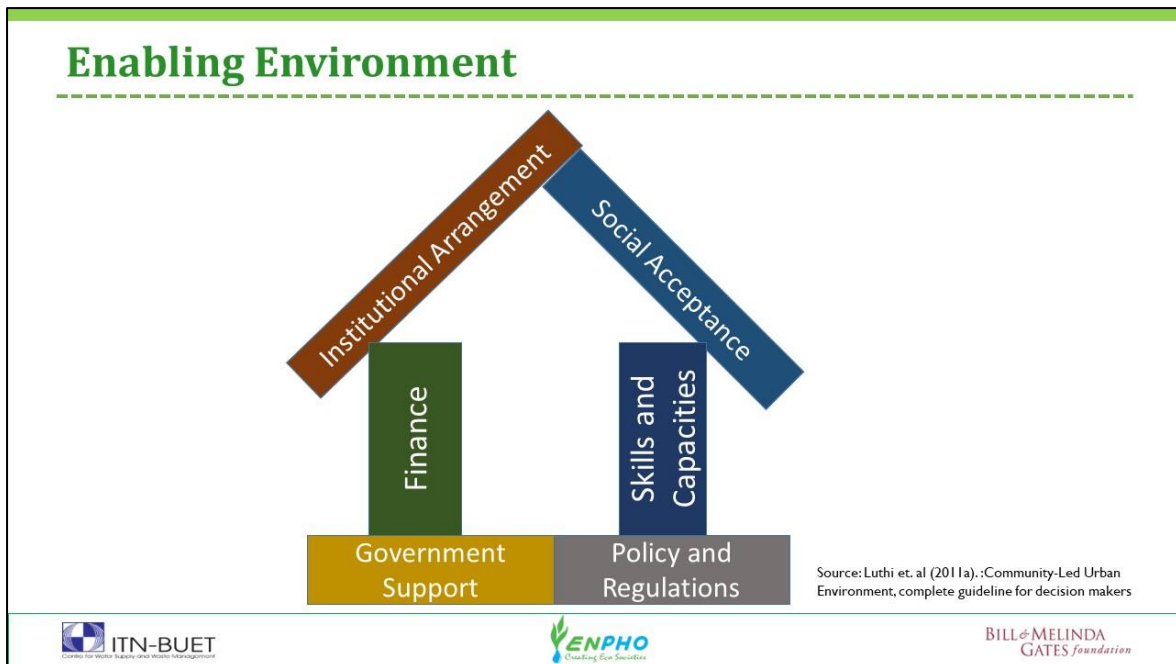
## Slide 6

### Presentation Outline

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- Enabling Environment
- Importance of FSM Policy Framework and Institutional Arrangements
- Legal Documents on WASH in Nepal
- FSM in Legal Documents
- FSM in Policy Documents
- FSM Institutional & Regulatory Framework
- FSM Bylaws in Nepal
- SDG 6 :Target and Indicators
- FSM in Total Sanitation Guideline
- CWIS guideline

## Slide 7



An environment is critical for the success of any type of investment for the **enabling improvement** for city wide FSM system. In order to understand the large variety of potential influences, the enabling conditions are classified into six categories.

1. Government support,
2. Legal and regulatory framework
3. Institutional arrangement,
4. skills and capacities,
5. Financial arrangement and
6. socio-cultural acceptance

Among them, the policy and regulatory framework will be discussed in details

## Slide 8

### FSM Policy Framework and Institutional Arrangements

An institutional framework needs to be developed, specific to local situation, in order to:

- Ensure successful implementation of FSM systems
- Foster coordination among the stakeholders by defining their roles and responsibilities;
- Provide stringent and clear laws required to protect the environment from illegal FS disposal;
- Encourage private sector engagement for effective service delivery and sanitation business;

FSM policy and institutional arrangements require strong commitment from the government

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Why policies and institutional arrangement?

Slide 9

## Institutional Arrangement along Sanitation Service Chain


---

- Systems that have more stakeholders involved will be more complex;
- In contrast, if only one stakeholder is in-charge of whole service chain, flexibility may be hard to ensure, and intensive management procedures are then necessary;
- The selection of an institutional arrangement that is appropriate for the local context is crucial.


	Laws	Collection	Transportation	Treatment	End use/ Disposal
1	█	█	█	█	█
2	█	█	█	█	█
3	█	█	█	█	█
4	█	█	█	█	█
5	█	█	█	█	█
6	█	█	█	█	█
7	█	█	█	█	█
8	█	█	█	█	█
9	█	█	█	█	█

one block represents one stakeholder

↑ Increase in number of Stakeholders



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Present the figure as an example for the institutional arrangements for SSC. As illustrated in figure, there may be various stakeholders responsible for each component of SSC, starting from a different stakeholder for each of the component or simply, it can be merged with any other component. As you increase from 1 to 9 you see less stakeholders, indicating less complexity. Focus on selection of an institutional arrangement that is appropriate for the local context is crucial and may choose any of the model of stakeholder engagement as per their context. Tell participants that to the institutional set up, there are some policies and legal documents related to FSM, which they may be familiar. Ask participants "What are the available policies or legal documents on FSM in Nepal?"  
Take 2 to 3 responses.

Slide 10


## Constitutional Provisions in Nepal

---


- **Right regarding clean environment**
  - Article 30 (1) Each person shall have the right to live in a healthy and clean environment.
  - Article 30 (2) The victim of environmental pollution and degradation shall have the right to be compensated by the pollutant as provided for by law.
- **Right to health care**
  - Article 35 (4) Each citizen shall have the right to access to clean water and hygiene.



नेपालको संविधान  
२०७२



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Nepal's constitution has made provision following articles under its section 3: Fundamental right to live in the clean Environment.

- Article 30 (1) says every citizen has the right to live in a clean and healthy environment.
- Article 30 (2) says polluters should compensate for the loss due to the environment pollution and degradation.

Right to Health :

- Article 35 (4) says Every citizen has the right to access safe drinking water and sanitation.

## Slide 11

SDG Indicators and Targets of Nepal					
SDG 6: Ensure availability and sustainable management of water and sanitation for all					
Targets and Indicators	2015	2019	2022	2025	2030
<b>Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations</b>					
6.2.1 Households using improved sanitation facilities which are not shared (%)	60 <sup>d</sup>	69.3	78.7	85.7	95
6.2.2 Proportion of population using latrine (%)	67.6 <sup>e</sup>	75.7	83.8	90.0	98
6.2.3 Local authority areas that have declared Open Defecation Free (%)	41 <sup>f</sup>	56.5	71.9	83.5	99
6.2.4 Sanitation coverage (%)	70 <sup>g</sup>	77.7	77.5	83.3	99
6.2.5 Urban households with toilets connected to sewer systems/ proper FSM (%)	30 <sup>a</sup>	46	62	74	90
<b>Target 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated waste water and increasing recycling and safe reuse.</b>					
6.3.1 Proportion of untreated domestic waste water (%)	99 <sup>c</sup>	89.9	83.1	76.3	65
6.3.2 Proportion of untreated industrial waste water (%)	99 <sup>c</sup>	75.3	57.5	39.7	10
6.3.3 Proportion of bodies of water with good ambient water quality	-	-	-	-	-

Source: Nepal Sustainable Development Goals, Status and Roadmap: 2016-2030, GoN, Nepal Planning Commission

By 2030, As per the SDG target, there is the target to be achieved to 90 % by 2030. However, financial and technical constraints are not able to achieve the wastewater treatment as per target. As there are 70 % population with onsite sanitation system, FSM is very crucial which should be focused to achieve the target.

Similarly,

To reduce the untreated domestic




FSM should be implemented to improve the water quality as per the SDG target

## Slide 12

### FSM in Total Sanitation Guideline

<p>सफा र स्वच्छ अवस्था</p> <p>वातावरणीय सरसफाइ (<b>Environmental Sanitation</b>)</p>	<ul style="list-style-type: none"> <li>घरायसी एवं संस्थागत तहमा ठोस तथा तरल फोहोर मानव मलमूत्रको व्यवस्थापन (<b>Faecal Sludge Management</b>) को हकमा व्यवस्थित सेप्टिक ट्यांकीमा जोडिएको पक्की वाटरसील चर्पी लगायत अन्य उपयुक्त प्रविधिको प्रयोग भएको</li> <li>नगर र नगरोन्मुख क्षेत्रमा ठोस फाहोरमैलाको व्यवस्थापनको लागि स्यानिटरी ल्याण्डफिल्ड साइटको पहिचान गरी निर्माणको योजना तर्जुमा भएको,</li> </ul>
	<ul style="list-style-type: none"> <li>ठोस तथा तरल फोहोर व्यवस्थापनको आवश्यकता अनुसार स्थानीय प्रविधि संचालनमा छैन अवलोकन गर्ने</li> <li>नगर र नगरोन्मुख क्षेत्रमा ठोस फाहोरमैलाको व्यवस्थापनको लागि योजना तर्जुमा भएको छैन सोध्ने र अवलोकन गर्ने ।</li> <li>ढल प्रणालीको योजना अवलोकन गर्ने</li> <li>बघशाला सफा र स्वच्छ रहेको ।</li> <li>खानेपानी,सरसफाइ र स्वच्छताका सुविधाहरुमा सबैको पहुँच पुगेको छ छैन? राम्ररी संचालनमा रहेका छन् छैन अवलोकन गर्ने, सोध्ने</li> </ul>

**A water-sealed toilet should be connected with properly designed septic tank at both household and institutional level for FSM**

This is the document from the Total Sanitation Guideline 2017. As per the total sanitation guideline. There are many indicators required for the Clean and Healthy Areas and Total Sanitation oriented Areas.




It clearly mentions that to achieve Total sanitation, FSM should be a focus. It includes water-sealed toilet should be connected to properly designed septic tank at both household and institutional level for the Faecal Sludge Management

## Slide 13

### Legal Provision on Water and Sanitation

- Policy documents – 17;
- Legal documents – 11.

<ol style="list-style-type: none"> <li>1. Land Acquisition Act 2034</li> <li>2. Nepal Water Supply Corporation Act 2046 (1989) and subsequent amendments and regulation</li> <li>3. Water Resources Act (WRA) 2049 (1992)</li> <li>4. Environmental Protection Act 2053 (1996) and Environmental Protection Regulation 2054 (1997)</li> <li>5. Water (Drinking) Supply Regulation 2055 (1998) framed to regulate water supply for drinking water and sanitation services</li> <li>6. Local Self Governance Act 2055 (1999) and Local Self Governance Regulation 2056</li> <li>7. Nepal National Building Code (2003)</li> <li>8. Water Supply Management Board Act 2063 (2006) and regulation</li> <li>9. Water Supply Tariff Fixation Commission Act 2063 (2006) and regulation</li> <li>10. Urban Environment Management Directives 2068 (2011)</li> <li>11. Solid Waste Management Act 2068 (2011) and Solid Waste Management Regulation 2069 (2012).</li> </ol>	<ol style="list-style-type: none"> <li>1. National Policy on Solid Waste Management 2053 (1996)</li> <li>2. National Water Supply Sector Policy 2055 (1998)</li> <li>3. Kathmandu Valley Water Supply and Sanitation Sector Policy 2057 (2000)</li> <li>4. Rural Water Supply and Sanitation National Policy (2004) and Rural Water Supply and Sanitation National Strategy (2004)</li> <li>5. National Water Resources Strategy (2002) and National Water Plan (2005)</li> <li>6. National Drinking Water Quality Standards (2005)</li> <li>7. National Urban Policy (2007)</li> <li>8. Bagmati Action Plan (2008)</li> <li>9. Urban Water Supply and Sanitation Sector Policy (2009)</li> <li>10. TYIP 2007-2010, TYP Approach Paper, and TYP 2013-2016</li> <li>11. Nepal Health Sector Programme – Implementation Plan 2 (2010)</li> <li>12. Conceptual Wastewater Master Plan for Kathmandu Valley (2010)</li> <li>13. National Sanitation and Hygiene Master Plan (2011)</li> <li>14. Vision Paper, Ministry of Urban Development 2069 (2012)</li> <li>15. Nepal MDGs Acceleration Framework (2013)</li> <li>16. Environment-friendly local governance framework (2013)</li> <li>17. National Urban Development Strategy (2015).</li> </ol>
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Present the overview showing the slide and just inform that there are 17 policy documents and 11 legal documents.

Slide 14

## Policy and Legal Documents

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**Environmental Protection Act, 2076 (2019) and Environmental Protection Regulation, 2077 (2019):**




- Prevention and control of pollution or acts harmful to environment. Regulation for WWM to dispose into water bodies. **No specific provisions for FSM.**

**Nepal National Building Code 2003:**

- Guidelines for construction of septic tanks. **No provisions for sludge removal, treatment and safe disposal.**

**Water Supply Tariff Fixation Commission Act 2063 (2006):**

- Septic tanks should be properly managed by households and private sector encouraged to treat faecal sludge.

These are the legal documents that related to the Faecal sludge management. However, there is no dedicated provision for FSM.

**Environmental Protection Act, 2076 (2019):** The Act explicitly authorizes the Government of Nepal to set standards to reduce and regulate emission, hazardous waste, Pollution emitted by vehicles, equipment, industries, hotels, restaurants and other institutions or activities. There is no specific provisions for FSM.

**The National Building Code** provides guidelines among others for water supply and sanitation provision within buildings including collection and disposal of wastewater and storm water from houses and the standards for constructing the toilets' plumbing and other sanitation services.

Slide 15

## Policy and Legal Documents

---

SN	Policy documents	Areas covered
1.	National Policy on Solid Waste Management 2053 (1996)	<ul style="list-style-type: none"> <li>• Enhance <b>public participation</b> through increased public awareness of sanitation, focused on urban and peri-urban areas.</li> <li>• Responsible bodies: Local bodies and SWMC.</li> </ul>
2.	Urban Water Supply and Sanitation Sector Policy 2009	<ul style="list-style-type: none"> <li>• Encourage community participation and <b>public-private partnerships</b> in service delivery.</li> <li>• <b>Innovative on-site sanitation</b>, like ECOSAN to be promoted.</li> <li>• Responsible bodies: Municipalities, local bodies and NGOs, with line agencies to take a facilitation role.</li> </ul>
3.	Kathmandu Valley Water Supply and Sanitation Sector Policy 2057 (2000)	<ul style="list-style-type: none"> <li>• <b>Private sector participation</b> to be encouraged in the management of collection, treatment and disposal of on-site system sludge.</li> <li>• Responsible bodies: MoUD, KVWSMB, KUKL, Private sector.</li> </ul>







The objective of the slide is to aware participants on various documents of policies and regulations.

**Slide 16**




<b>Policy and Legal Documents</b>		
<b>SN</b>	<b>Policy documents</b>	<b>• Areas covered</b>
4.	National Water Resources Strategy (2002) and National Water Plan (2005)	<ul style="list-style-type: none"> <li>• <b>On-site sanitation development</b> within Programmes. <b>No clear arrangements</b> for proper management and treatment of sludge.</li> <li>• Responsible bodies: Local bodies.</li> </ul>
5.	National Urban Policy 2007	<ul style="list-style-type: none"> <li>• No clear provisions</li> </ul>
6.	Fifteenth Plan 2016/17-2020/21, Approach Paper	<ul style="list-style-type: none"> <li>• <b>Clarity on WWM, FSM, need of effluent discharge standard</b></li> <li>• <b>Envisioned financing WWM/FSM and private sector engagement in the sector</b></li> </ul>
7.	Conceptual Wastewater Master Plan for Kathmandu Valley (2010)	<ul style="list-style-type: none"> <li>• No clear provisions</li> </ul>

There are some FSM related policy and legal documents. Based on these documents, the effluent standards for wastewater and Total Sanitation Guidelines 2017 has been prepared to cover FSM.

**Slide 17**




<b>FSM Policy and Legal Documents</b>		
<b>SN</b>	<b>Policy documents</b>	<b>• Areas covered</b>
8.	National Sanitation and Hygiene Master Plan (2011)	<ul style="list-style-type: none"> <li>• <b>Decentralized sanitation options</b> preferred.</li> <li>• <b>Community and private sector participation</b> in waste management.</li> <li>• Responsible bodies: Local bodies, government and sector stakeholders.</li> </ul>
9.	Vision Paper, Ministry of Urban Development 2069 (2012)	<ul style="list-style-type: none"> <li>• Increase public participation and awareness and adopt <b>PPP approach</b>.</li> <li>• Responsible bodies: MoUD, municipalities.</li> </ul>
10.	National Urban Development Strategy 2015	<ul style="list-style-type: none"> <li>• No Clear Provisions</li> </ul>

Slide 18

## Analysis Through CWIS Lens

- **Equity:**
  - PPP in service delivery
  - Decentralized sanitation options
  - Occupational Health and Safety guideline
  - **LICs and marginalized is not clearly mentioned**
- **Safety:**
  - Regulation for WWM to dispose into water bodies
  - Guideline for septic tank construction
  - Innovative on-site sanitation
  - Need of effluent discharge standard
  - **No provisions for sludge removal, treatment and safe disposal**



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Equity: affordability or any tariff for sanitation service



Safety:

Need of effluent discharge standard though we have the wastewater effluent standard for domestic WW

Slide 19

## Analysis Through CWIS Lens

- **Sustainability:**
  - Public participation through increased public awareness of sanitation
  - **No clear indication for resource recovery and capital investment**
- **Responsibility:**
  - Septic tanks should be properly managed by households and private sector encouraged to treat faecal sludge
  - **No clear arrangements for proper management and treatment of sludge**



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It's house owner's responsibility to have septic tank before getting building construction permission but who is responsible for desludging service or there is no legal provision/arrangement for desludging. Also, there is no dedicated disposal site.



## Slide 20

### Analysis Through CWIS Lens

- **Accountability:**

- No provision for data collection and monitoring



ACCOUNTABILITY

- **Resource Planning and Management:**

- Envisioned financing WWM/FSM and private sector engagement in the sector
- Lack of financing framework to guide allocation of resources
- No provision for effective management of resources- human, financial, natural, assets



RESOURCE  
PLANNING AND  
MANAGEMENT

#### Accountability:

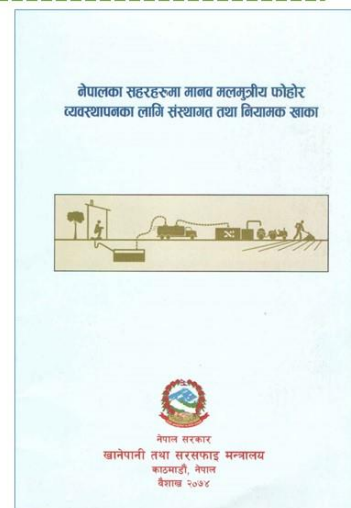
There is institutional system/mechanism/regulation to have septic tank but there is no accountable body and institutional mechanism.

Who is accountable to monitor the pollution due to wastewater and fecal sludge

## Slide 21

### FSM Institutional & Regulatory Framework

- Endorsed by Ministry of Water Supply & Sanitation in 2074 B.S.;
- First document to focus solely on FSM;
- Clear objectives on FSM;
- Clear roles and responsibilities of different stakeholders on FSM;



FSM institutional & regulatory framework was endorsed by Ministry of Water Supply & Sanitation in 2074 B.S. and the first document is dedicated to FSM.

The main objectives of the institutional regulatory framework, 2017 is to:

- Define specific roles and responsibilities of key institutions for the effective management and regulation of FSM; and

- .Provide guidance for the effective planning, implementation and monitoring of FSM services in small towns

## Slide 22

Role & Responsibility of Local Government in FSM								
Stakeholders	Policy and Guidelines	Coordination	Collection and Transportation	Treatment	Disposal/ End use	Regulation	Capacity Building	Monitoring
MoWSS and MoFALD	•	•				•	•	•
MoPE	•	•				•	•	•
Municipality/ VDC utility	•	•	•	•	•	•	•	•
WUSCs		•	•	•	•		•	•
Private sectors/ entrepreneurs			•	•	•			
Research/ Academia	•						•	•
DPs/ INGOs	•	•					•	

The chart defined in IRF-FSM, 2017 clarifies the role and responsibilities of stakeholders. Since the documents has been prepared before the restructuring of administrative governance unit/level, the stakeholder mentioned in the chart is not as per the new structure. So need to relate with present context.

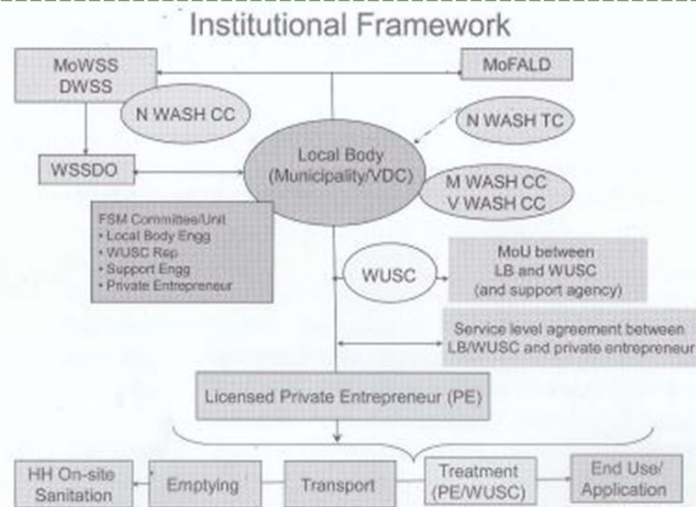
It is noteworthy that the local governments have the role on all the activities starting from the policy formulation to monitoring. Thus local government's role is crucial in FSM.

### Role of local governments

- Responsible for **planning and monitoring** the management of faecal sludge
- Provide necessary **land and access road** to set up FS treatment plant
- **Form committees** to ensure proper implementation of FSM
- Prepare, approve and disseminate **designs, institutional mechanisms, business plans and operational guidelines** for FSM
- **Engage user committees and private sector** for collection, transport and reuse of faecal sludge

## Slide 23

### Institutional Framework – IRF-FSM



## Slide 24

### Role of Local Governments

- Responsible for **planning and monitoring** to manage faecal sludge
- Provide necessary **land and road access** to set up FS treatment plant
- **Form committees** to ensure proper implementation of FSM
- Prepare, approve and disseminate **designs, institutional mechanisms, business plans and operational guidelines** on FSM
- **Engage user committees and private sector** for collection, transport and reuse of faecal sludge

Roles of local governments are very important in FSM local policy formulation, planning, design, implementation, monitoring and regulation

Specific roles of municipalities/ local government

## Slide 25

### Role of Local Governments

- Issuing a license to private entrepreneur for FS collection, transport and disposal at FSTP
- Providing adequate financial resources for O&M of FSM
- Coordination with neighboring local bodies for FSM
- Linkage and coordination with local WASH committees on sanitation promotion
- Ensuring designs of septic tanks and soak away systems as per approved standards
- Monitoring effective implementation of FSM and ensuring regulation compliance and instituting improvements

Specific roles of municipalities/ local government

## Slide 26

### Initiation from Local Government

- Implementation as per the existing policies and legal documents
- Update and contextualize
- Analyzing gaps in the legal framework and fulfilling it at local government level

#### Legal Provision on Water and Sanitation

- Policy documents – 17;
- Legal documents – 11.

1. Land Acquisition Act 2034
2. Nepal Water Supply Corporation Act 2046 (1989) and subsequent amendments and regulation
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5. Water (Drinking) Supply Regulation 2055 (1998) framed to regulate water supply for drinking water and sanitation services
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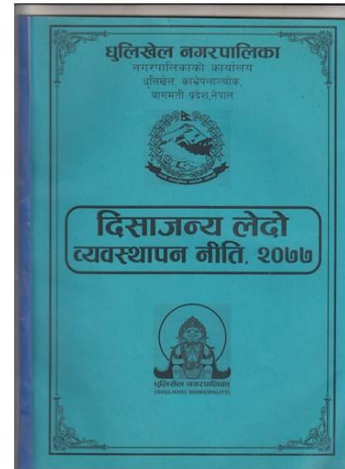
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13. National Sanitation and Hygiene Master Plan (2011)
14. Vision Paper, Ministry of Urban Development 2069 (2012)
15. Nepal MDGs Acceleration Framework (2013)
16. Environment-friendly local governance framework (2013)
17. National Urban Development Strategy (2015).

Analyzing gaps and fulfilling- ex. formulating FSM by-laws and other supportive documents (act and policies) to formulate it

## Slide 27

### Municipal FSM Policies in Nepal

- 5 municipalities (Bheemdatt, Lahan, Lamahi, Waling and Dhulikhel) developed and endorsed Municipal FSM Policy
- Issued in 2077 (2020)
- Major coverage of policy is on-site sanitation system : safe containment, de-sludging, transportation, treatment and reuse or safe disposal.



Based on the roles and responsibilities outlined in IRF, Municipalities and RM may formulate specific regulations/bye-laws if needed, for implementing FSM in a specified local context. Such a provision for formulation of specific by-laws has been provided on Local government operations act 2074.

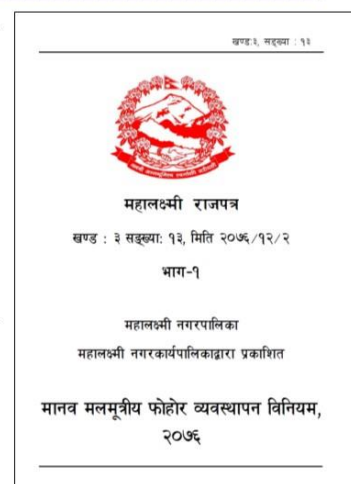
The scope of this FSM By-laws is primarily limited to non-sewered, on-site sanitation and covers:

- Safe collection, treatment and disposal and/or reuse of faecal sludge management to an accepted standard, and
- The promotion of appropriate practices for faecal sludge management.

## Slide 28

### Municipal FSM Bylaws in Nepal

- Nepal's first FSM bylaws developed and endorsed by Mahalaxmi municipality, Lalitpur
- Issued in 2076 (2020)
- Major coverage of bylaws is on-site sanitation system : safe containment, de-sludging, transportation, treatment and reuse or safe disposal.
- Other municipalities (Bheemdatt, Lahan, Lamahi, Waling and Dhulikhel) are in the process of FSM bylaws development.



Based on the roles and responsibilities outlined in IRF, Municipalities and RM may formulate specific regulations/bye-laws if needed, for implementing FSM in a specified local context. Such a provision for formulation of specific by-laws has been provided on Local government operations act 2074.

The scope of this FSM By-laws is primarily limited to non-sewered, on-site sanitation and covers:

- Safe collection, treatment and disposal and/or reuse of faecal sludge management to an accepted standard, and

- The promotion of appropriate practices for faecal sludge management.

## Slide 29

### Commitments



Rt. Hon. PM KP Sharma Oli signing the pledge on FSM along with MuAN President during MuAN Day, 13 March 2019

Former Hon. Minister of Water Supply signing the pledge on FSM during WASH Mela, 8 June 2019 (World Environment Day, 20<sup>th</sup> National Sanitation Week and Sithi Nakha)

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**First picture:** the Prime Minister has expressed commitment of government on faecal sludge management by signing in the banner with slogan "We are committed for faecal Sludge Management". The event was organized by Municipal Association of Nepal.

**Second picture:** Minister of Water Supply signed with the commitment on WASH Mela and national event organized by Municipal Association of Nepal.

It shows that government has prioritize the FSM and committed to take action.

## Slide 30

### CWIS in Legal Documentation

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- CWIS guideline – in process of drafting
- N-WASH Policy- Draft version
- Wastewater Management- in process of drafting

## Slide 31

### Key Messages

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- Most of the legal and policy documents have no clear provisions for FSM;
- As of now, FSM institutional and regulatory framework clearly indicates roles and responsibilities;
- Based on the local context and requirements, local governments (Municipalities and Rural Municipalities) have authority to formulate their own local FSM policies, guidelines and frameworks;
- We need to work together to build local capacity, exchange of knowledge and expertise to ensure proper and sustainable FSM at the local level.

## Slide 32

### References

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- Luthi et al., (2011a) :Community-Led Urban Environment, complete guideline for decision makers
- Institutional and Regulatory Framework for faecal Sludge Management in Urban Areas of Nepal
- Sewerage Management Policy 2075
- Fifteenth Plan 2076/77-2080/81, Approach paper
- Environmental Protection Act, 2076 (2019)
- Nepal National Building Code 2003
- Water Supply Tariff Fixation Commission Act 2063 (2006)
- FSM by-laws in Nepal
- Total Sanitation Guideline, 2017

## Slide 33

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Thank  
you



## Session 9: Urban Sanitation Options

### Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation

**NON-SEWERED SANITATION SYSTEM**

**SEWERED SANITATION SYSTEM**

## Urban Sanitation Options

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person

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### Slide 2

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ENPHO  
Enabling City Sanitation

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[https://www.youtube.com/watch?v=9H\\_3i2A-onw&t=8s](https://www.youtube.com/watch?v=9H_3i2A-onw&t=8s)

As shown in the video to mitigate the sanitation hazards, there are various technological options and hence in the session will be discussing them

### Slide 3

## Learning Outcomes

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- Interpret various technologies through sanitation service chain
- Summarize the transformative technologies for the FS treatment
- Explain urban sanitation options through CWIS approach

Linking to earlier session, where the need to update the sanitation technology was highlighted, inform participants that the particular session will be discussing on it.

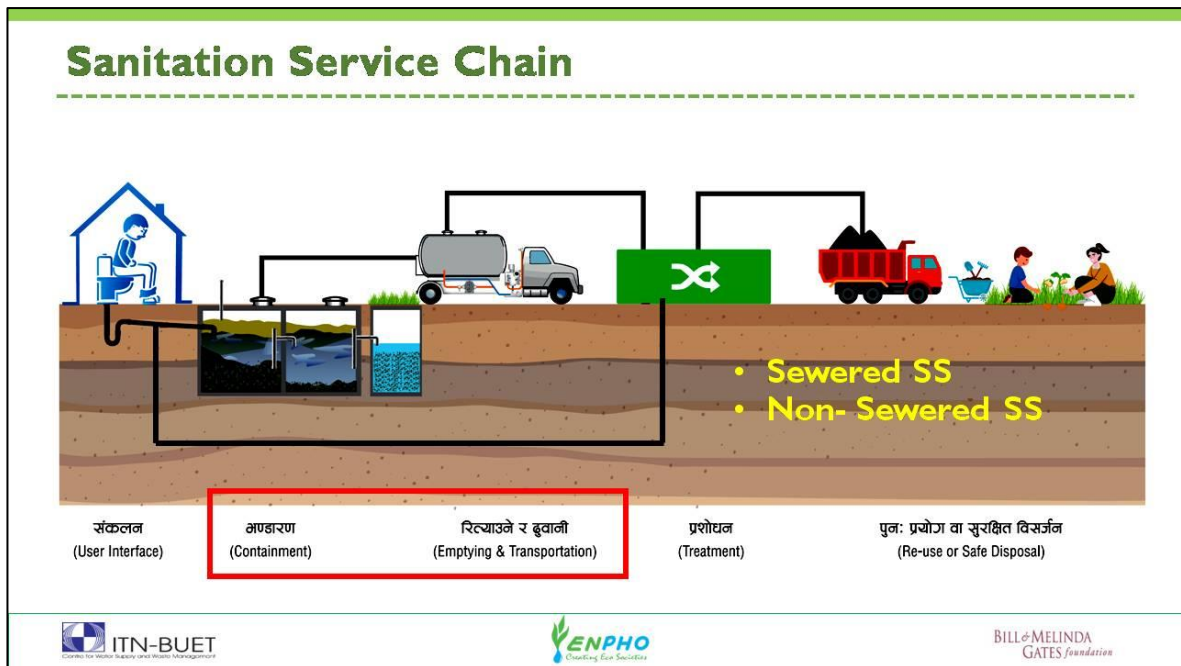
### Slide 4

## Presentation Outline

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- Sanitation Service Chain
- Sewered Sanitation
- Onsite sanitation: Hygienic latrines and Containments
- Desludging and conveyance in Nepal
- Challenges of desludging and transportation service
- Decentralized FS treatment technologies
- Centralized FS treatment technologies
- “Reinvent the Toilet”, Transformative Technologies

### Slide 5



Explain sanitation system as it is a chain of services starting from the origin of waste/ waste generation to the end use or disposal. The whole sanitation system comprises of 5 components namely:

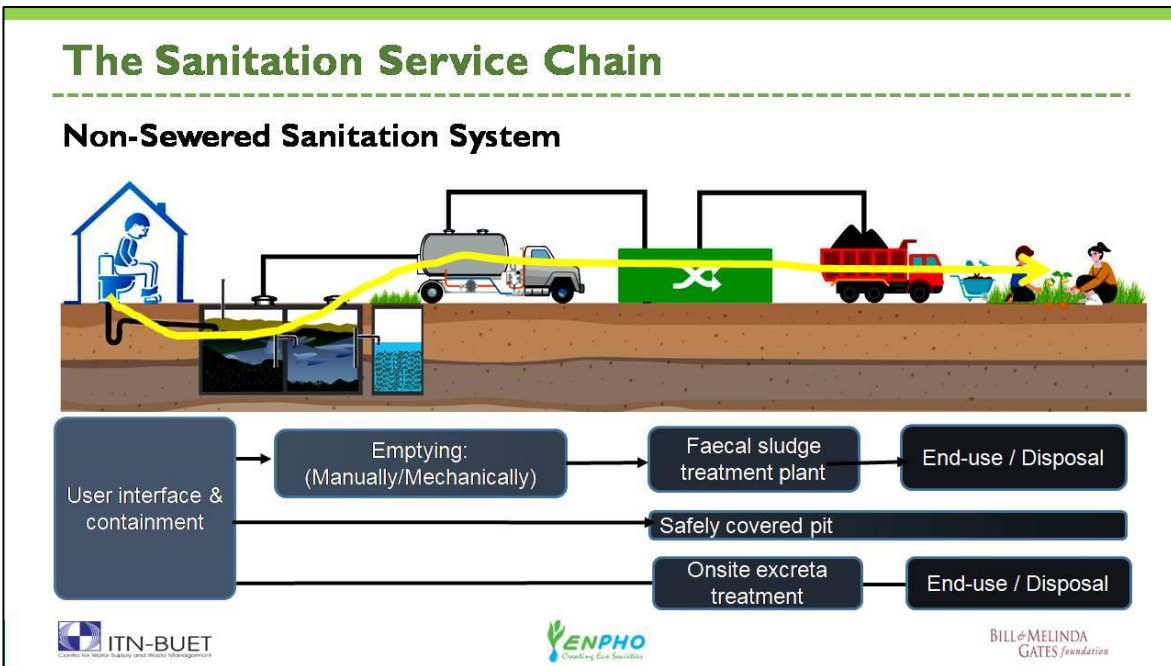
1. User interface
2. Containment
3. Emptying and transportation
4. Treatment
5. Reuse and safe disposal

Explain that the main difference between the 2 sanitation systems are:

Sewered SS: there is no containment and emptying and transportation and is covered by sewered network

Non-sewered SS: the whole chain comprise of 5 components including containment and emptying and transportation

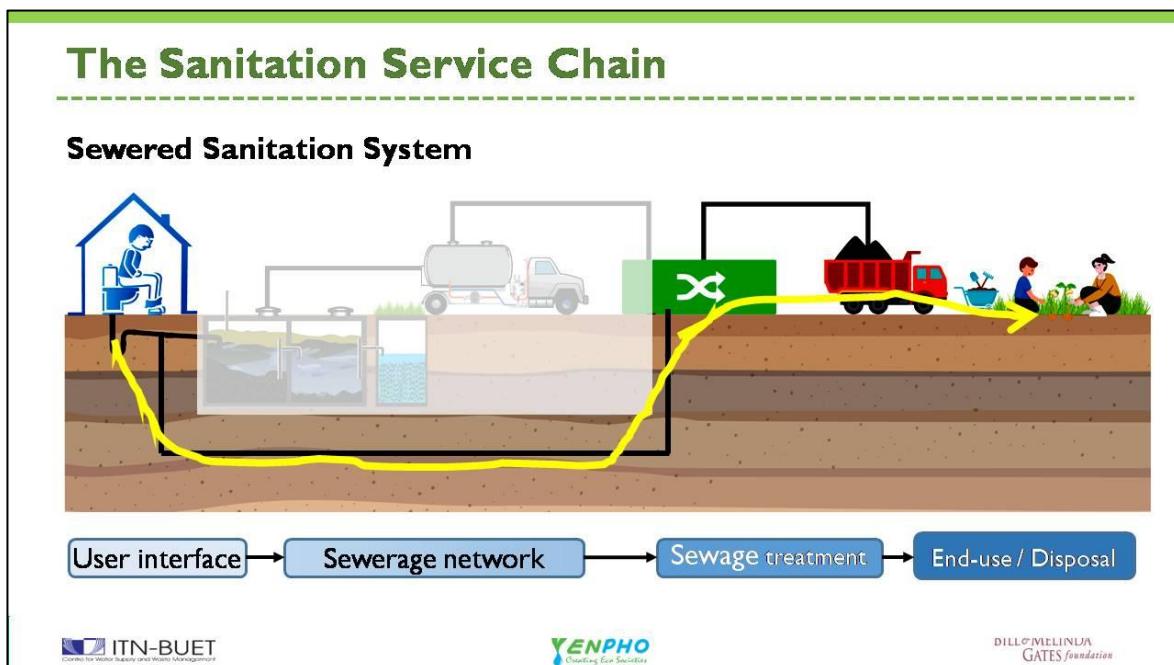
Further, explain this with following slides 6 and 7



Explain the components of the whole sanitation system comprises of in NSS:

1. User interface
2. Containment
3. Emptying and transportation
4. Treatment
5. Reuse and safe disposal

Slide 7



Explain the components of sewered system comprises of:

1. User interface
2. Transportation- sewerage network
3. Treatment




#### 4. Reuse and safe disposal

### Slide 8

## Applicability of Sanitation Systems

---

<h3>Sewered Sanitation</h3> <ul style="list-style-type: none"><li>• Dense settlement</li><li>• Flood-prone areas</li><li>• Areas having high water table</li><li>• low infiltration capacity of soil</li><li>• Highly Sloped terrain</li><li>• Higher availability of water</li><li>• Land available as site for treatment plant at a lower elevation than surroundings</li></ul>	<h3>Non-Sewered Sanitation</h3> <ul style="list-style-type: none"><li>• Area with low population density</li><li>• Settlement with scattered houses</li><li>• Rural and outskirts of urban centers</li><li>• Plain terrain or geography with low gradient</li><li>• Water-scarce areas</li><li>• Land available as site for treatment plant at a higher elevation than surroundings</li></ul>
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Ask participants to think about the applicability of SS

Provide a minute time to think on sewerage sanitation system and ask participants to share their thoughts

Take 3 to 4 points from participants and present the points of sewerage sanitation

Similarly, ask participants to share their thoughts on non-sewered sanitation




Take 3 to 4 points from participants and present the points of sewerage sanitation

### Slide 9

## Applicability of Sewered Systems

---

<h3>Advantages</h3> <ul style="list-style-type: none"><li>• Highly preferred by users</li><li>• No need to establish desludging service</li><li>• Available various efficient and high-tech options for treatment</li></ul>	<h3>Limitations</h3> <ul style="list-style-type: none"><li>• Requires High Capex and Opex</li><li>• Requires regular and high volume of flush water and produces high vol. of wastewater</li><li>• Financially not suitable for settlement with scattered HH</li><li>• Requires pumping mechanism in case of low gradient area</li><li>• Less attractive to private sector for investment</li></ul>
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Similarly, present the advantages and limitations of SS to participants with the slide.




Capex- Capital Expenses  
Opex- Operational Expenses

Slide 10

## Applicability of Non-Sewered Systems

---

Advantages	Limitations
<ul style="list-style-type: none"><li>• Low capital expenses (Capex) and operational expenses (Opex)</li><li>• Financially good option particularly for settlement with scattered HH</li><li>• Better business opportunity – easily attract private sector for investment</li><li>• Good resource recovery</li></ul>	<ul style="list-style-type: none"><li>• May not be feasible for dense settlement</li><li>• Less attractive to users</li><li>• Availability of limited technical options</li><li>• Potential groundwater pollution in case of improper containment</li><li>• Accessibility of vehicle</li><li>• Affordability of desludging service</li></ul>

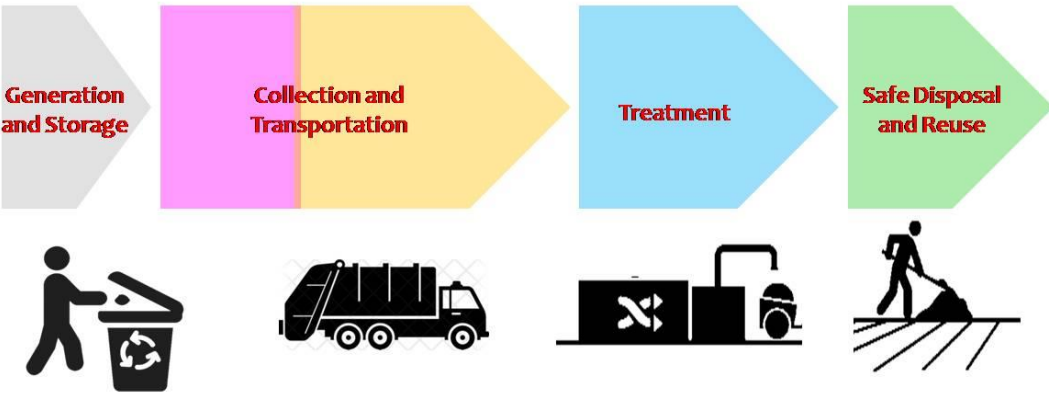
  

Similarly, present the advantages and limitations of Non-SS to participants with the slide.




Slide 11

## SWM Service Chain

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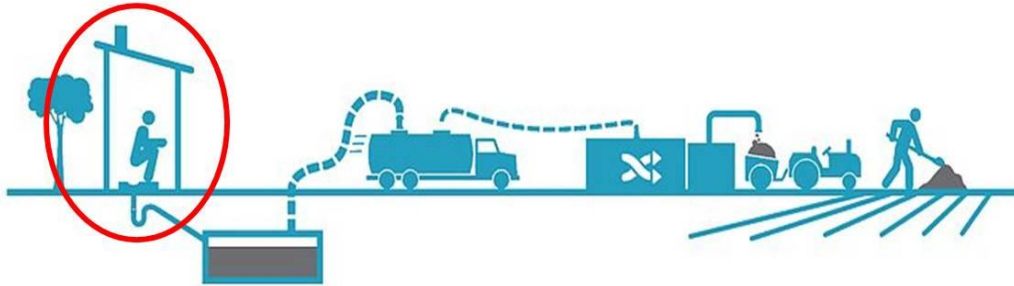


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graph LR; A[Generation and Storage] --> B[Collection and Transportation]; B --> C[Treatment]; C --> D[Safe Disposal and Reuse]
```

Slide 12

## User Interface (Latrine)



Explain participants that they are going to discuss in each components of sanitation system, starting from user interface or latrine/ toilet.

### Slide 13

## Is your Latrine is “Hygienic” ?

A “hygienic latrine” is defined as a sanitation facility, which effectively breaks the cycle of disease transmission.

Criteria for a “hygienic latrine”:

1. Clean with no fecal traces
2. Seal the passage between the squat hole and the containment
3. Venting out of foul gases

A hygienic latrine would include all of the following:

1. Clean with no fecal traces
2. Sealing of the passage between the squat hole and the pit to effectively block pathways for flies and other insect vectors, thereby breaking the cycle of disease transmission, and

3. Venting out of foul gases generated in the pit through a properly positioned vent pipe to keep latrine odor free and encourage its continual use.

**Slide 14**

## Sealing the passage....

©Internet

### Water Seal

### SaTo Pan: "Seal" with Counterweight Mechanism




**Slide 15**

## Venting out the odour



Slide 16

<h2 style="text-align: center;">Hygienic latrine through CWIS</h2>			
<b>Service Outcomes</b>	<b>EQUITY</b> user friendliness, access to toilet in squatter areas, public places and institutions	<b>SAFETY</b> User friendliness, clean and hygienic, water seal	<b>SUSTAINABILITY</b> Proper operation and timely maintenance
<b>System Functions</b>	<b>RESPONSIBILITY</b> Guidelines for toilet construction, operation guideline and plan	<b>ACCOUNTABILITY</b> Monitoring as per guideline, performance monitoring- rewards or punishment as per the performance monitoring	<b>RESOURCE PLANNING &amp; MANAGEMENT</b> Budgetary plan for O&M, HR management, Capacity development of HR

Equity: user friendliness, access to toilet in squatter areas, public places and institutions

Safety: User friendliness, clean and hygienic, water seal

Sustainable: Proper operation and timely maintenance

Responsibility: Guidelines for toilet construction, operation guideline and plan

Accountability: Monitoring as per guideline, performance monitoring- rewards or punishment as per the performance monitoring

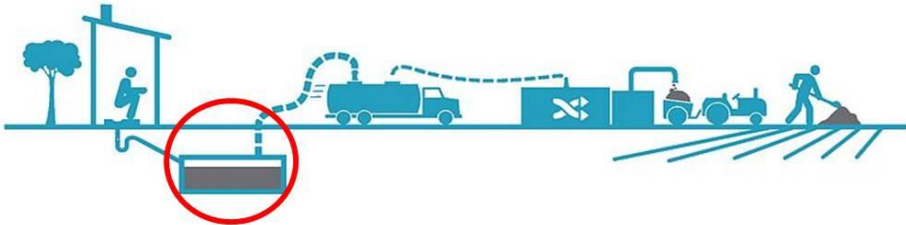
Resource Planning and Management: Budgetary plan for O&M, HR management, Capacity development of HR




Slide 17

## Confinement of Waste (In Containments)

---

- Pit/holding tank
- Septic Tank
- Ecosan Vault
- Biogas Digester

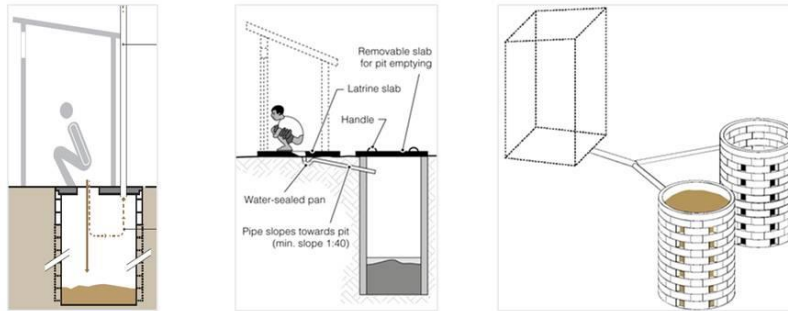


Slide 18

## Pit containment

### Single pit (Ventilated, Offset and alternative pit)



McMahon, Glenda; Shaw, Rod [2019]: Pour-flush pit latrine with pan 1. Loughborough University. Figure. <https://doi.org/10.17028/rdl.lboro.7946537.v1>

Just mention the types of OSS. Do not go into detail. Use the photographs to clear the concept.

Slide 19

## Sizing of Pit

### Making Wider

Dia	Depth	Volume	Increment
1	1	3	-
2	1	13	300%
3	1	28	125%
4	1	50	78%
5	1	79	56%
6	1	113	44%
7	1	154	36%

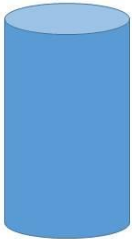

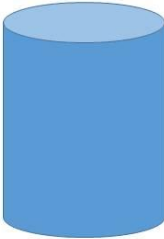
### Making Deeper

Dia	Depth	Volume	Increment
1	1	3	-
1	2	6	100%
1	3	9	50%
1	4	13	33%
1	5	16	25%
1	6	19	20%
1	7	22	17%


Slide 20

## Pit Diameter – Pit Capacity


---

<b>Dia = 1 m</b>	<b>Dia = 1.25 m</b>	<b>Dia = 1.50 m</b>
		
Capacity = $V$	Capacity = 1.6 $V$	Capacity = 2.25 $V$


Increase in diameter of pit significantly increases design life



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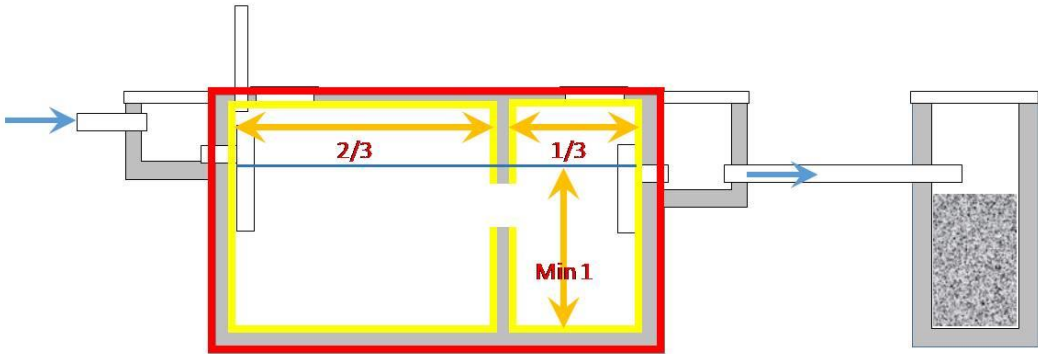
Just make the point that if ring is bigger, it will last long. Don't talk about the technical details.

Slide 21


## Septic Tank

---


Septic Tank + System for Disposal of Effluent (Soak Pit)




**Major Option in All Urban Areas (including some slums)**



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Slide 22

### Importance of proper inlet and outlet in ST

The diagram shows a cross-section of a septic tank. On the left side, a green pipe enters the tank at a high level. On the right side, a purple pipe exits the tank at the same high level. A horizontal yellow line represents the water level, which is positioned above the sludge layer. The sludge layer is shown as a dark brown, uneven mass at the bottom of the tank. The tank is enclosed in a grey frame.

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Slide 23

### Importance of proper inlet and outlet in ST

The diagram shows a cross-section of a septic tank, similar to Slide 22. However, the green inlet pipe on the left and the purple outlet pipe on the right are equipped with T-shaped traps. The green trap is on the left side of the pipe, and the purple trap is on the right side. The water level is shown as a yellow line, and the sludge layer is at the bottom. The tank is enclosed in a grey frame.

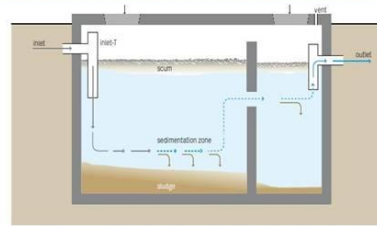
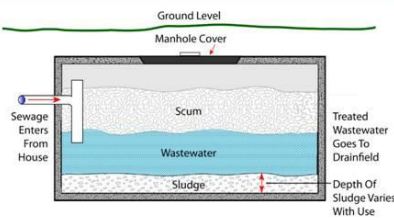
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Slide 24

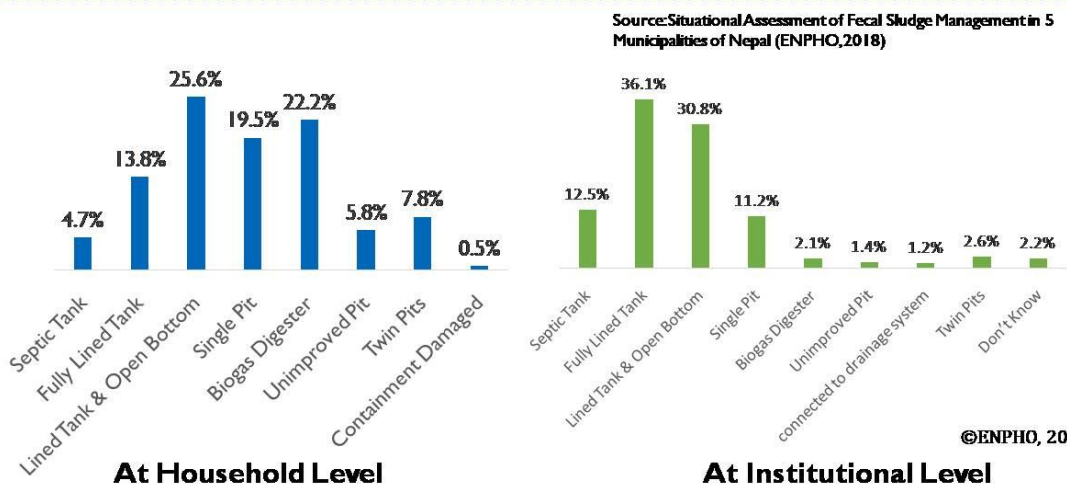
## Rectangular tank is not septic tank



- Only collect and store
- Does not have outlet
- Need frequent desludging
- Is single chambered
- Leaky tank
- Treat wastewater upto 40%
- Has an outlet connected to Soak pit/sewer
- Need less desludging
- Is double chambered
- Water seal

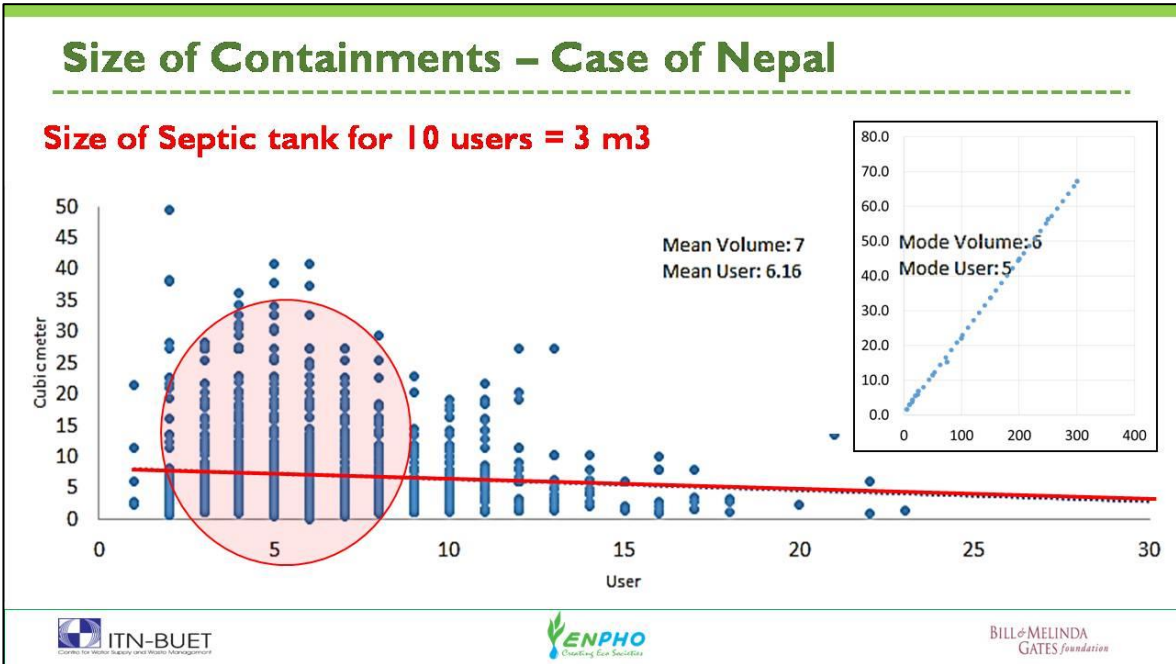
Slide 25

## Containment Status in Nepal



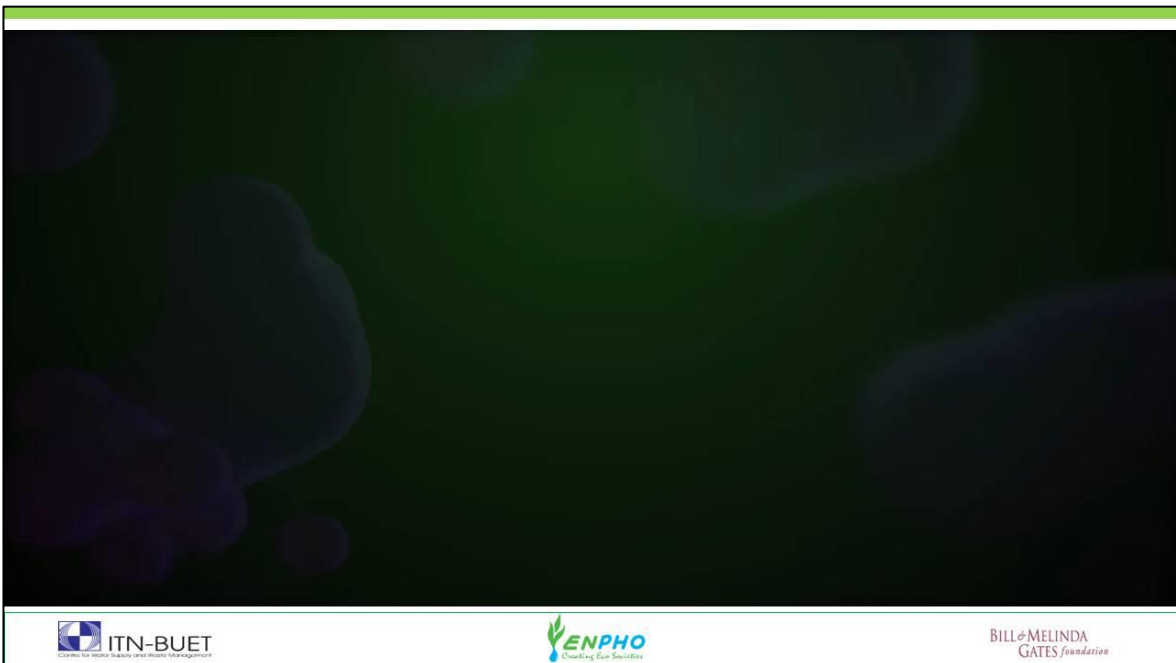
Having properly functioning septic tanks for the safe disposal of on-site and off-site sanitation into the environment is a challenge. A survey conducted by ENPHO in 2018 revealed that, outside of Kathmandu Valley, there is only 5 percent containment, which can be termed as a proper septic tank use, at the household level, and only 13 percent at the institutional level. Generally, containment with lined tanks is considered a septic tank at both the household and institutional levels. This clearly shows the lack of understanding about septic tanks outside KTM.

Slide 26



the general understanding of size of septic tank is opposite to the ideal condition. The ideal condition being 3 cubic meter for 10 users, the graph at the right shows ideal condition. However, the practice is opposite of the ideal one.

Slide 27



Slide 28

## Containment through CWIS



6 Groups  
2 minutes



### Slide 29

## Containment through CWIS

<b>Service Outcomes</b>	<b>EQUITY</b> 'Fairness' in distribution and prioritization of service quality, service prices, and public finance/subsidies	<b>SAFETY</b> Human waste is safely managed to protect public goods	<b>SUSTAINABILITY</b> Resources and revenues sustain performance
<b>System Functions</b>	<b>RESPONSIBILITY</b> Authority or authorities have clear mandate for ensuring inclusive, safe sanitation services	<b>ACCOUNTABILITY</b> Performance is transparently monitored and managed with +/- incentives	<b>RESOURCE PLANNING &amp; MANAGEMENT</b> Resources are managed to support implementation of mandate and achieve goals across time / space

Equity: Subsidy to construct a proper containment,

Safety: Construction of proper septic tank as per guidelines so as to prevent from leakages

Sustainability: Construction of proper septic tank as per guidelines, timely desludging

Responsibility: Guidelines for septic tank construction, operation guideline for desludging, policies and by-laws to implement

Accountability: Monitoring as per guideline, performance monitoring- rewards or punishment as per the performance monitoring

Resource Planning and Management:

Slide 30

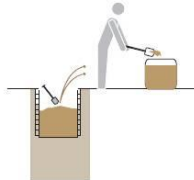
## Desludging Service



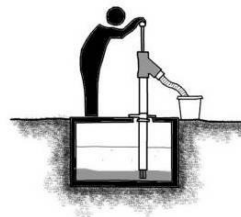
Slide 31

## Methods of Desludging

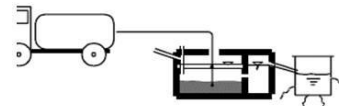
- Manual Desludging



- Semi Mechanized Desludging



- Fully Mechanized Desludging



Slide 32



## Manual Desludging



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- The first picture is desludging of septic tank or pit whereas the second picture is desludging of containment of a dry ecosan toilet.

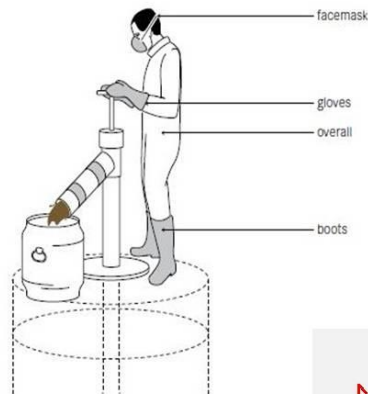
### **Dry ecosan toilet:**

- is a urine diverting dry toilet (UDDT) that operates without water. It uses a differently designed pan or comode which separates feces and urine.
- Thus, separated feces is composted and used as a soil conditioner and urine is used as liquid fertilizer.
- It was introduced in 2002 by ENPHO in Nepal,

Manual desludging, in general is not safe, and is also prohibited by the government. However manual desludging of dry ecosan toilet and sulav toilet is safe.

## Manually Operated Mechanical Desludging

- **Gulper/II**
- Manual diaphragm
- Pump
- Nibbler
- MAPET



Poop pump/Gulper  
Not available in Nepal

Poop pump/Gulper is a manual operated pump which is used to pump out sludge from containment. This is basically useful and financially viable both for an entrepreneur and house owner to empty small sized containment. This equipment is not available in Nepal till date.

### Slide 34

## GULPERS

Mechanized Gulper  
Capacity: 60 Liters/min



©Practical Action



Motorized Gulper  
Capacity: 90 Liters/min



Gulpers are used for collecting sludge in Faridpur Municipality

### Slide 35

## Mechanical Emptying Using a Vacuum Tanker

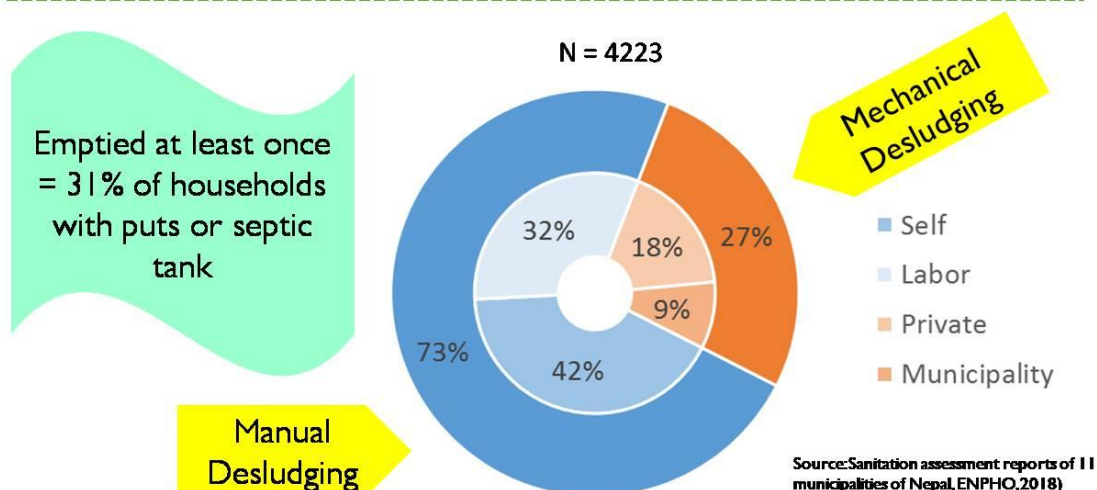


Vacutug mini-tanker manufactured in Bangladesh. Source: EAWAG/SANDEC (2008)

- A small-scaled motorised alternative to trucks.
- Designed for areas where big trucks can not enter.
- 0.5 m<sup>3</sup> steel vacuum tank, vacuum pump, gasoline engine.
- The vehicle has a speed of 5 km/h (level ground)
- Emptied by gravity or pressure

Slide 36

## Desludging Practices in Nepal



Study conducted by ENPHO (2018) reveals that approximately 31% of households with pits or septic tank has been emptied at least once. Among which 73% of people do

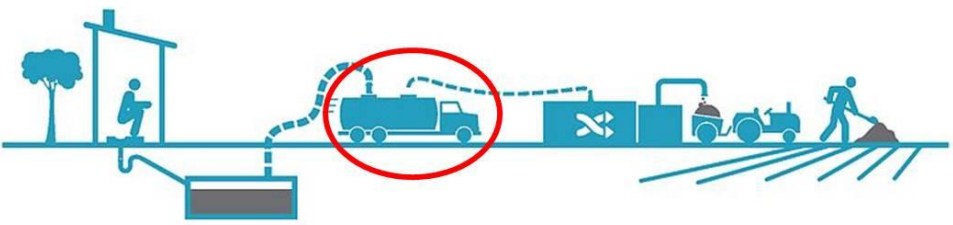
desludging of their containment manually either using labor or by house owner themselves. While, mechanical desludging practice covers 27% of the population due to various reasons. Some of the major reasons are

- affordability,
- accessibility and
- availability of desludging services.




**Slide 37**

## Transportation of Fecal Sludge

---



The diagram illustrates the process of fecal sludge transportation. It starts with a person at a toilet, followed by a truck collecting sludge (circled in red), a truck at a treatment plant, a truck at a storage tank, and finally a person spreading sludge on a field.

**Slide 38**

## Non-motorized Transportation

---



The photograph shows a man in a white shirt and colorful shorts pushing a bicycle with a large green container (Rijalco) attached to the back. The container is labeled 'Rijalco' and 'BLOW'. The scene is outdoors, likely in a rural area, with other people and bicycles visible in the background.

**Slide 39**

## Motorized Transportation



### Slide 40

## Desludging and Transportation services in Nepal

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Clean Nepal, Healthy Nepal.

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**Desludging service is growing**

Desludging service is growing in the city. There are several companies who provide desludging service in the cities.

Interesting fact is, sewer line is laid down to collect fecal matter but discharging of fecal sludge into the drain is illegal. Since there is not sufficient treatment facilities in the cities, these companies discharge sludge into river via sewer, or open land. Some of the private companies dispose FS openly into their own land.

Most of the companies discharge it in a designated place with small intervention making discharge station and it goes into sewer network whereas few companies/service providers are dumping it into their private land away from the city area.

Average cost for desludging is 3-5 thousand, depending up on cities, haulage distance and containment volume

#### Slide 41

## Challenges of Desludging and Transportation Service

---

- Technical Challenges
- Behavioral Challenges
- Social Challenges
- Rules and Regulations





#### Technical Challenges

Location of containment

Access to containment

Accessibility to containment

No regular desludging practice

Old equipment and vehicles – low efficiency

Lack of proper disposal site

#### Behavioral Issues

Flushing solid waste into containment

Desludging only after overflow

Health and personal hygiene of the operators

#### Social stigma

#### Rules and Regulations

Licensing system

Lack of rules and regulations

#### Slide 42

## Desludging and Transportation through CWIS



6 Groups  
2 minutes



### Slide 43

## Desludging and Transportation through CWIS

<b>Service Outcomes</b>	<b>EQUITY</b> 'Fairness' in distribution and prioritization of service quality, service prices, and public finance/subsidies	<b>SAFETY</b> Human waste is safely managed to protect public goods	<b>SUSTAINABILITY</b> Resources and revenues sustain performance
<b>System Functions</b>	<b>RESPONSIBILITY</b> Authority or authorities have clear mandate for ensuring inclusive, safe sanitation services	<b>ACCOUNTABILITY</b> Performance is transparently monitored and managed with +/- incentives	<b>RESOURCE PLANNING &amp; MANAGEMENT</b> Resources are managed to support implementation of mandate and achieve goals across time / space

**Equity:** Encourage private sector engagement with subsidy while buying desludging truck, subsidy to the low income households for desludging and transportation,

**Safety:** Sanitation workers safety, environmental safety

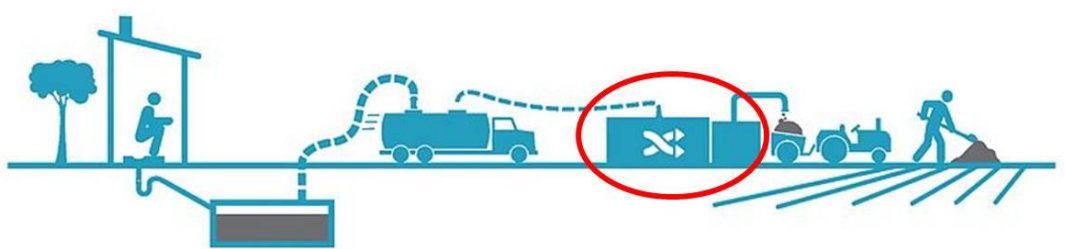
**Sustainability:** Proper mechanism to desludge and dispose, Provisions and clear mechanism for desludging and disposal

**Responsibility:** Guidelines for desludging and transportation, operation guideline for desludging, policies and by-laws to implement, Licensing mechanism, rules and regulation for regular/ schedule desludging

**Accountability:** Monitoring as per guideline, performance monitoring- rewards or punishment as per the performance monitoring

Slide 44

## Treatment Technologies



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Slide 45

## Types of Treatment Technologies

**Based on treatment Location**

- On-site Treatment (Decentralized)
- Off-site Treatment (Centralized)

**Based on treatment mechanism**

- Nature based/Biological Treatment
- Mechanical Treatment
- Hybrid treatment

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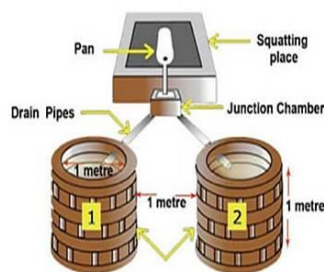
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Slide 46

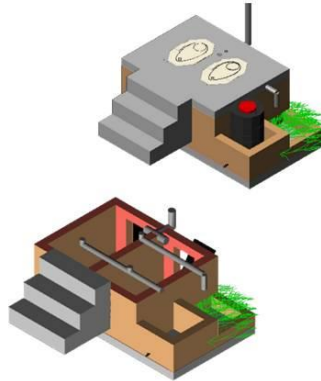


## Decentralized Faecal Sludge Treatment Technologies

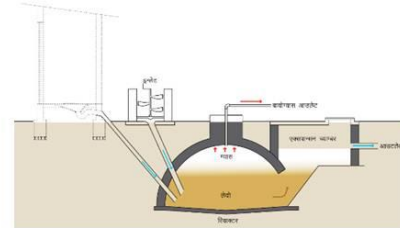
### Twin Pits/ Sulav



### Dry Ecosan



### Biogas Digester



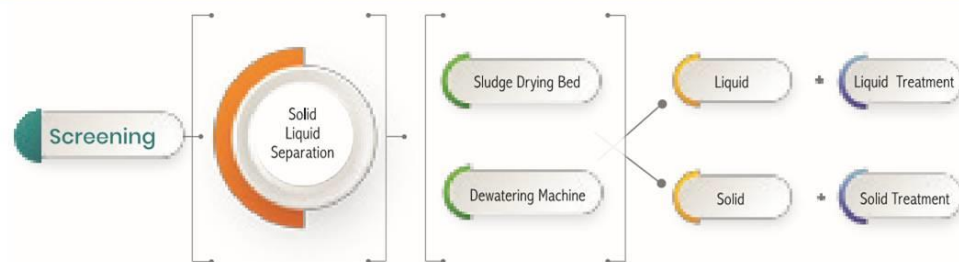
Source: ENPHO

**Twin-pit** for pour-flush toilets are improved **pit latrines**, which allow on-site treatment and transformation of faecal sludge into a hygienized soil amendment.

This technology consists of two alternating pits connected to a pour flush toilet. Faecal sludge is collected in the pits and allowed to slowly infiltrate into the surrounding soil. Over time, the solids are sufficiently dewatered and can be manually removed with a shovel and reused on-site, much like compost, to improve soil fertility and fertilize crops

Slide 47

## Centralized FS Treatment Technologies



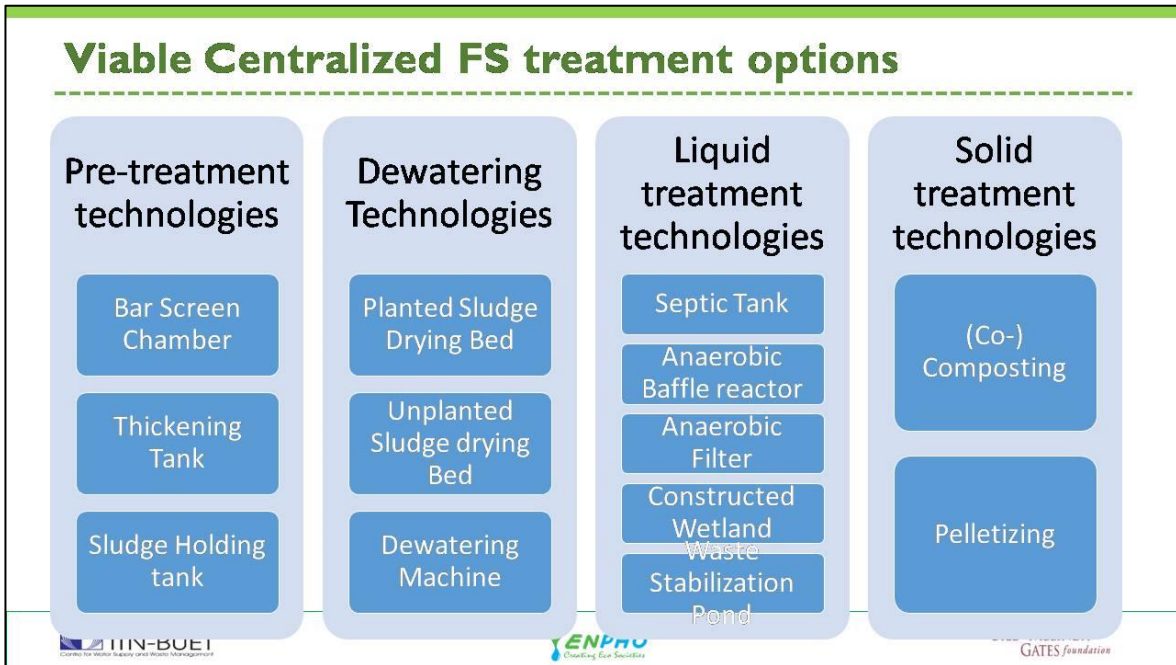
### Centralized treatment options

- fully nature based,
- fully mechanized and
- hybrid

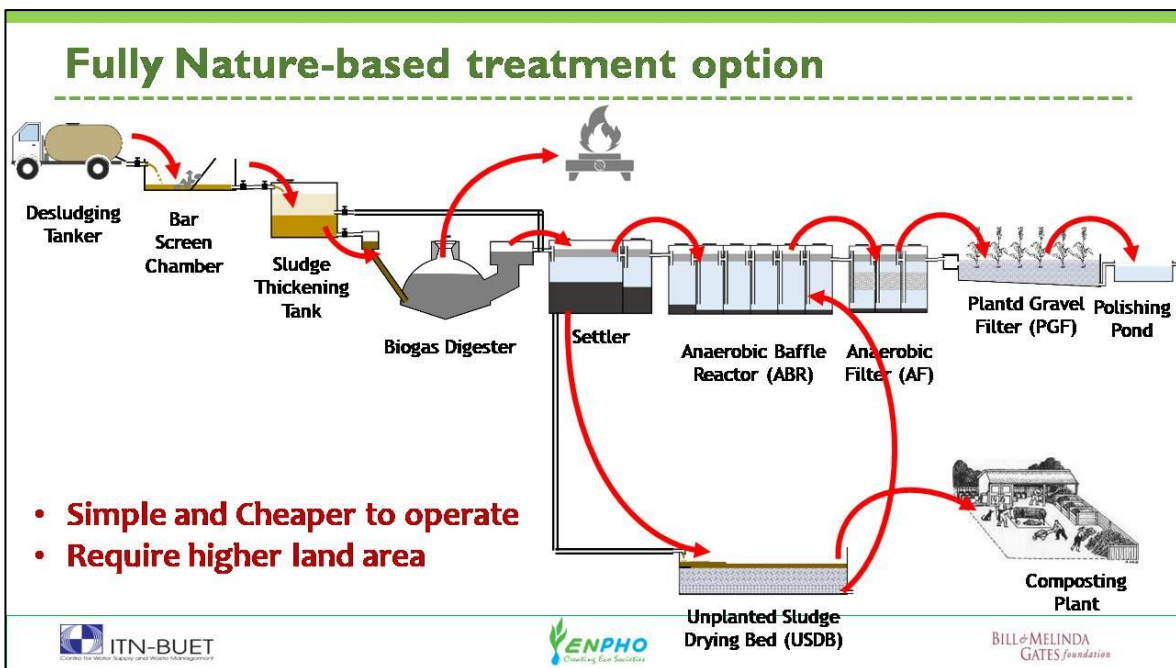
Centralized faecal sludge treatment is the process where faecal sludge is collected from different sources using de-sludging vehicle and treated at common system. Centralized FS

treatment includes three major stages such as. solid-liquid separation, liquid treatment and solid treatment. There are three types of treatment mechanism i.e. fully nature based, fully mechanized and hybrid.

**Slide 48**

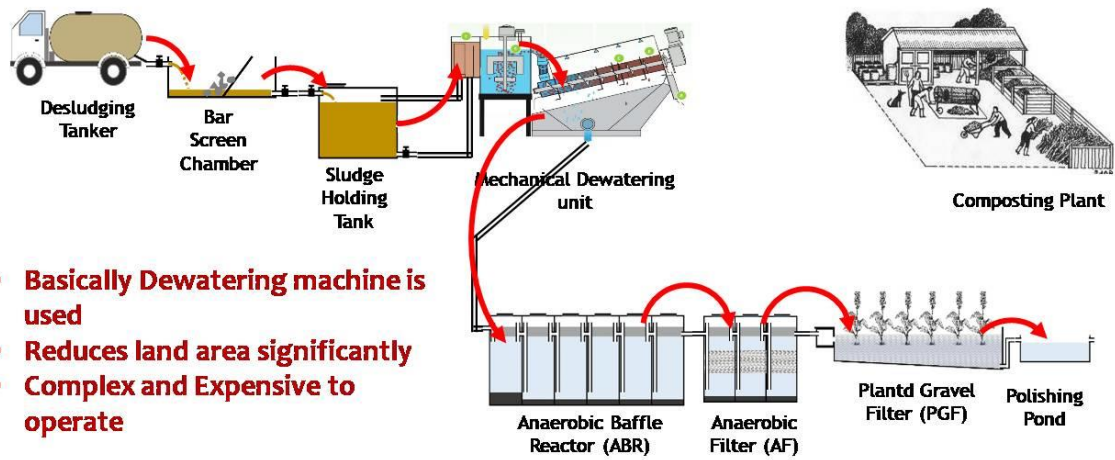


**Slide 49**



**Slide 50**

## Hybrid Treatment Option



Slide 51

## Fully Mechanical Treatment Option



- Land requires minimal
- Complex and Expensive

## Innovative and Transformative Technologies

Initiated by the BMGF in 2011

Transformative Technologies that:

- Remove harmful pathogens from human waste and recover valuable resources
- Operate “off the grid” and require minimal electricity
- Cost less than US\$.05 cents per user per day
- Promote sustainable and profitable sanitation services and businesses in poor urban settings
- Can appeal to everyone, in developed as well as developing nations



**“Reinvent the Toilet Challenge”** initiated by the BMGF in 2011, continues today and supports the development and commercialization of products that:

- Remove harmful pathogens from human waste and recover valuable resources such as energy, clean water, and nutrients
- Operate “off the grid” without connections to water and sewers and require minimal electricity
- Cost less than US\$.05 cents per user per day
- Promote sustainable and profitable sanitation services and businesses in poor urban settings
- Can appeal to everyone, in developed as well as developing nations

In addition, there have been other initiatives aimed at developing “transformative technologies” – that can quickly contribute to improving safely managed sanitation.

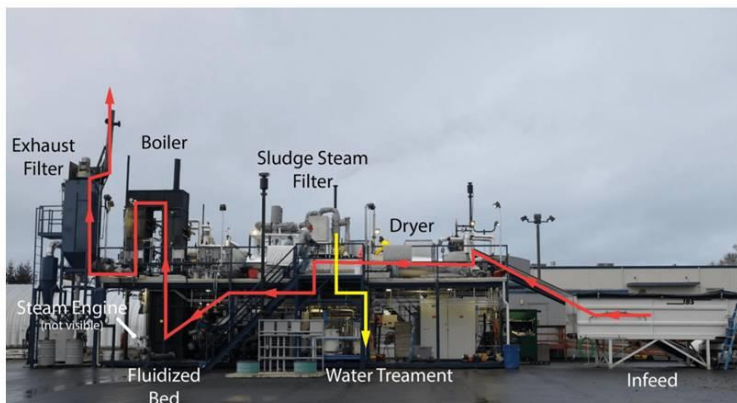
## Evolving Transformative Technologies

With respect to the processes employed, the evolving transformative technologies could be divided into the following broad categories:

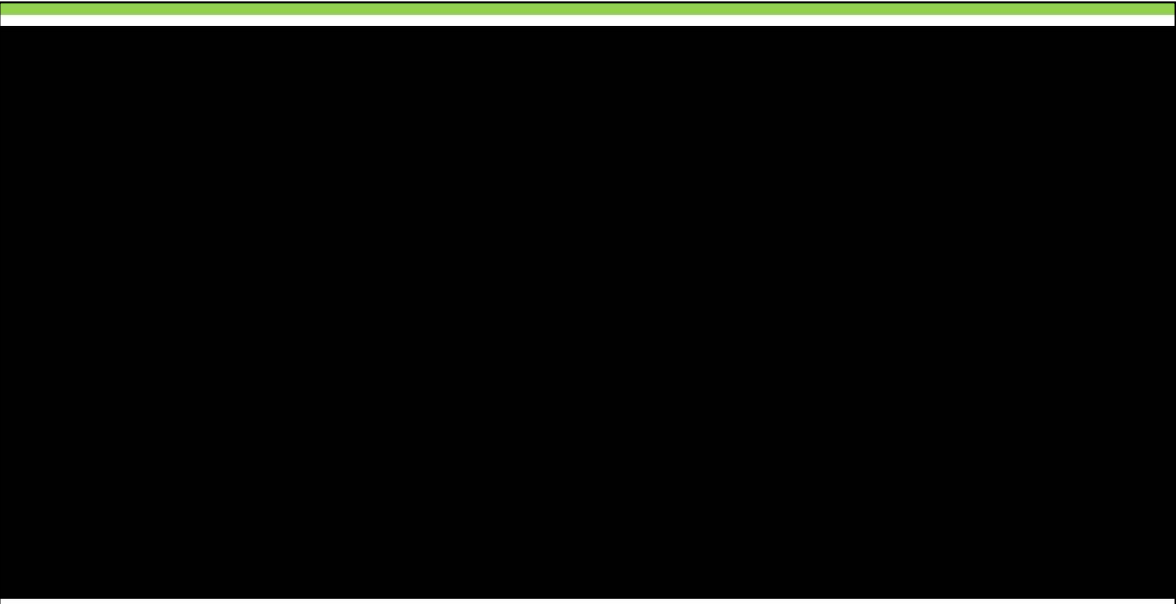
- Thermal
- Electrochemical
- Biochemical
- Mechanical
- Thermochemical



## Omni-Processor (Thermal Process)



Slide 55



Slide 56

## JOHKASAU Technology

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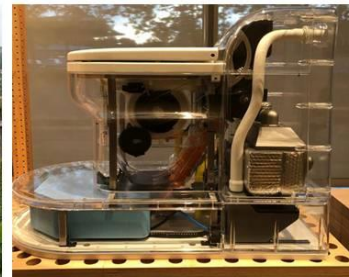
Slide 57



Slide 58

## Nano-Membrane Toilet (Mechanical Processes)

IWA Project Innovation Awards – Gold winner!!



<http://www.nanomembranetoilet.org/>

Nano-membrane toilet: Cranfield University

Slide 59



Slide 60

## Treatment Technologies through CWIS




6 Groups  
2 minutes






<h2 style="text-align: center;">Treatment Technologies through CWIS</h2>			
<b>Service Outcomes</b>	<b>EQUITY</b> 'Fairness' in distribution and prioritization of service quality, service prices, and public finance/subsidies	<b>SAFETY</b> Human waste is safely managed to protect public goods	<b>SUSTAINABILITY</b> Resources and revenues sustain performance
<b>System Functions</b>	<b>RESPONSIBILITY</b> Authority or authorities have clear mandate for ensuring inclusive, safe sanitation services	<b>ACCOUNTABILITY</b> Performance is transparently monitored and managed with +/- incentives	<b>RESOURCE PLANNING &amp; MANAGEMENT</b> Resources are managed to support implementation of mandate and achieve goals across time / space



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**Equity:** Enough numbers of FSTPs, encourage private sector engagement as stakeholder engagement, priority for women entrepreneurship

**Safety:** Effective and efficient FSTPs and WWTPs,

**Sustainability:** proper O&M plan- implementation,

**Responsibility:** Guidelines for operation and maintenance, detailed operation plan, policies and by-laws to implement, guidelines and standard for effluent and treated waste

**Accountability:** Monitoring as per guideline, performance monitoring- rewards or punishment as per the performance monitoring

**Resource Planning and Management:** public private partnership for operational activities, service providers investment for capital expenses

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## Reuse/Safe Disposal

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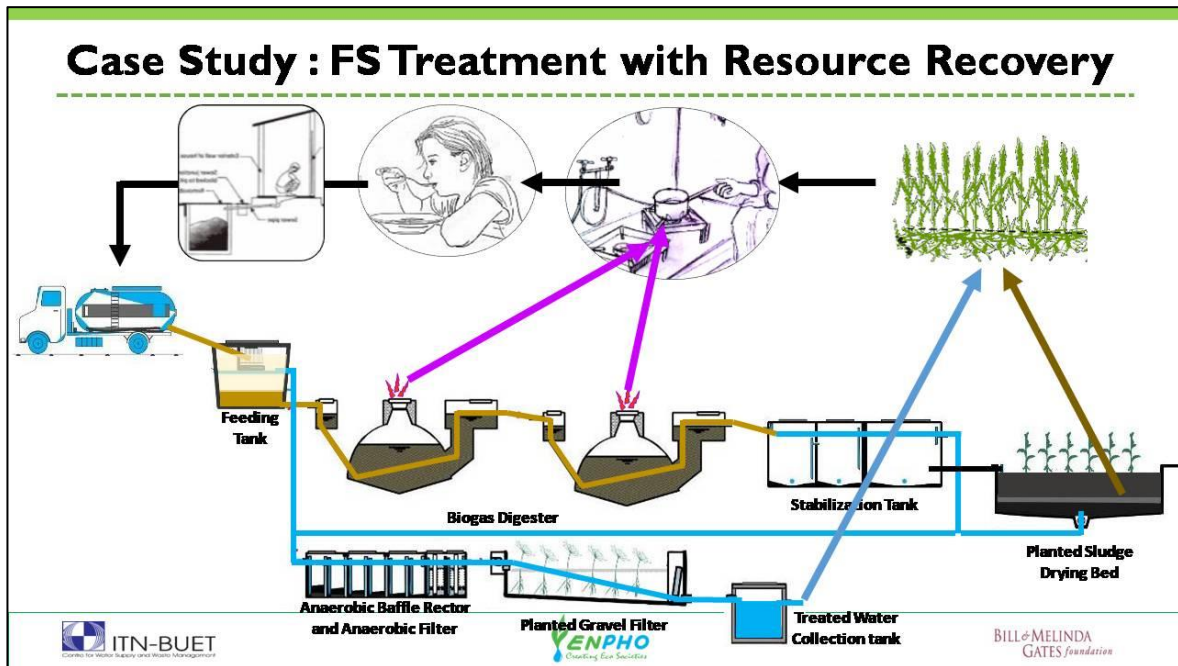
Slide 63

## Reuse and Safe Disposal

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Treated wastewater for irrigation  
Biogas used as fuel  
Dried sludge as compost

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### Reuse/Safe Disposal through CWIS

<b>Service Outcomes</b>	<b>EQUITY</b>	<b>SAFETY</b>	<b>SUSTAINABILITY</b> Proper plan for reuse of the by-products Revenue generation for O&M
<b>System Functions</b>	<b>RESPONSIBILITY</b> Guidelines and standard for by-products, plans for the use of by-products	<b>ACCOUNTABILITY</b> Monitoring as per standard and guideline, performance monitoring- rewards or punishment as per the performance monitoring	<b>RESOURCE PLANNING &amp; MANAGEMENT</b> revenue generation from the by-products,

Equity:

Safety:

Sustainability: Proper plan for reuse of the by-products

Responsibility: Guidelines and standard for by-products, plans for the use of by-products

Accountability: Monitoring as per standard and guideline, performance monitoring- rewards or punishment as per the performance monitoring

Resource Planning and Management: revenue generation from the by-products,

Slide 66



Slide 67

### References

- [https://www.youtube.com/watch?v=9H\\_3i2A-onw&t=8s](https://www.youtube.com/watch?v=9H_3i2A-onw&t=8s)
- <https://www.youtube.com/watch?v=-qlxyxsNqhl>
- <https://www.youtube.com/watch?v=bVzppWSIFU0>
- <https://www.youtube.com/watch?v=tRzEtOHLbK>
- <https://www.youtube.com/watch?v=jGPpXF7y9Rg>

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Slide 68

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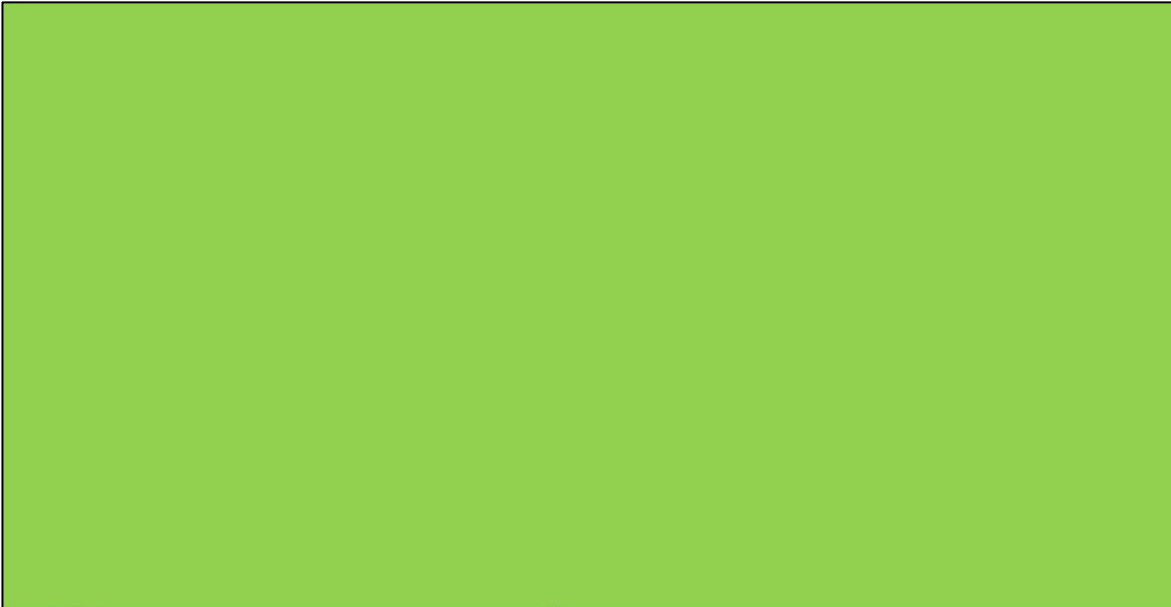
# Thank you


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Eliminating EeN Diseases

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Slide 69



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## Session 10: Monitoring and IMIS

### Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation

## Monitoring and IMIS

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person

### Slide 2

### Before Starting...

<b>Service Outcomes</b>	<b>EQUITY</b>	<b>SAFETY</b>	<b>SUSTAINABILITY</b>
<b>System Functions</b>	<b>RESPONSIBILITY</b>	<b>ACCOUNTABILITY</b>	<b>RESOURCE PLANNING &amp; MANAGEMENT</b>

CWIS focuses on promoting approaches to ensuring everyone in an urban area is served by safe, equitable, and financially viable sanitation service systems. This means systems are designed to reach the poor and to ensure human waste is safely managed along the whole sanitation service chain (safe containment to safe disposal/reuse).

Now that all the components of CWIS have been discussed in detail, what is next?

### Slide 3

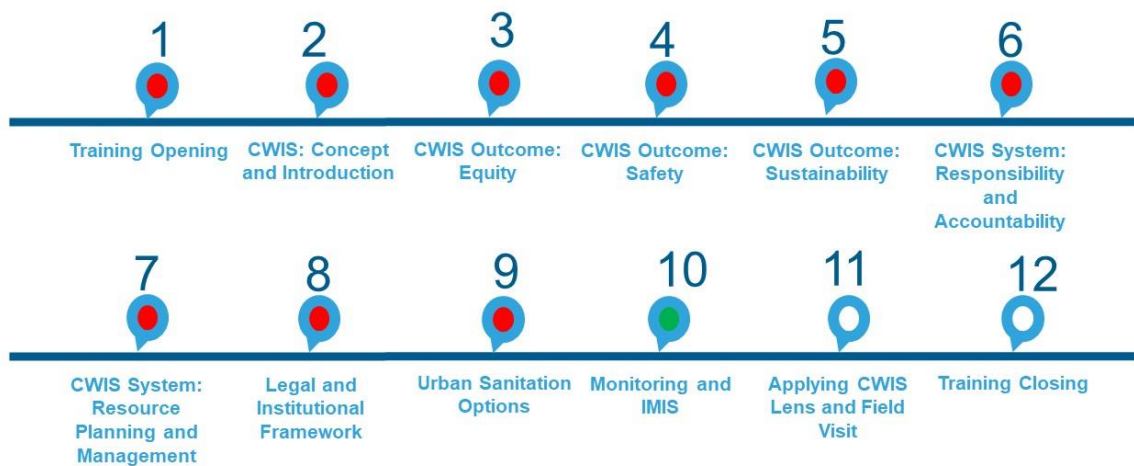
## Instruction to start with

- Inform participants that now they have gained idea on all components of CWIS framework, now they are going to discuss on monitoring activities through CWIS perspective.
- As a responsible authority, it is one of the major concern to ensure if CWIS is being implemented and it should be monitored at different phases of implementation and hence will be discussing more on it through the session.

Or to organizational policy, how a policy of an organization support for the enabling environment for a productive output/ outcomes.

### Slide 4

## Training Structure



This training includes 10 main technical sessions, and are currently on session 10, Monitoring and a platform for a data management, IMIS

## Slide 5

### Learning Outcomes

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- Discuss the importance of monitoring for CWIS implementation
- Introduce 'Integrated Municipal Information System', a data-driven and interoperable system
- Explain IMIS for planning, management and monitoring and evaluation of sanitation and service delivery

At the end of the session, participants will be able to ...

## Slide 6

### Presentation Outline

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- Monitoring and importance of monitoring
- When to carry on monitoring?
- Importance of data in CWIS
- Basic understanding of IMIS
- IMIS for
  - Planning
  - Management
  - Monitoring and Evaluation
- Interoperability of IMIS



## Slide 7

### Monitoring

- **Regular observation and recording** for progress updates
- **Giving feedback** to the related stakeholders (ex. local authority, donors, implementers and beneficiaries)
- The feedback and recommendations to be followed by Action points

Monitoring is a continuous assessment that aims at providing all stakeholders with early detailed information on the progress or delay of the ongoing assessed activities. The purpose of monitoring is to determine if the outputs, deliveries and schedules planned have been reached so that action can be taken to correct the deficiencies as quickly as possible

## Slide 8

### Why Monitoring?

- For **Accountability and Learning** for the future
- Help to show accountability to stakeholders, aid sustainability and contribute to building an enabling environment



M&E for accountability commonly focuses on upward accountability to government or the funding agency. M&E is often an obligation to demonstrate that contracted work has been conducted in compliance with agreed standards or to report on results vis-à-vis plans. Downward accountability involves making accounts and plans transparent to the primary stakeholders: clients.

M&E for learning requires continuous and conscious involvement of evaluators and stakeholders in collaborative learning, allowing stakeholders to share their views, perspectives and ideas, without fear of negative consequences (Kusters et al., 2011).

Source: [https://www.kit.nl/wp-content/uploads/2019/10/WPS\\_3-2016-web.pdf](https://www.kit.nl/wp-content/uploads/2019/10/WPS_3-2016-web.pdf)

## Slide 9

### Why Monitoring?

- **Provide evidence** about the effectiveness, efficiency, strengths and limitations of programs, interventions and services
- **Provide feedback** for corrective actions to stakeholders
- Are essential for **evidence-based approaches** to research, programming and policy making
- **Build sector knowledge** and enable systematic learning



Both monitoring and evaluation are essential components of effective management and together they bring the listed outcomes.

Provide evidence about the effectiveness, efficiency, strengths and limitations of programs, interventions and services;

Provide feedback to stakeholders, such as funders, community members, local authorities, regulators and other sectors;

Are essential for evidence-based approaches to programming and policy making;

Build sector knowledge and enable systematic learning;

Build an evidence base for research, policy and practice;

Enable diagnostically accurate and targeted corrective action;

Help to show accountability to stakeholders, aid sustainability and contribute to building an enabling environment.

## Monitoring- when?

---

- During planning : Outlining the key performance indicators
- During Implementation: Track the progress as per the targets
- Performance phase: Check the outputs versus performance indicator set during the planning.

## After monitoring

- Reporting and recommendations to take actions
- Monitoring is not a one-time affair, it must be carried out continuously at different phases

Monitoring is **an ongoing data collection process of the program outputs.**

Particularly in the project pilot phase, it is important to gather detailed monitoring data to help identify and correct unforeseen weaknesses in the project design and to replicate successful features during scale-up.

Why is it important to monitor the implementation?

it provides a way to assess the crucial link between implementers and beneficiaries on the ground and decision-makers; it adds to the retention and development of institutional memory; it provides a more robust basis for raising funds and influencing policy.





Performance monitoring is a systematic and periodic observation of performance over time in order to develop or verify performance records, to uncover inefficient and ineffective practices, to identify needs for services, and most important, to detect underperformance timely to avoid the further deterioration of performance.

For this all, data seems to be key/ primary for all activities.

## Slide 11

### Data and Information

- What is the significance of data and information ?
- Where can we find data needed for sanitation?



Ask with participants what are the significance of data and information, especially in monitoring?


Also, ask participants second questions and emphasize that the sanitation data are fragmented in different sectors.

## Slide 12

### Importance of Data in CWIS




#### SDG 6 and Data

UN Water SDG 6 Global Acceleration Framework has identified data and information as one of the five accelerators of SDG 6 outcomes.



Ensure availability and sustainable management of water and sanitation for all

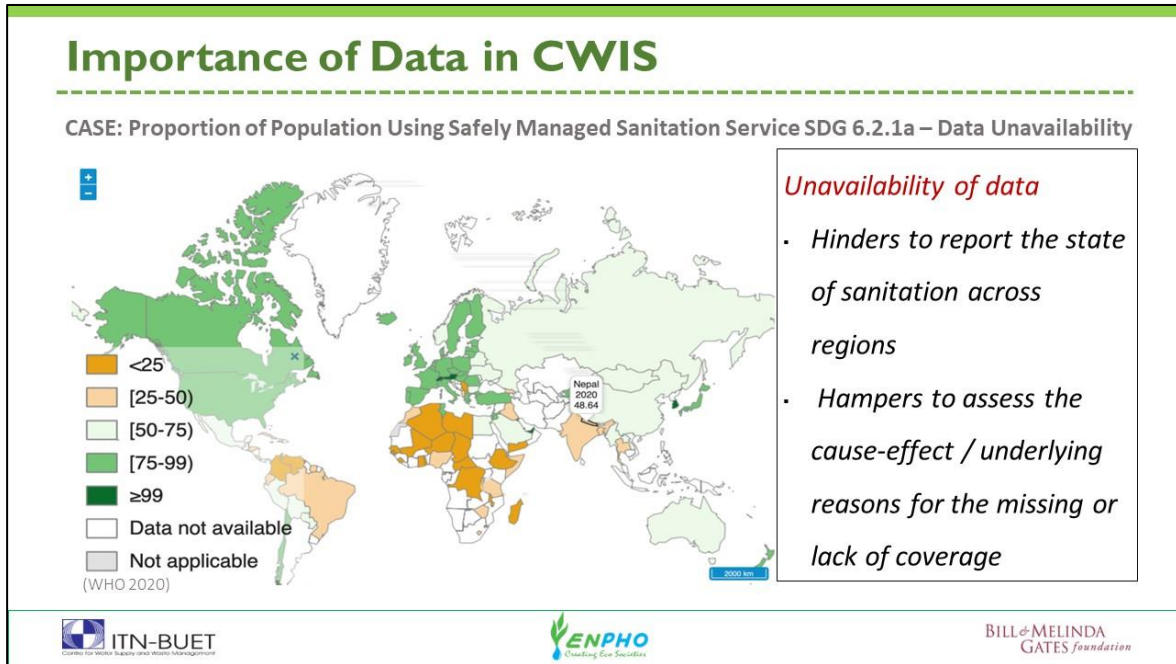
**SDG 6.2 Goal: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation**  
**Indicator 6.2.1a: Proportion of population using safely managed sanitation services**



- UN Water SDG 6 Global Acceleration Framework has identified “DATA” as one of the five accelerators of the SDG 6 outcome.

- The SDG 6.2 Goal is one of the goals set within SDG 6 that states By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation
- To measure this,
  - The 6.2.1a indicator highlights the proportion of population using safely managed sanitation services as an indicator for achieving the 6.2 goal
- Ask the audience where the proportion related information/ data is obtained/generated/ acquired from? (SDG 6.2.1a indicator)

### Slide 13



- We have data of proportion of safely managed sanitation in the world. Yet we can see that many places still do not have data.
- We talk in extent about CWIS and applying it, yet we do not have complete data that reflects the scenario of sanitation.
- Since we do not have data of certain regions, we do not know the current status of SDG 6.2 in this region nor do we know if we will be able to meet the SDG6.2 goal by 2030
- Briefly explain the box's text



- Detailed life cycle cost analysis can also be carried out
- Cost analysis for upgrading all sanitation services to safely managed can also be carried out

Slide 16

## Importance of Data in CWIS

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### Characteristics of Good Data

ACCESS
ACCURATE
COMPLETE
RELIABLE
RELEVANT
TIMELY

**IMIS is a Data-Driven System developed to catalyze CWIS approach, and achieve SDG 6.2 Outcomes**

- For SDG 6.2, data must be (Explain each individual box and its relevance)
- To attain all of the above, all existing approaches fail
  - So we need a new approach that is IMIS
  - IMIS is a Data-Driven System developed to catalyze CWIS approach, and achieve SDG 6.2 Outcomes
  - Highlight that this new approach addresses the characteristics of good data

Slide 17

## Basic Understanding of IMIS

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IMIS is a **convergence of web, mobile and GIS technologies.**

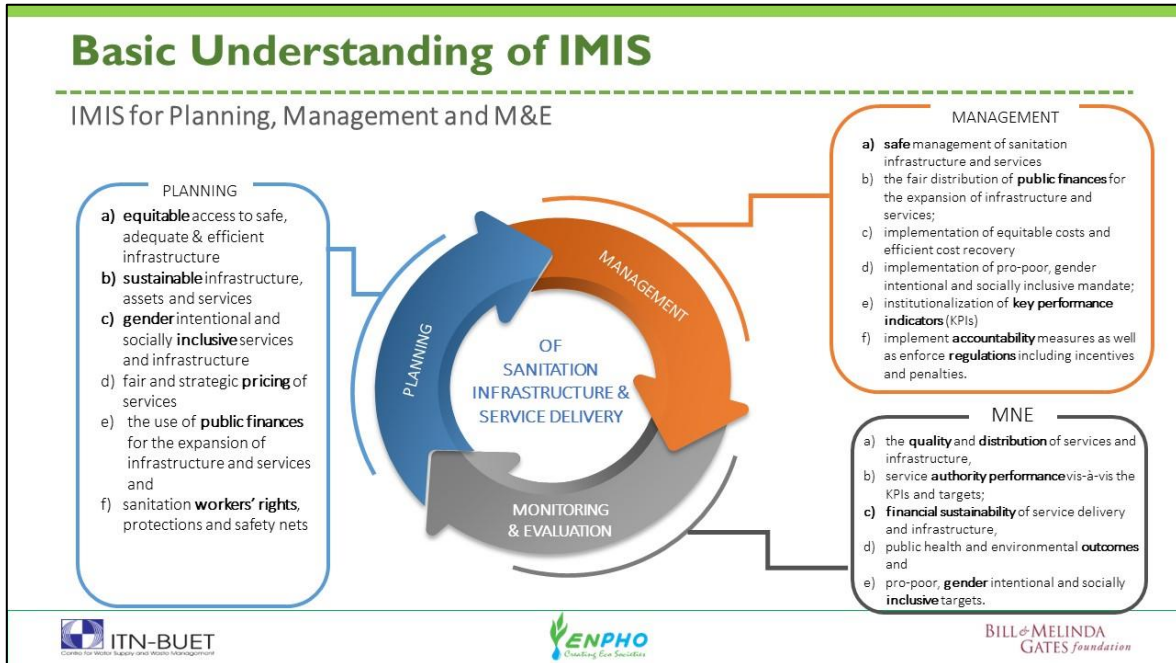
IMIS brings **Innovation** in overall city's sanitation system and services **fostering good Governance**

### Components of IMIS

IMIS DRIVING EFFICIENCY, RESPONSIVENESS AND ACCOUNTABILITY OF MUNICIPALITIES

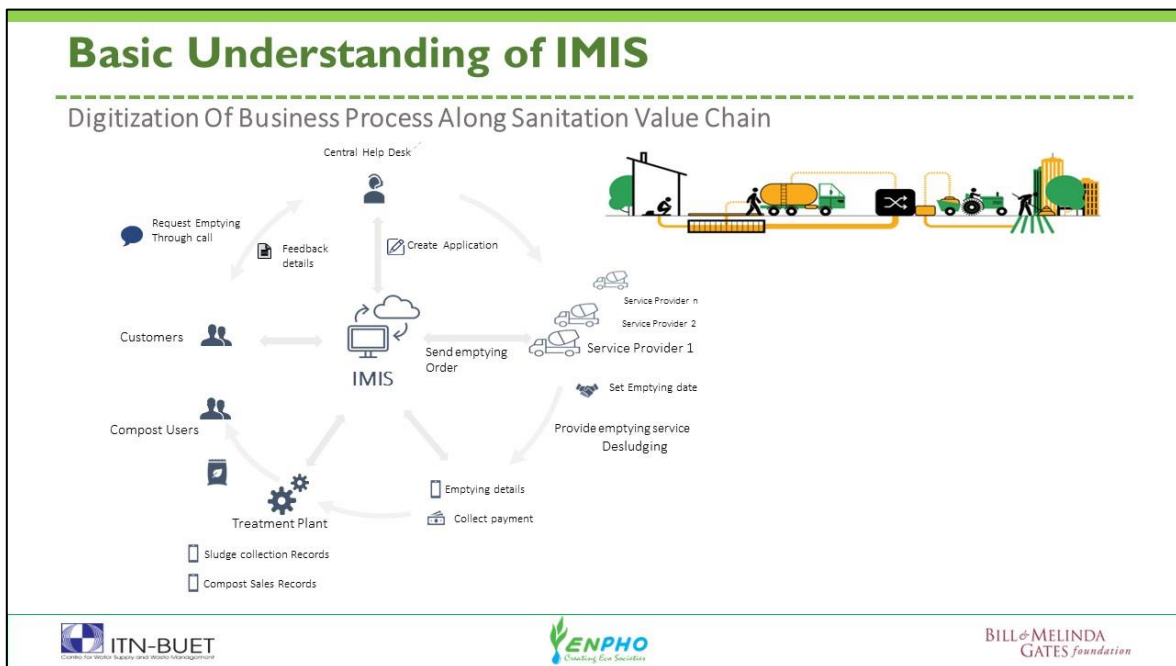
- IMIS is a convergence of web, mobile and GIS technology.
- IMIS consists of nine components that helps in providing current CWIS sanitation situation and preparing strategic sanitation plan
- Name the individual components and give a short description.

Slide 18



- IMIS is a powerful tool developed to catalyze CWIS outcome, that facilitates efficient and effective planning, management, and monitoring & evaluation of sanitation and service delivery
- Go through individual points and elaborate shortly.

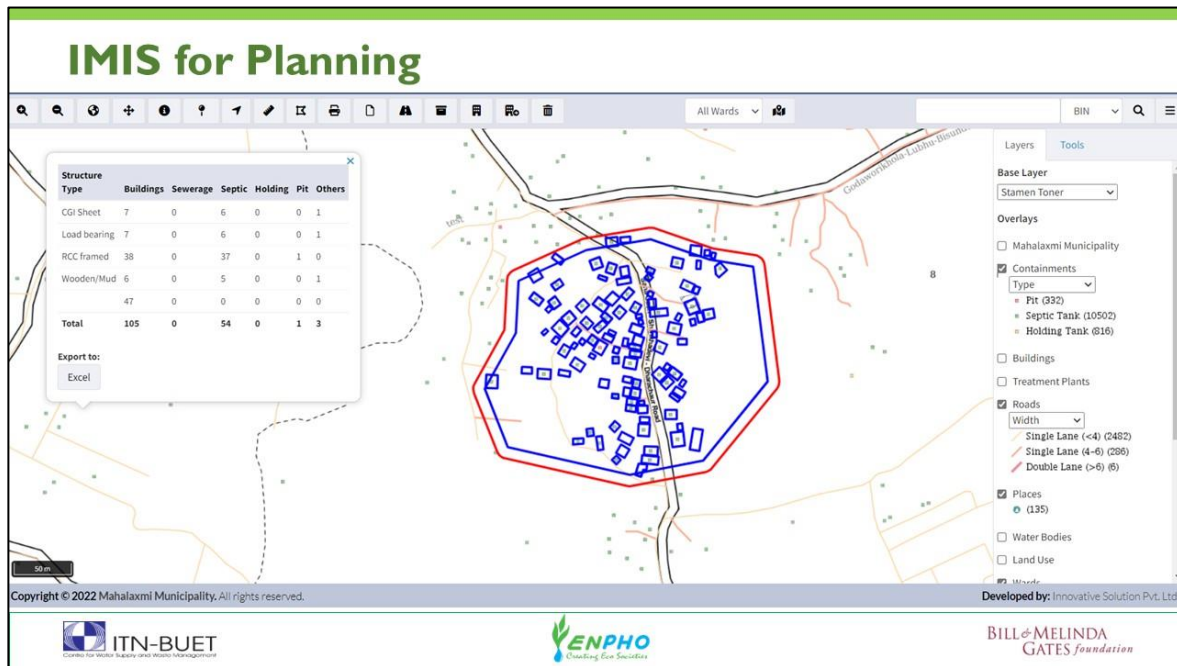
Slide 19





- We are already familiar with the service delivery chain and its different steps (highlight right top picture)
- Explain about the process flow and how complete sanitation value chain data is generated in different steps
- Also elaborate on the fact that different components generate different types of data which is compiled into a single umbrella structure within IMIS
- It digitizes all components of IMIS into a single umbrella system that is able to not only digitize the data required for CWIS but also the processes of CWIS

## Slide 20



- Along with digitization of business chain, it also aids in different aspects as highlighted earlier
- A simple example to show the capabilities of IMIS.
- The picture shows one of the many tools of IMIS in action
- This tool calculates the total number of buildings in drawn polygon area with a certain buffer distance and provides the total number of buildings, and the sanitation system connected with it as well.
- We can also see on the right hand side that we can toggle different layers displaying different aspects of data, as well as the legends that follow.
- This allows users of IMIS to accurately generate accurate data in real time according to different parameters and boundaries that are dynamically set by the user.
- It also allows the generation of different types of GIS maps for further analysis
- This fosters the users of IMIS to make informed data backed decisions with the click of a button.

Slide 21

### IMIS for Management

Containment ID	Containment Type	Size	Containment Location	Action
C000001	Holding Tank		Inside the main building	[Icons]
C000002	Septic Tank		Outside the building footprint	[Icons]
C000003	Septic Tank		Outside the building footprint	[Icons]
C000004	Holding Tank		Outside the building footprint	[Icons]
C000005	Septic Tank		Outside the building footprint	[Icons]
C000006	Septic Tank		Outside the building footprint	[Icons]
C000007	Septic Tank		Outside the building footprint	[Icons]
C000008	Septic Tank		Outside the building footprint	[Icons]
C000009	Holding Tank		Outside the building footprint	[Icons]

- Here, we can see the Containment Information Management Sub-Module.
- This is one of the modules that manage the information of the containment.
- Here we can see the containment ID, the containment type, size and its location. Within the system, we can also view which building it is connected to as well as the location of the building to which it is connected to and so on.
- This allows the users of IMIS to accurately view the containment status of the region as well as allows the user to accurately assess the current scenario of containments as well the number of new containments being built.

Slide 22

### IMIS for M&E

**FSM Services Dashboard**

11,656 Total Containments	2 Unique Containment Emptied	2 Total Containment Emptied
13 Applications	10 Service Providers	4,800 Total Cost Paid (NRS)
511 Total Volume Of Sludge (m3) By Emptying Services	0 Total Volume Of Sludge (m3) On Treatment Plants	7 Emptying Service Reaching Treatment Plant

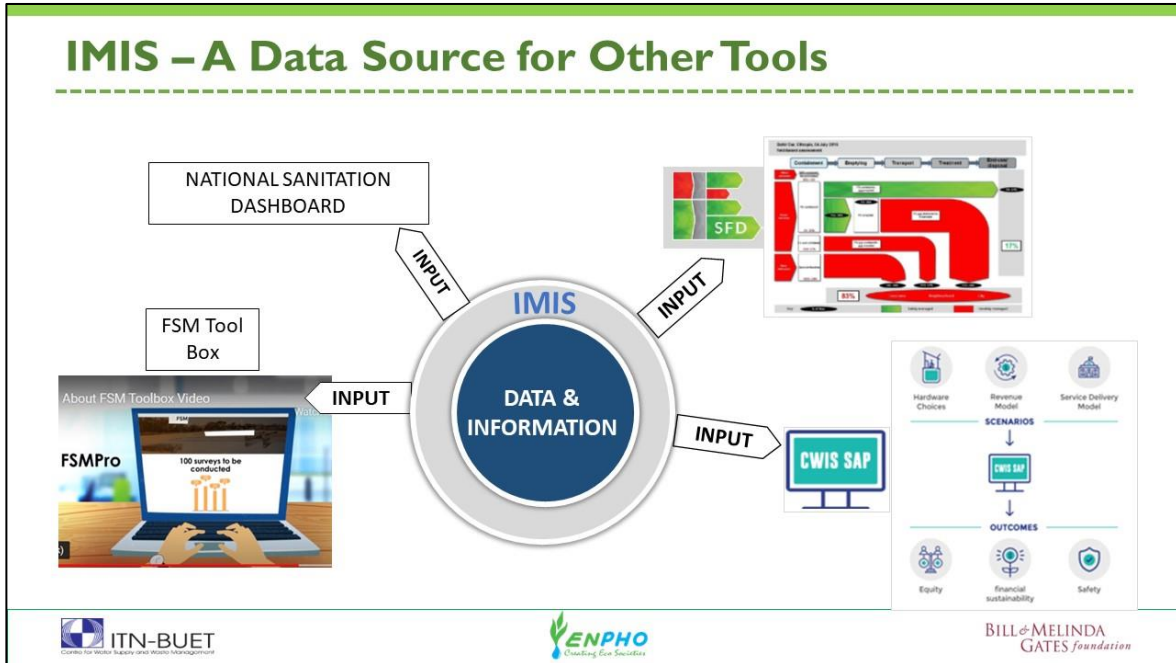
**Sanitation Systems**

6,215 Sewerage Connected	10,500 Septic Tank	816 Holding Tank
338 Pit	13 Managed Onsite	51 Unauthorized

- This is a small snippet of the dashboard of IMIS.

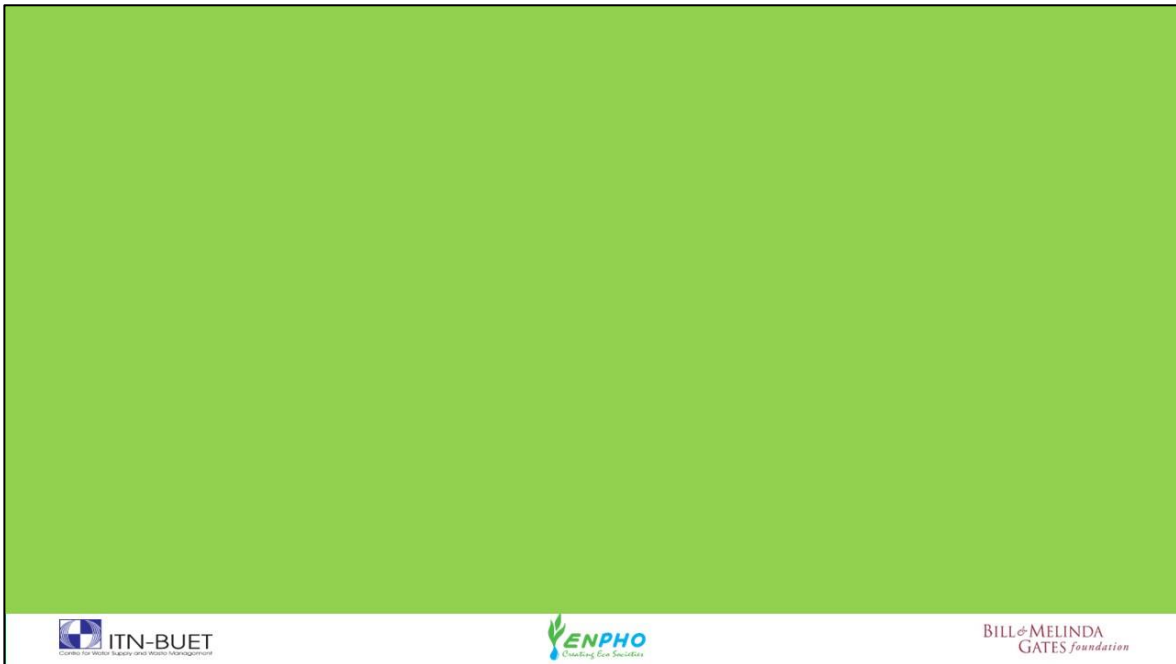
- Here we can easily see the total number of containments within the city, (Explain boxes in brief)
- The dashboard allows the user to quickly view the data of different aspects in real time
- It also displays different data in charts and other graphical representations making it easier to monitor and evaluate data in real time.

**Slide 23**



- This system is a dynamic system that can be further expanded to provide data to other different platforms
- It can serve as a multi-platform eco system and integrate as well as provide data to other different platforms
- Elaborate with examples about providing data to SFD development, National Dashboard and so on.

## Slide 24

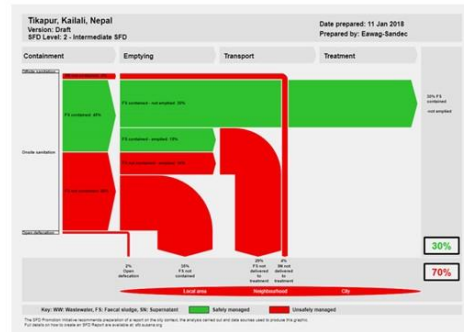


Session break, ask participants if they have any queries and questions

## Slide 25

### Shit Flow Diagram

- An excreta flow diagram (also often described as shit flow diagram, SFD) is a tool
  - to readily understand and
  - communicate how excreta physically flows through a city or town
- SFDs show how it is or is not managed as it moves from defecation to disposal or end-use.
- SFD is effective for advocacy and awareness raising



The Faecal Waste Flow Diagram, or SFD, is a widely used tool to visualise how well, or how badly, sanitation is working overall in a city.

- The width of the arrows corresponds to the population whose faecal waste follows a safe or unsafe pathway. It also reflects how inclusive the sanitation service is, and often shows a small proportion being served by sewerage (at considerable cost to the public) and a large proportion by poorly functioning non-sewered systems, usually self-funded.

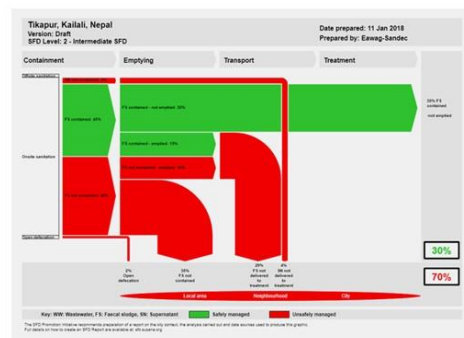
- Because it tells the overall story but with minimal technical detail, it is primarily an advocacy and prioritization tool – and not suitable for system design.
- The green arrows tell us the proportion of the population whose waste is safely managed.
- The red arrows show the extent of unsafe sanitation, but they don't tell us why the sanitation system is failing.

**Slide 26**

## Shit Flow Diagram

SFD = starting point for analysis

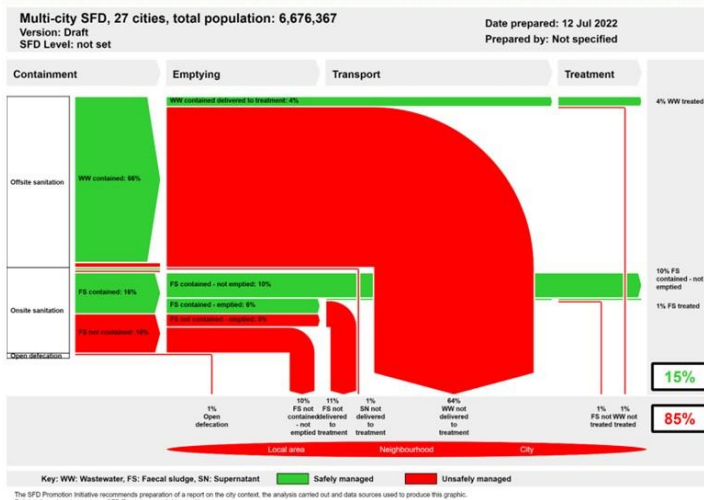
- ✓ Visual summary of a city's sanitation chain
- ✓ Problem identification tool
- ✓ Advocacy tool: Involve stakeholders
- ✓ Expert judgement is required



SFDs shows or presents the actual situation or current status of the area.

**Slide 27**

## Shit Flow Diagram (SFD) of Nepal



Total SFDs= 26

Source: SuSANA

As discussing about the country, only 15% of wastewater and faecal sludge is safely managed while still 85% of VVW and FS is unsafe creating high health and environmental risk. Red arrow in the diagram indicates high health risk so our ultimate aim is to attain green arrow to ensure entire safety of the city and nation.

**Slide 28**

## City Service Delivery Assessment

---

- SFD - an advocacy and prioritization tool –illustrates the sanitation situation in a city
- **City Service Delivery Assessment (CSDA)**- a complementary tool to assess *why* the situation is as it is
- It supports a systematic process
- It also includes an Action Checklist

Sewered sanitation			
	VC, house connection	Sewerage	Sewage treatment & reuse
<b>Enabling</b>			
Policy, legislation	🟡	🟡	🟢
Planning, budgeting	🟡	🟢	🟢
Inclusion	🔴	🔴	
<b>Delivering</b>			
Funding	🔴	🟡	🔴
Capacity, outreach	🔴	🟡	🟢
Inclusion	🔴	🔴	
<b>Sustaining</b>			
Regulation, cost recovery	🔴	🟡	🟡
Institutions, service providers	🟡	🟡	🟢
Inclusion	🔴	🔴	

Non-sewered sanitation			
	Toilet, pit or septic tank	Emptying & transport	Sludge treatment & reuse
<b>Enabling</b>			
Policy, legislation	🟡	🟡	🔴
Planning, budgeting	🟡	🔴	🔴
Inclusion	🔴	🔴	
<b>Delivering</b>			
Funding	🟢	🟡	🔴
Capacity, outreach	🟢	🟡	🟢
Inclusion	🔴	🔴	
<b>Sustaining</b>			
Regulation, cost recovery	🔴	🟡	🔴
Institutions, service providers	🟡	🟡	🟢
Inclusion	🔴	🔴	

It supports a systematic process for working with stakeholders to assess the enabling environment for citywide inclusive sanitation, and to present the results in a simple and accessible way. It also includes an Action Checklist to help stakeholders identify and prioritise immediate and follow-up actions to improve the enabling environment for the delivery and sustained operation of inclusive sanitation services across the city.

**Slide 29**

## City Service Delivery Assessment

---

- Facilitates assessment of the **enabling environment** for Citywide Inclusive Sanitation (CWIS)
- Generates **graphics** to support a systematic process for **working with stakeholders** to build consensus
- Separately addresses both **sewered** and **non-sewered** sanitation
- Includes an Action Checklist to help stakeholders **identify and prioritise actions** to improve sanitation

Explaining why, is the purpose of the City Service Delivery Assessment.

- The tool supports the assessment of the enabling environment for City-wide Inclusive Sanitation using a series of structured questions.
- Like the SFD, it generates simple graphics to support a systematic process for working with stakeholders and inform a dialogue to build consensus for action.
- It addresses sewerage and non-sewered sanitation separately, as they are usually provided by different stakeholders, in quite different ways.
- It also includes an Action Checklist to help stakeholders identify and prioritise actions to improve sanitation on the basis of the structured assessment

### Slide 30

## CSDA Output

A CSDA produces a structured diagnosis of **institutional barriers** to sanitation service delivery, based on 3 pillars:

- **Enabling:** policy, legal and institutional environment
- **Delivering:** resources and mechanisms available to improve sanitation
- **Sustaining:** operating environment, funding and personnel needed to provide ongoing and sustainable sanitation services

It is summarised in a simple traffic light graphic, to facilitate stakeholder debate

Non-sewered sanitation			
	Toilet, pit or septic tank	Emptying & transport	Sludge treatment & reuse
<b>Enabling</b>			
Policy, legislation	Yellow	Yellow	Red
Planning, budgeting	Yellow	Red	Red
Inclusion	Red	Red	
<b>Delivering</b>			
Funding	Red	Red	Red
Capacity, outreach	Green	Green	Green
Inclusion	Red	Red	
<b>Sustaining</b>			
Regulation, cost recovery	Red	Yellow	Red
Institutions, service providers	Red	Yellow	Yellow
Inclusion	Red	Red	

Logos: ITN-BUET, ENPHO, BILL & MELINDA GATES foundation

### Slide 31

## Key Message

- Monitoring- Regular observation and recording for feedback to related stakeholders
- Data and Information is one of accelerators of SDG 6
- IMIS is a Data-Driven System and data from IMIS is accessible, accurate, complete, reliable, relevant and real time
- IMIS is an interoperable system capable of providing data to other platforms as well as integrating data into itself via API
- IMIS brings Innovation in overall city's sanitation system and services fostering good Governance
- Data from the system can be used for advocacy through SFD and situation analysis with CSDA for the appropriate interventions

Logos: ITN-BUET, ENPHO, BILL & MELINDA GATES foundation

Hence, Monitoring is a regular observation and recording for progress updates and must be carried out continuously at different phases, giving feedback to the related stakeholders to be followed by Action points.

For monitoring one needs data and such data can be compiled through a system as IMIS, a useful management system for government, utilities and service providers which can be then presented to the stakeholders for advocacy or could be used to analyze the situation for the development of appropriate interventions through different sanitation tools like SFD and CSDA

## Slide 32

### Additional Reading Materials

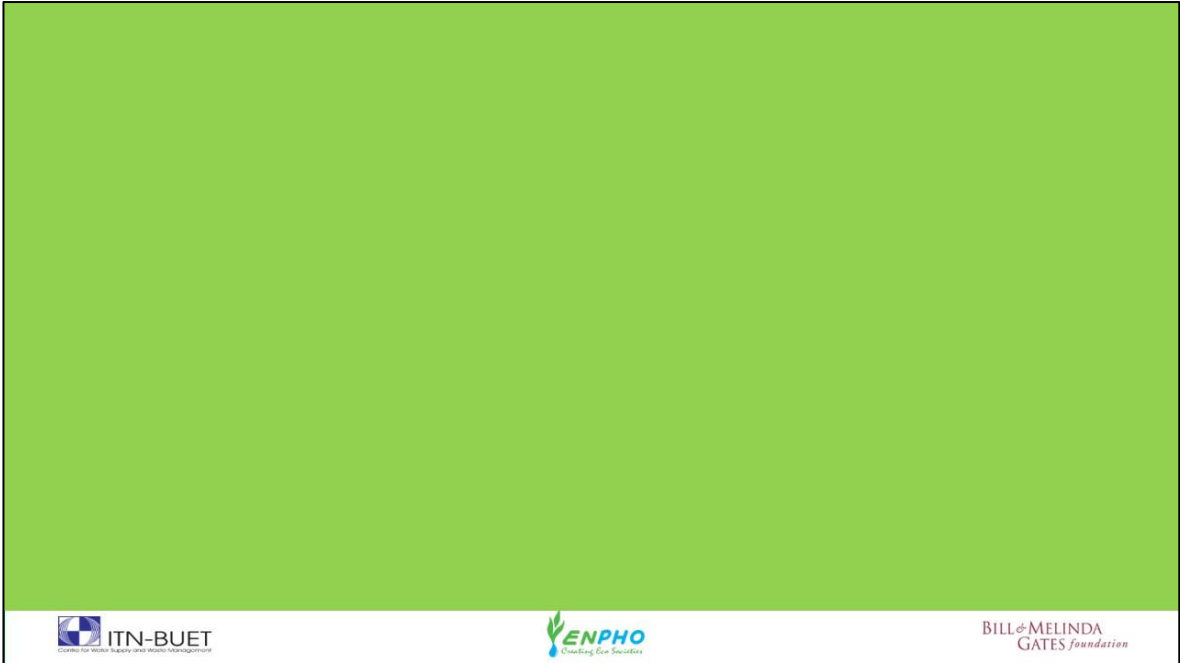
1. Paper on “Monitoring Progress in Citywide Sanitation”. Online available at: <https://www.frontiersin.org/articles/10.3389/fenvs.2021.751534/full>
2. “CWIS Guidance Note”. Online available at: <https://www.adb.org/sites/default/files/publication/751531/cwis-citywide-inclusive-sanitation-needed.pdf>
3. Youtube video: “Monitoring & Evaluation of Water Sanitation Projects”. [https://www.youtube.com/watch?v=TpieXRRK15E&ab\\_channel=StrategiaNetherlands](https://www.youtube.com/watch?v=TpieXRRK15E&ab_channel=StrategiaNetherlands)
4. WHO information on Monitoring WASH: <https://www.who.int/activities/monitoring-water-sanitation-and-hygiene>
5. “Sanitation Monitoring Toolkit” [https://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/UNICEF\\_SanitationMonitoring\\_Toolkit.pdf](https://www.communityledtotalsanitation.org/sites/communityledtotalsanitation.org/files/UNICEF_SanitationMonitoring_Toolkit.pdf)
6. <https://sfd.susana.org/>
7. <https://incsanprac.com/tools.html>

## Slide 33

Thank  
you



**Slide 34**



## Session 11: Applying CWIS Lens and Field Visit

### Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation

## Applying CWIS lens

### Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person

### Slide 2

### Before Starting...

<b>Service Outcomes</b>	<b>EQUITY</b>	<b>SAFETY</b>	<b>SUSTAINABILITY</b>
<b>System Functions</b>	<b>RESPONSIBILITY</b>	<b>ACCOUNTABILITY</b>	<b>RESOURCE PLANNING &amp; MANAGEMENT</b>

Till to the session, we have completed discussing on each of the component of CWIS framework and measures or interventions to make the sanitation services as per the framework.

Have we gained something from the training?

What have we learnt?

Let us verify our knowledge on CWIS so will be discussing on the applying CWIS lenses in different activities/ programs.

### Slide 3

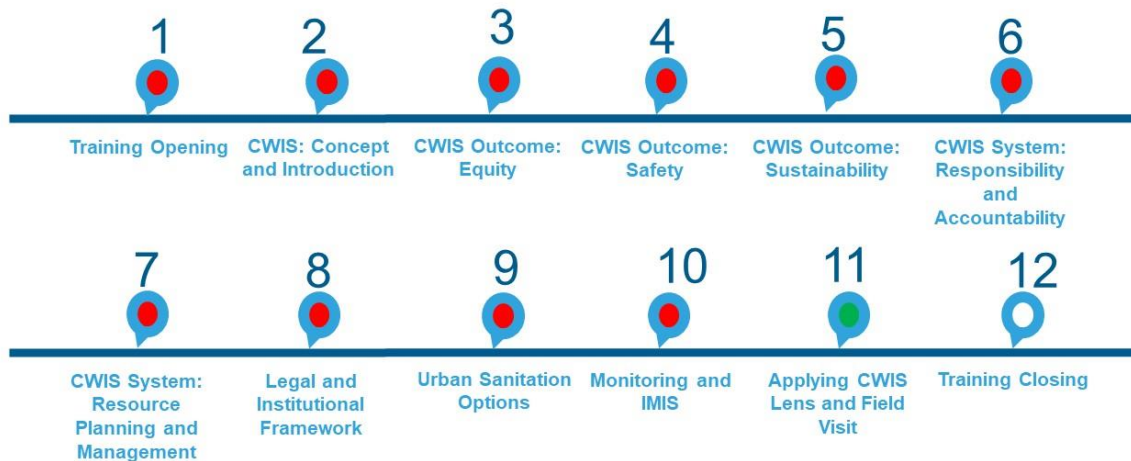
## Instruction for Intro

1. Ask participants if they gained something from the event/ training.
2. Ask participants what did they learn? *P/A: information on CWIS*
3. Ask participants if they are sure about it. *P/A: yes*
4. Inform participants that they are now going to verify their knowledge on CWIS and will be discussing on the applying CWIS lenses in different activities/ programs.
5. Present learning outcome and presentation outline of the session

Or to organizational policy, how a policy of an organization support for the enabling environment for a productive output/ outcomes.

### Slide 4

## Training Structure



Here in the training, this is the final technical session where one will be discussing on applying CWIS lens in the sanitation facilities after the field visit to one of the sanitation facility.

## Slide 5

### Learning Outcomes

---

- Analyze sanitation facility/ facilities through CWIS perspective
- Describe on the next course of action after the training

At the end of the session, participants will be able to...

## Slide 6

### Presentation Outline

---

- Guide on the Site visit
- Field visit to one of the sanitation services
- Analyze through CWIS perspective
- Presentation of the findings
- Way forward/ what is next?

Slide 7

## Guide on the Site visit

- Inform participants that they will be visiting a sanitation facility and will be analyzing the facility through CWIS lens
- For the visit, inform participants that they will be divided into 6 groups as per the components of CWIS framework and will be provided a monitoring checklist to note the points along with some of the reference points.
- Inform participants as they visit the field, participants are to make notes on the measures applied and gaps in particular component assigned to the group.
- Inform that after the visit, participants will be presenting their findings to the large group.
- Now divide into groups and assign a topic to each group along with the monitoring checklist and reference points.
- Ask participants to go through the reference points in their respective groups

Slide 8

## Site Visit & Evaluation {Let's Practice}

- In 6 groups
- Each group- a CWIS framework component
- Observe as per the component and take notes
- Field visit
  - 45 min observation
  - 15 min to take notes
- Present the major finding



1 hour

Service Outcomes	EQUITY	SAFETY	SUSTAINABILITY
System Functions	RESPONSIBILITY	ACCOUNTABILITY	RESOURCE PLANNING & MANAGEMENT

Slide 9

## Finding from Presentation

---



Field Visit  
1 hour


Slide 10




Slide 11

## Group Discussion

---



5 minutes



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ENPHO  
Eradicating New Parasites

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Slide 12

## Group Presentation

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ENPHO  
Eradicating New Parasites

BILL & MELINDA  
GATES foundation

Divide participants into 3 groups, provide 3 separate case scenario  
Provide 30 minutes to discuss on the give case study

Slide 13

## Next Course of Action

---

Ask participants-

- What is next?
- How to implement CWIS in their municipality?
- How can we support for CWIS implementation?



Slide 14

Thank  
you

Slide 15





# Session 12: Training Closing

## Slide 1

### Citywide Inclusive Sanitation Scaling and Sanitation Innovation

**NON-SEWERED SANITATION SYSTEM**

**SEWERED SANITATION SYSTEM**

## Training Closing

Training on Introduction of Citywide Inclusive Sanitation Approach

Resource Person

ITN-BUET  
Center for Water Supply and Wastewater Management

ENPHO  
Challenging Our Sanitaries

BILL & MELINDA GATES foundation

## Slide 2

### Revisiting Expectations

- 1 Training Opening
- 2 CWIS: Concept and Introduction
- 3 CWIS Outcome: Equity
- 4 CWIS Outcome: Safety
- 5 CWIS Outcome: Sustainability
- 6 CWIS System: Responsibility and Accountability
- 7 CWIS System: Resource Planning and Management
- 8 Legal and Institutional Framework
- 9 Urban Sanitation Options
- 10 Monitoring and IMIS
- 11 Applying CWIS Lens and Field Visit
- 12 Training Closing

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ENPHO  
Challenging Our Sanitaries

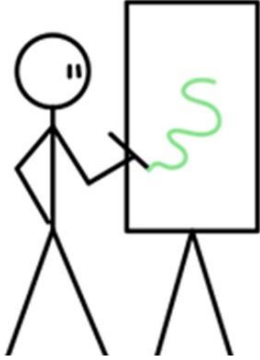
BILL & MELINDA GATES foundation

Till the date, we have completed all the sessions and now are going for the training closing.

Slide 3

## Revisiting Expectations

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A stick figure stands next to a whiteboard on a tripod. The figure is pointing at a green squiggle drawn on the board. The squiggle starts as a vertical line, curves to the right, then loops back to the left, and finally curves to the right again, resembling a stylized 'S' or a path.

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Slide 4


## Assessment

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- Post-test form
- To evaluate the learning



An icon showing a person sitting at a desk, writing on a piece of paper. A speech bubble above the person contains a checkmark, indicating a correct answer or successful completion.



15 minutes

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Inform participants about the pre and post test and provide the form for pre-test. Provide 10 minutes time for the activity.

## Slide 5

### Training Evaluation

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- Evaluation Form
- 2 voices from participants



20 minutes

Inform participants about the pre and post test and provide the form for pre-test. Provide 10 minutes time for the activity.

## Slide 6

### Certificate Distribution

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- A volunteer to start over
- Facilitator will announce the name
- The volunteer will hand over the certificate to the name announced participant along with
  - One strength of the participant
  - Congratulation for the completion of the event
  - Best wishes for future endeavor with the knowledge
- The participant with the certificate will further hand-over the next certificate and repeat the process till all get their certificate

## Slide 7

### Certificate Distribution

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- One strength of the participant
- Congratulation for the completion of the event
- Best wishes for future endeavor with the knowledge



## Slide 8

### Group Photo

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- Request for group photo
- And close the training

Slide 9



Thank you

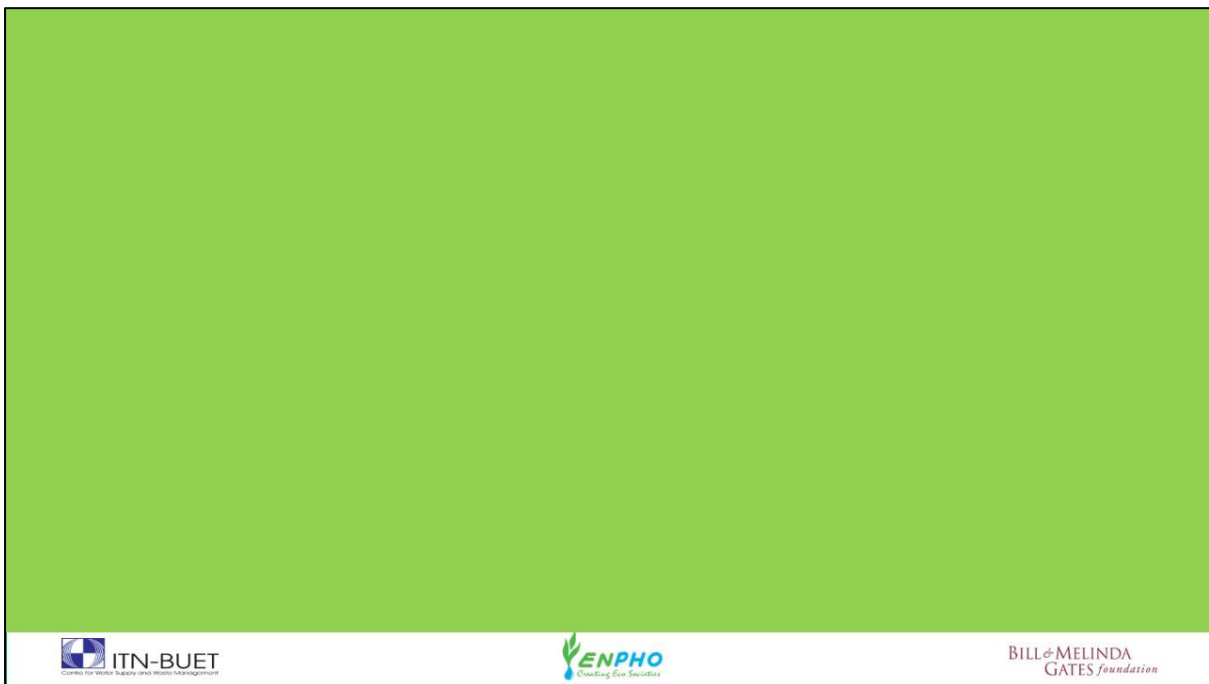
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The slide features the text "Thank you" in a large, black, cursive font centered on a white background. Two horizontal dashed green lines are positioned above the text, one on the left and one on the right. At the bottom of the slide, there is a white footer containing three logos: ITN-BUET (Center for Water Supply and Wastewater Management) on the left, ENPHO (Creating Eco Societies) in the center, and the BILL & MELINDA GATES foundation on the right.

Slide 10



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The slide is a solid green rectangle. At the bottom, there is a white footer containing three logos: ITN-BUET (Center for Water Supply and Wastewater Management) on the left, ENPHO (Creating Eco Societies) in the center, and the BILL & MELINDA GATES foundation on the right.