

Introduction to CWIS Approach

Power Point Presentation Handout For Participants

July, 2023

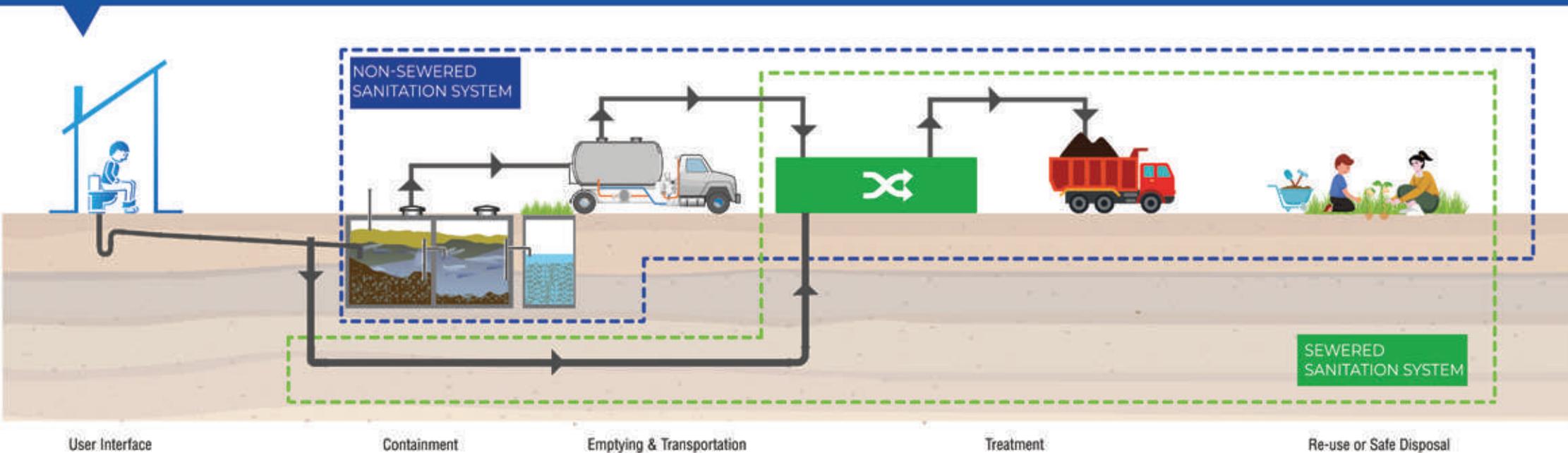


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Introduction

This document, power point presentation Handout for participants, is a supporting document for the participants while conducting the "Introduction to Citywide Inclusive Sanitation Approach" training. This is a compilation of all the slides to be presented in the training along with the space to take notes on particular slide.

Objective

The main objective of the document is to serve the participants as a notebook along with the reference for participants on the slide being presented. To this, it also guide participant on what is being presented and how.

How to Use?

The document consist of slides from all session along with the space to take notes on each slide. A space for taking notes is allocated adjacent to each slide so the participants can note any key points as the trainer or presenter describes the content of the slide.

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. Materials used in the package are for the reference to understand the concept and or to show the practices around the globe and at national level. The package development team do not claim for the materials used in the package as of their own but is the sole property of the respective organization.

SESSION 2

Citywide Inclusive Sanitation- Concept and Introduction

Slide 5

Learning Outcomes

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

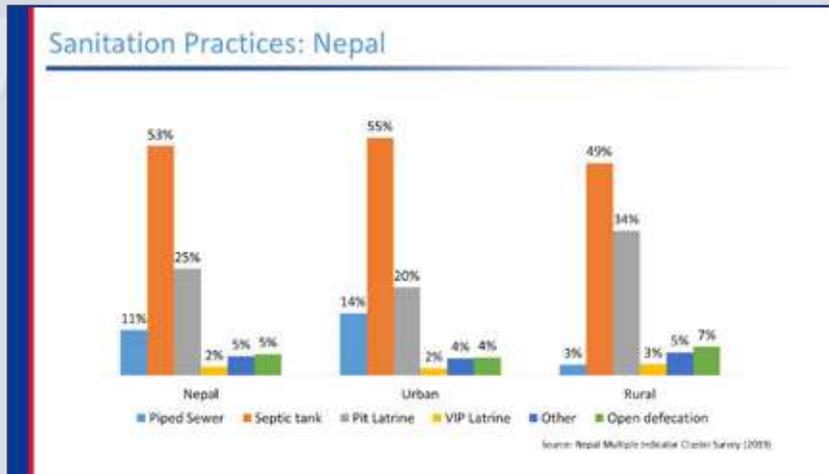
Slide 6

Presentation Outline

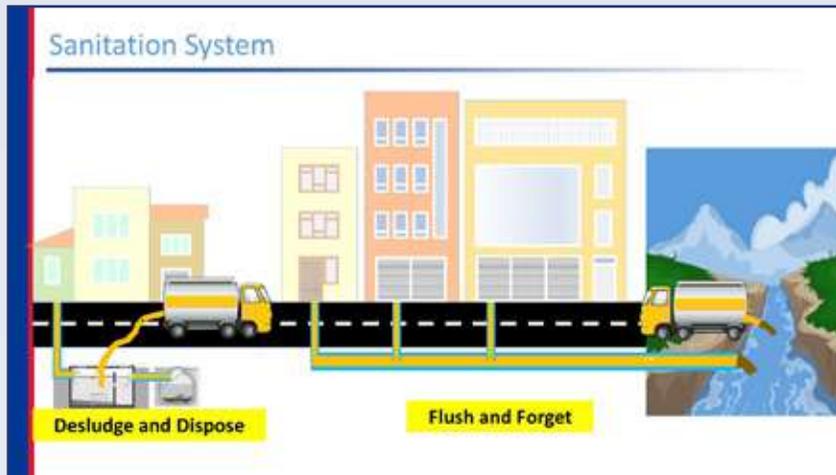
- Sanitation movement in Nepal
- Legal provisions related to urban sanitation
- Current sanitation practices

- CWIS- concept
- CWIS principles and framework
- CWIS perspective in sanitation service chain

Slide 11



Slide 12



Slide 13



Slide 14



Slide 17

Effects on Health and Safety

DALY
Disability Adjusted Life Year is a measure of overall disease burden, expressed as the cumulative number of years lost due to ill-health, disability or early death.

YLD
Years Lived with Disability

YLL
Years of Life Lost

Healthy life | Disease or Disability | Early death | Expected life years

One DALY = one year of healthy life lost

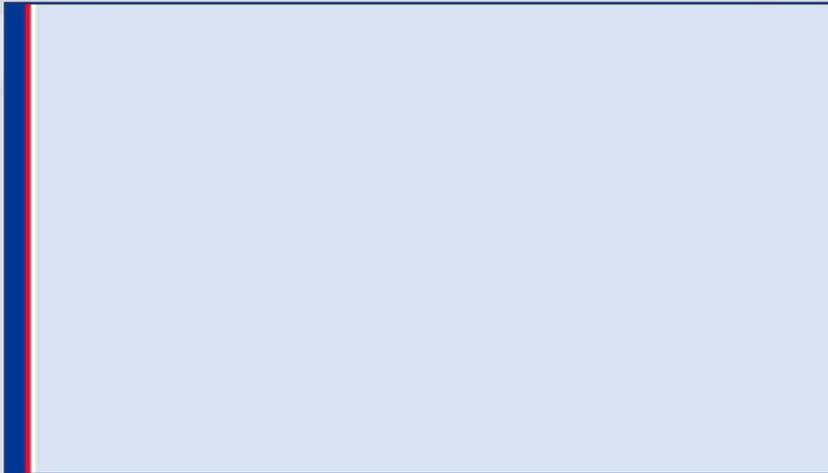
- Global Burden of Disease (GBD) studied the top 10 risk responsible for DALY
- DALY increases due to poor WASH (Water, Sanitation and Hygiene) and is in the second list after malnutrition.

Slide 18

Sanitation Service Chain and SDGs

The diagram illustrates the sanitation service chain. It starts with a person using a toilet (yellow box), followed by a truck collecting waste (red box), then a truck transporting waste (red box), and finally a person spreading sludge on a field (red box). A blue speech bubble is positioned above the truck transporting waste.

Slide 23



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



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.

Slide 26

Why is this happening ????



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 ?



Slide 28

Citywide Inclusive Sanitation

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



Responsible and accountable service authorities with proper resource planning and management

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)

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

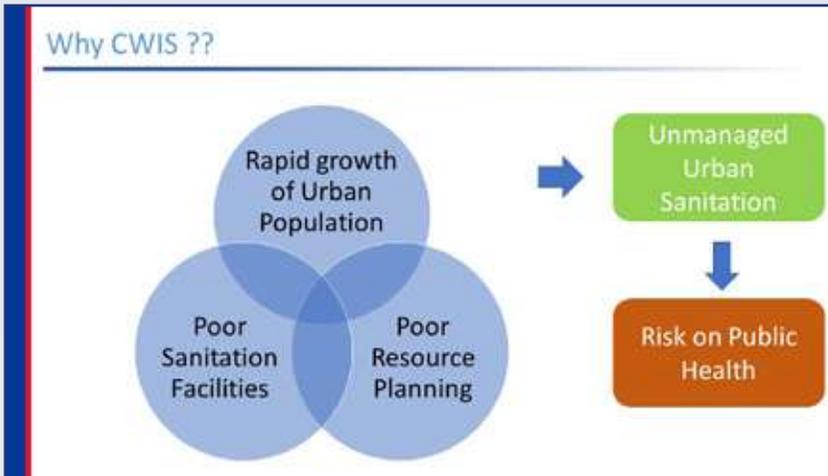


The diagram illustrates the relationship between Sanitation, Economic Growth, and Inclusive Sanitation. It features a central box labeled 'CITYWIDE INCLUSIVE SANITATION'. To its left is a box labeled 'ECONOMIC GROWTH', and to its right is a box labeled 'SANITATION'. Above the central box is a box labeled 'WORLD LEADERS', and below it is a box labeled 'RURAL URBAN'. The boxes are interconnected with lines, suggesting a holistic and integrated approach.

Slide 31



Slide 32



Slide 35

Principles of CWIS

Principles of CWIS

- 1. Universal access to an urban area, including the urban poor, benefits from equitable safe sanitation service.
- 2. Gender and social equity are designed into planning, management, monitoring.
- 3. Human waste is safely managed along sanitation service chain, starting with containment.
- 4. Authorities operate with a clear, inclusive mandate, performance targets, resources and accountability.
- 5. Authorities deploy a range of fitting, business and hardware approaches - sewer/d non-sewer/d to meet goals.
- 6. Comprehensive long-term planning foster demands for innovation and is informed by analysis of needs/resources.
- 7. Incentive and accountability systems incentivise service improvements in planning capacity and Leadership.

**In pairs
5 minutes**

Slide 36

CWIS Framework

CWIS OUTCOMES

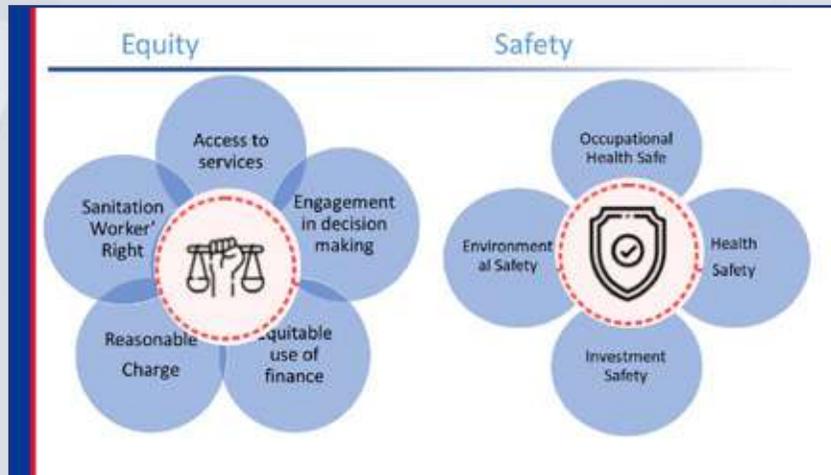
- EQUITY
- SAFETY
- SUSTAINABILITY

CWIS FUNCTIONS

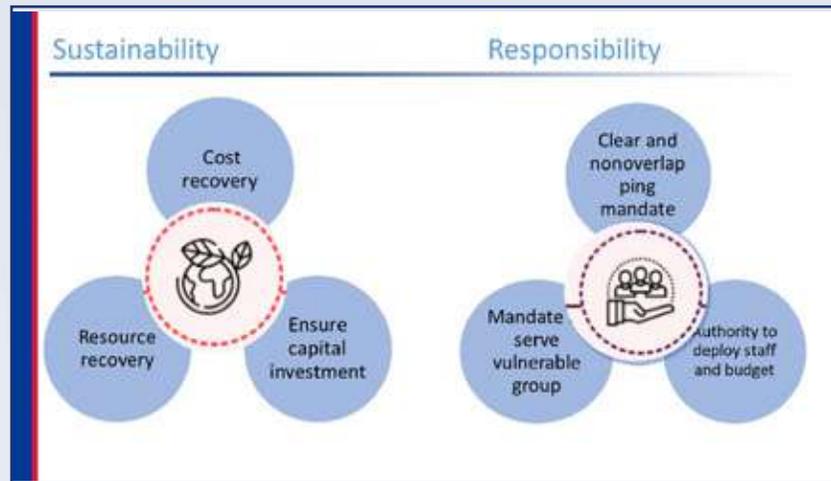
- RESPONSIBILITY
- ACCOUNTABILITY
- RESOURCE PLANNING AND MANAGEMENT

National/State Level
City Level

Slide 37



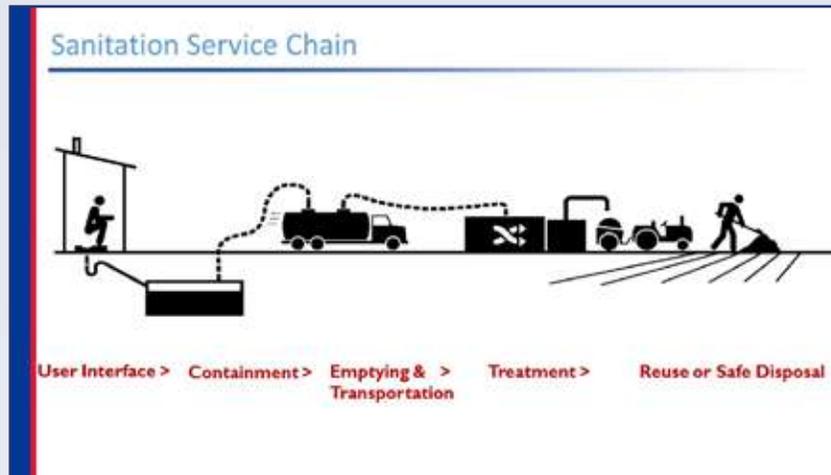
Slide 38



Slide 39



Slide 40



Slide 41

CWIS is equally applicable for.....

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



Slide 42

Applying CWIS lens in Public Toilet
<https://www.youtube.com/watch?v=iOJaOtE19xY>



Slide 43

Applying CWIS lens, Identify the intervention to address



6 Groups
5 minutes



The slide features a title at the top, an illustration of three people (two women and one man) sitting around a table and looking at a document, and a clock icon to the right of the text '6 Groups 5 minutes'.

Slide 44

Applying CWIS lens, Identify the intervention to address

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

Slide 45

Key Messages

- Safely managed sanitation is next target in sanitation sector
- CWIS is an approach to meet the safely managed sanitation for all
- CWIS is a public service approach to planning and implementing urban sanitation systems
- CWIS approach can be used through the sanitation value chain to ensure service provision with safe, equitable and sustainable
- Easy and simple actions can be taken to ensure safety, equity and sustainability
- This approach can be applied in all sanitation services

Slide 46

References

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

Slide 47

Thank you!
धन्यवाद !



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SESSION 3

CWIS Service Outcome- Equity

Slide 5

Before Starting...

Stations

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

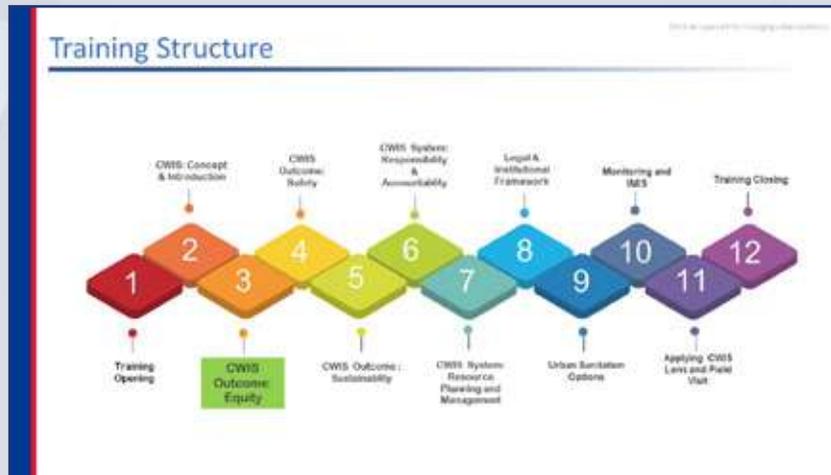
Slide 6

Summary

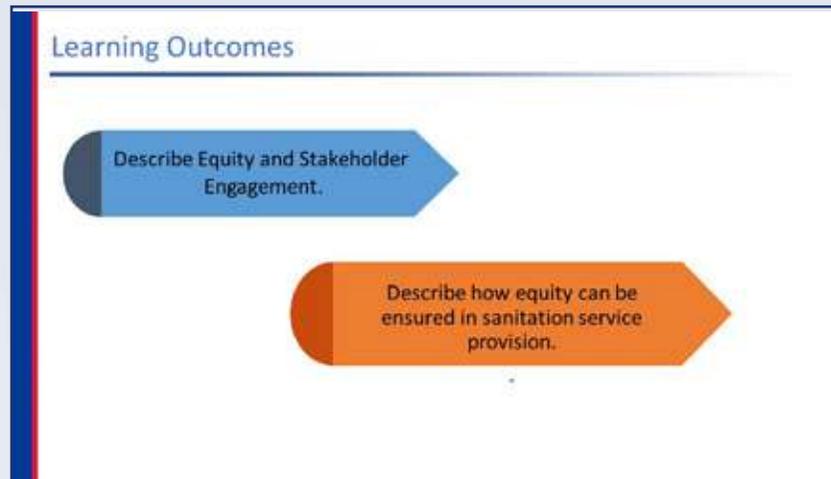
- In which station the number is maximum ? Why ?
- In which station the number is minimum ? Why ?
- Don't you think this work is relevant to all the stakeholders ?
- How would the situation be like ?

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

Slide 7



Slide 8



Slide 9

Presentation Outline

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

Slide 10

???

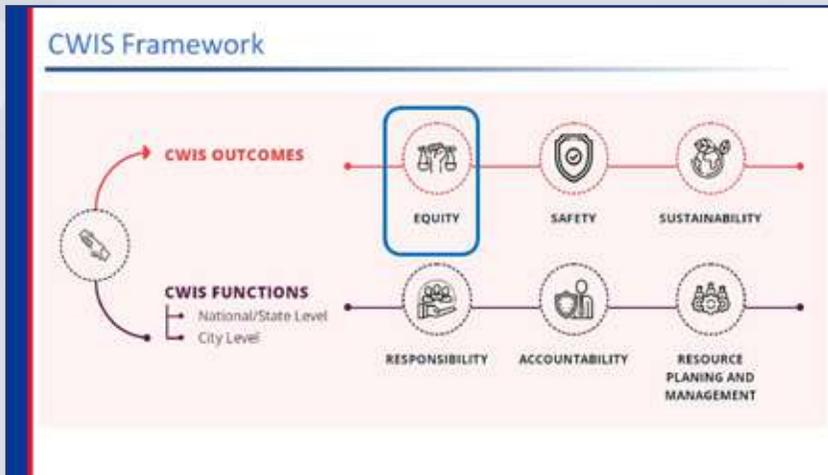
Equality
All have equal access to all services

Equity
Provide services as per the need

Justice
Services access to all without any legal issues

The diagrams show a river and a house. In the Equality diagram, both a person and a house have a long pole to reach the water. In the Equity diagram, the person's pole is removed because they can reach the water. In the Justice diagram, the house's pole is removed because it is too close to the water.

Slide 11



Slide 12

Equity in CWIS Framework

Equity	<ul style="list-style-type: none">• Service reflect fairness in distribution and• Prioritization of service quality, prices, and deployment of public finance/subsidies
<ul style="list-style-type: none">• Constitution of Nepal- Sanitation is basic human right• SDG- Sanitation for all; accessible to 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 ?

Slide 14

Access to Sanitation Service | Equity



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

Slide 15



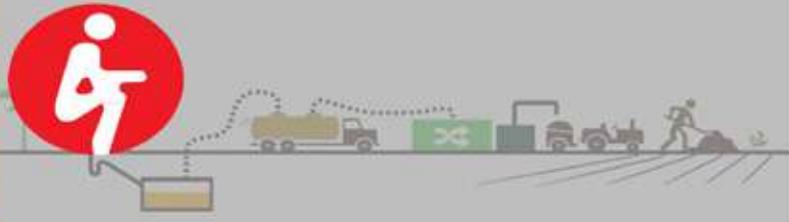
Slide 16



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.



Slide 20

Perspective towards Sanitation Worker



Slide 21

Results

RONB 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

Slide 22

Problems and Issues

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



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



Slide 24

Access along user friendly



Slide 29

Equitable Sanitation Service



Stakeholder Engagement

Female participation in decision making

Slide 30

Equitable Service



Wages to male and female for same work

Slide 33

Group Work



Groups
5 minutes

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

Slide 35

References

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

Slide 36

Thank you!
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SESSION 4

CWIS Service Outcome- Safety

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



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

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

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

Occupational Health and Safety



Slide 21

Health and Safety Issues

Physical hazards	Chemical hazards
<ul style="list-style-type: none">• Collapse of the septic tank/pit wall• Slips, trips, and falls• Exposure to sharp objects contained in sludge (glass, metal, blade, etc.)	<ul style="list-style-type: none">• Suffocation from harmful gases from septic tank (methane, ammonia, sulfur dioxide, carbon dioxide, etc.)• Fire



Slide 22

Occupational Health and Safety

Slide 23

Measures for OHS

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



The image shows three workers in full personal protective equipment (PPE), including hard hats, gloves, and full-body suits, standing next to a blue desludging truck. The truck has text in Hindi on its side: 'नगर स्वच्छता कर्मियों सेवा' (City Cleanliness Workers' Service).

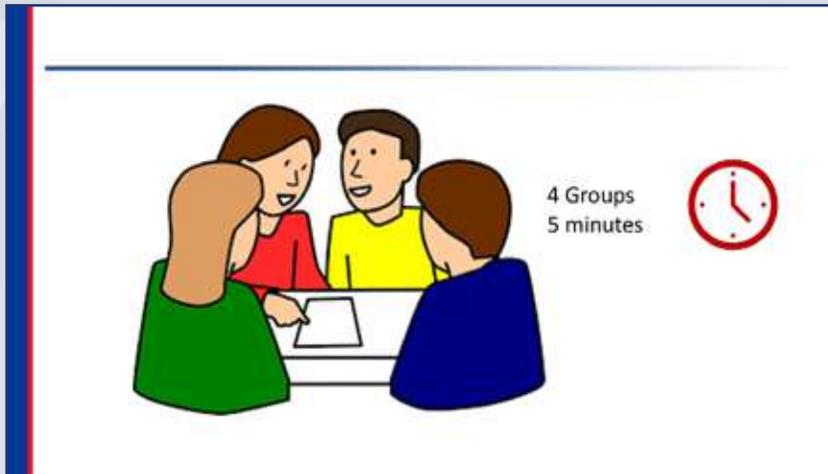
Slide 24

Measures for OHS

Immunization for Health and Safety	Training Program
<ul style="list-style-type: none">• 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)	<ul style="list-style-type: none">• 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

Provide medical/health/life insurance to the sanitation workers

Slide 29



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 ?

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

- <https://youtu.be/Apw-dYWJmjs>
- <https://www.youtube.com/watch?v=8Dx9PWJSEyo>
- <https://www.youtube.com/watch?v=1bqhUAO--1Y>
- <https://www.youtube.com/watch?v=mQF8v2uEcfo>
- <https://www.youtube.com/watch?v=nH0MeZguXeY>

Slide 33

Thank you!
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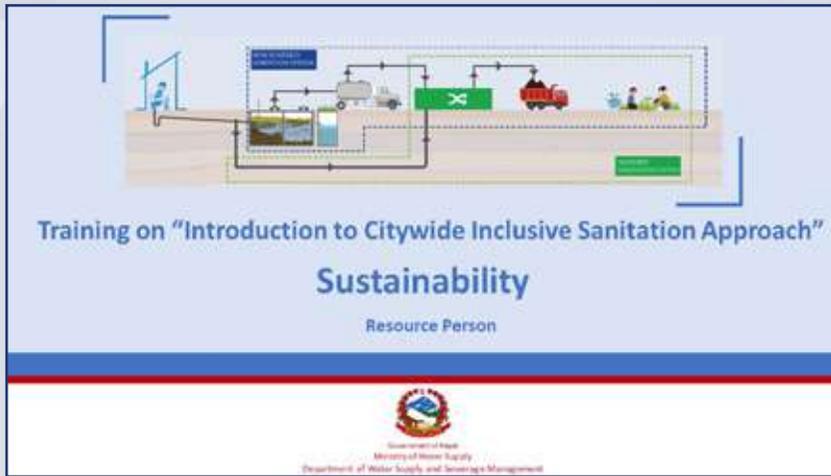


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SESSION 5

CWIS Service Outcome- Sustainability

Slide 1



Slide 2



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?



Slide 7

Some more examples of sanitation services



The slide contains two images. The left image shows a rectangular concrete structure, possibly a septic tank or a small-scale treatment unit, situated in a field with some debris and vegetation. The right image is a circular inset showing a white truck equipped with a large blue vacuum pump and hoses, parked on a dirt road, likely used for vacuum-based sanitation services.

Slide 8

Some more examples of sanitation services



Teku, 1998

The slide contains two images. The left image shows a large, open field with rows of small, rectangular structures, possibly a large-scale sanitation facility or a community center. The right image shows a green, covered structure, possibly a covered walkway or a small-scale treatment unit, situated in an urban or semi-urban area.

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



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



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



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



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

Thank you!
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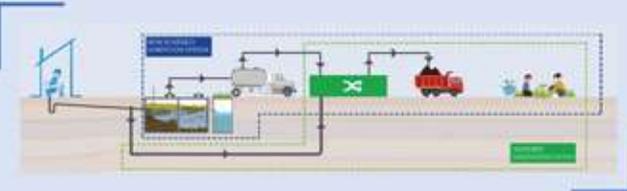


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SESSION 6

CWIS System Functions- Responsibility and Accountability

Slide 1



Training on "Introduction to Citywide Inclusive Sanitation Approach"
Responsibility and Accountability
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?



Slide 7



Slide 8



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

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

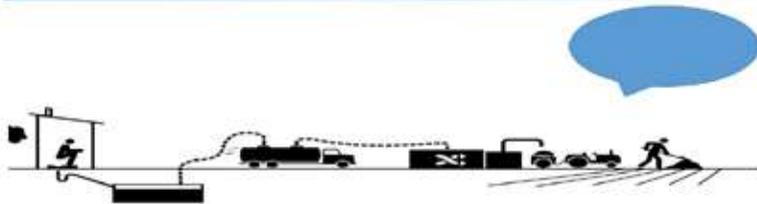
Clear Responsibilities are Necessary

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



Slide 12

Responsibility Though-out Sanitation Service Chain



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

Slide 13



Slide 14



Slide 23



Slide 24

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

Slide 25

Accountability

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



A word cloud centered around the word 'accountability'. Other words include: pledge, enforcement, promise, obedience, bond, adherence, responsibility, loyalty, submission, understanding, obligation, conscience, and merability.

Slide 26

CWIS System Function – Accountability

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

Monitored	{	• With clear Key Performance Indicators (KPIs) and targets
Managed	{	• With data driven incentives and/or penalties

Slide 29

Group Work



4 Groups
5 minutes



Slide 30

Group Exercise : Institutional and Governance Framework for SSC



Sanitation Service Chain

Capture Emptying Conveyance Treatment Disposal/Reuse

Mandate

Accountability

Slide 31

Responsibility related to Accountability and RPM

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

A Venn diagram with three overlapping circles. The top circle is yellow and labeled 'Responsibility'. The bottom-left circle is blue and labeled 'Resource Planning & Management'. The bottom-right circle is green and labeled 'Accountability'. The circles overlap in the center and at the intersections between pairs of circles.

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

A Venn diagram with three overlapping circles. The top circle is yellow and labeled 'Responsibility'. The bottom-left circle is blue and labeled 'Resource Planning & Management'. The bottom-right circle is green and labeled 'Accountability'. The circles overlap in the center and at the intersections between pairs of circles.

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.



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 sewerage and non-sewerage 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!
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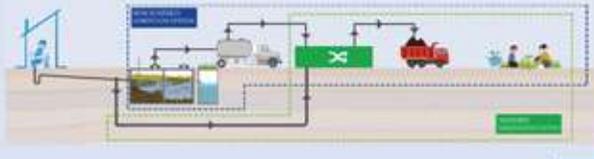


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United Nations Environment Programme
P.O. Box 28, Kathmandu, Nepal

SESSION 7

CWIS System Functions- Resource Planning & Mangement

Slide 1



Training on “Introduction to Citywide Inclusive Sanitation Approach”
Resource Planning and Management
Resource Person



Slide 2

What do we want to see in our Cities?

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

Slide 5

Learning Outcomes

- Explain resource planning and management along with CWIS financial framework
- 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

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.

Slide 8

Resources Planning and Management

- 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?

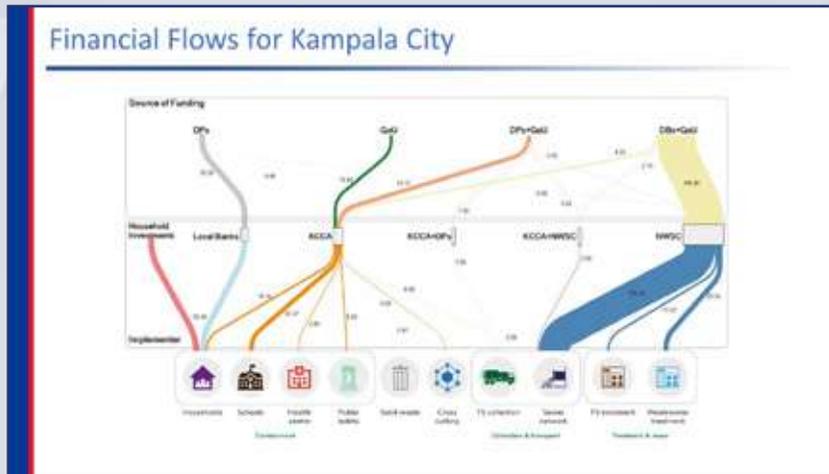


Slide 10

Financing Framework Development

Assessment & Diagnostic	Strategy & Monitoring	Outcomes
<ul style="list-style-type: none">• Sector Policies –• Priorities and Targets• Costs and Financial Needs• Identifying sources• Stakeholder Engagement• Risk Assessment	<ul style="list-style-type: none">• Financial Principles and Investment Plans• Financial flows and mechanisms• Resource Mobilization• Monitoring for Results	<ul style="list-style-type: none">• Appropriate use of Finance• Attainment of Investment Outcomes• Scalability of Financing Models• Sustainability of Finance

Slide 13



Slide 14

Group Work

3 Groups
10 minutes

Slide 19

Group Work



3 Groups
10 minutes



The slide features a title 'Group Work' at the top left. Below it is an illustration of three people (two women and one man) sitting around a table, engaged in a discussion. To the right of the illustration, the text '3 Groups' and '10 minutes' is displayed. Further right is a red circular clock icon.

Slide 20

Group work



Sanitation Service Chain

Capture Emptying Conveyance Treatment Disposal/Reuse

• Service Provision and Financing

The slide features a title 'Group work' at the top left. Below it is a diagram of the 'Sanitation Service Chain' showing a sequence of steps: Capture, Emptying, Conveyance, Treatment, and Disposal/Reuse. Each step is represented by an icon and a corresponding label in a dark box. Below the diagram is a large orange arrow pointing to the right, containing the text '• Service Provision and Financing'.

Slide 21

What are the Gaps ?

Four Steps of Gap Analysis

```
graph TD; A[Know current status] --> B[Know your target]; B --> C[Know your Gap]; C --> D[Develop Action Plan to fill up the Gap];
```

The diagram shows four orange arrow-shaped boxes arranged in a descending staircase pattern from top-left to bottom-right. The text in the boxes is: 'Know current status', 'Know your target', 'Know your Gap', and 'Develop Action Plan to fill up the Gap'.

Slide 22

Group Work

3 Groups
5 minutes

The illustration shows three stylized human figures (two women and one man) sitting around a white table, looking at a document. To the right of the figures is a red clock icon with black hands. The text '3 Groups' and '5 minutes' is positioned between the figures and the clock.

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, 16th President of USA

Slide 28

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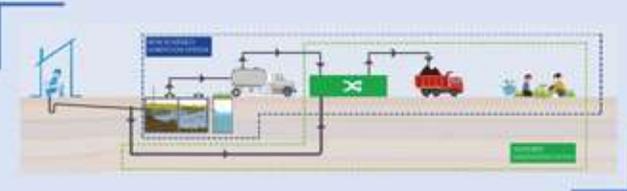


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SESSION 8

Enabling Environment- Legal and Institutional Framework

Slide 1



Training on "Introduction to Citywide Inclusive Sanitation Approach"
Legal and Institutional Framework
Resource Person



Slide 2

Before Starting...



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

Slide 4

Training Structure



Slide 5

Learning Outcomes

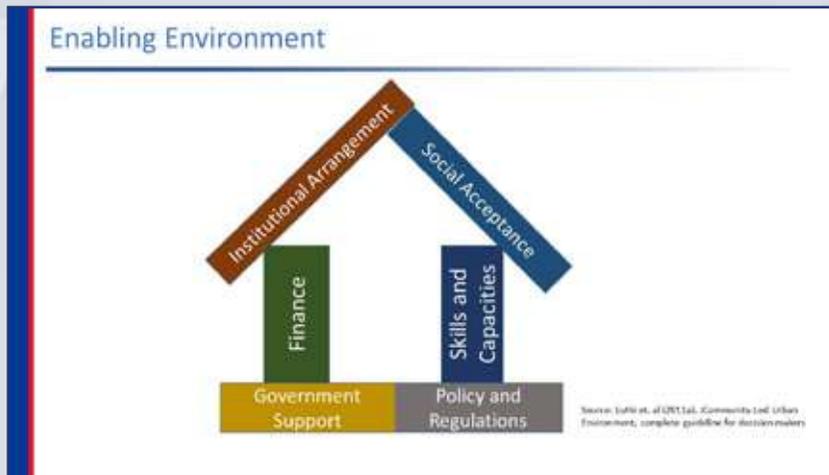
- Summarize the importance of institutional and legal framework for FSM
- Define FSM policy framework, regulations and institutional arrangements in context of Nepal
- List out SDG indicators on sanitation and relevance of FSM in Total Sanitation Guideline

Slide 6

Presentation Outline

- 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



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

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



Slide 20

Analysis Through CWIS Lens

- **Accountability:**
 - No provision for data collection and monitoring
- **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



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.



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.



Slide 31

Key Messages

- 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

- 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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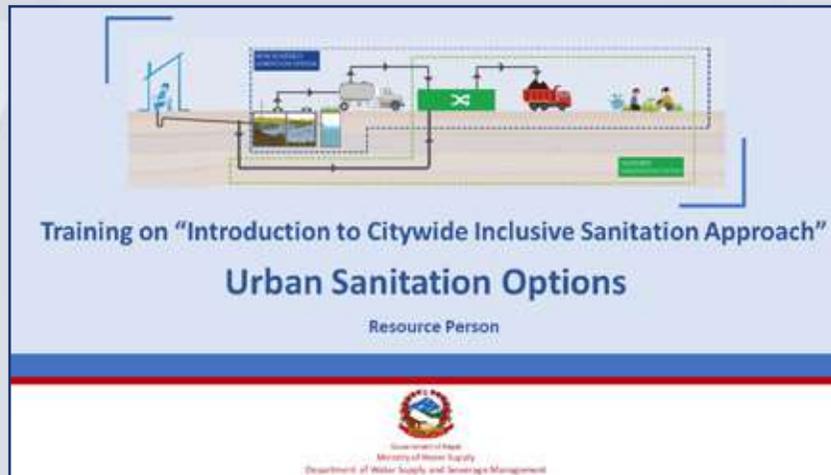


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SESSION 9

Urban Sanitation Options

Slide 1



The slide features a diagram at the top showing a sanitation process flow: a person at a tap, a water tank, a truck, a green bin, and a person at a tap. Below the diagram, the text reads: "Training on 'Introduction to Citywide Inclusive Sanitation Approach'", "Urban Sanitation Options", and "Resource Person". At the bottom is the logo of the Government of Madhya Pradesh, Ministry of Water Supply, Department of Water Supply and Sewerage Management.

Slide 2



The slide has a white header with the text "Before Starting...". The main body of the slide is a solid black rectangle.

Slide 11

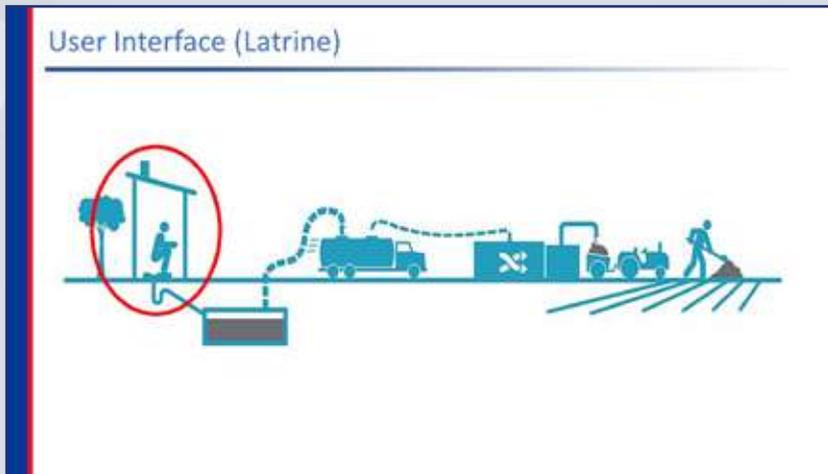
Applicability of Non-Sewered Systems

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

Slide 12



Slide 13



Slide 14

Is your Latrine is "Hygienic" ?

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

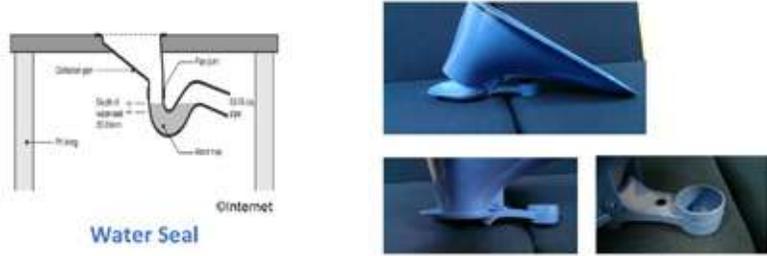
Criteria for a "hygienic latrine":

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

Slide 15

Sealing the passage....

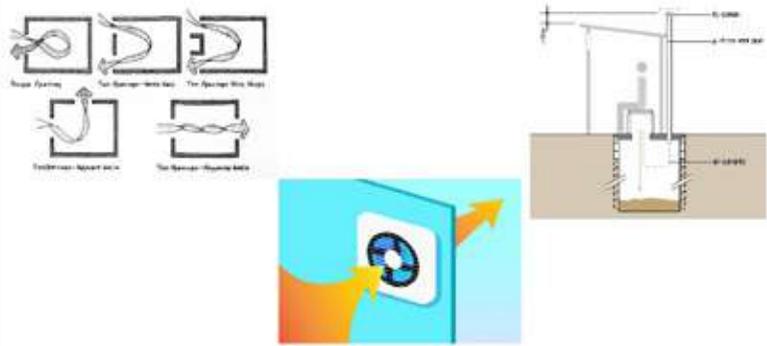
SaTo Pan: "Seal" with Counterweight Mechanism



The diagram on the left shows a cross-section of a water seal. It features a U-shaped trap with a 'Water Seal' at the bottom. Labels include 'Outlet pipe', 'Inlet pipe', 'Trap', 'Water Seal', and 'Inlet pipe'. Below the diagram is the text '©Internet' and 'Water Seal'. To the right, there are three photographs of the SaTo Pan mechanism: a large blue funnel-shaped component, a smaller blue component, and a white component with a blue ring.

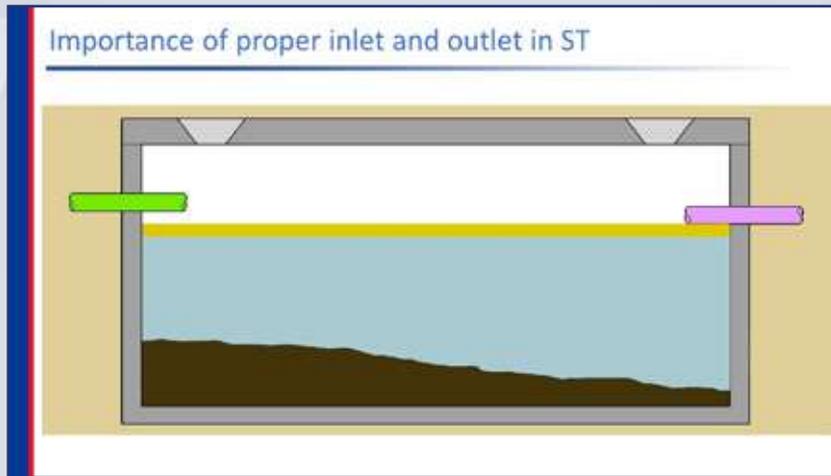
Slide 16

Venting out the odour

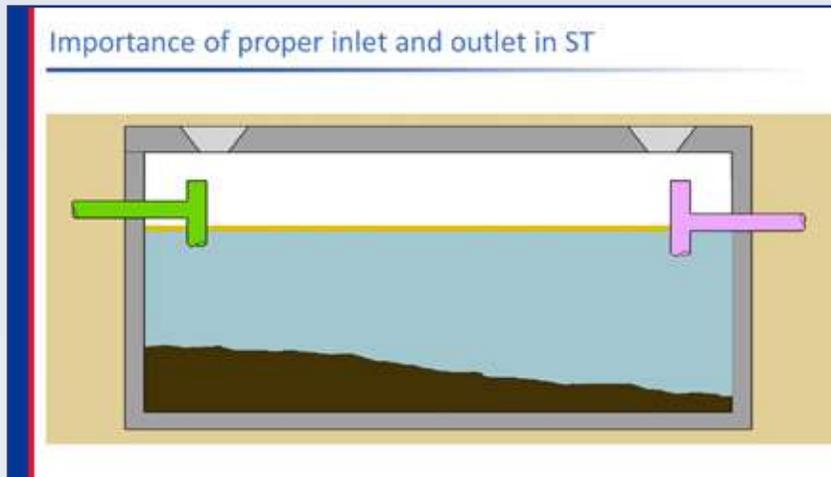


The diagrams illustrate various odour venting mechanisms. On the left, there are four small diagrams showing different types of traps: 'Water Trap', 'The SaTo Pan Trap', and 'The SaTo Pan Trap'. On the right, there is a larger diagram showing a cross-section of a building with a venting system. Labels include 'Venting pipe', and 'Venting pipe'. Below the diagrams is a photograph of a blue venting unit with a fan and arrows indicating airflow.

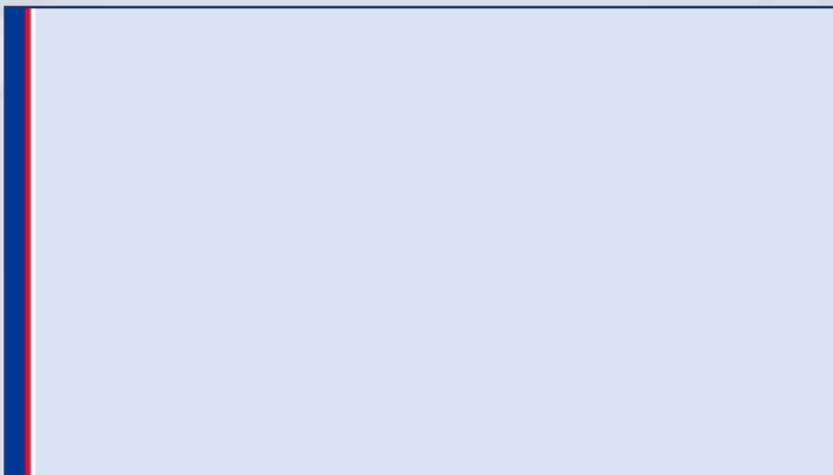
Slide 23



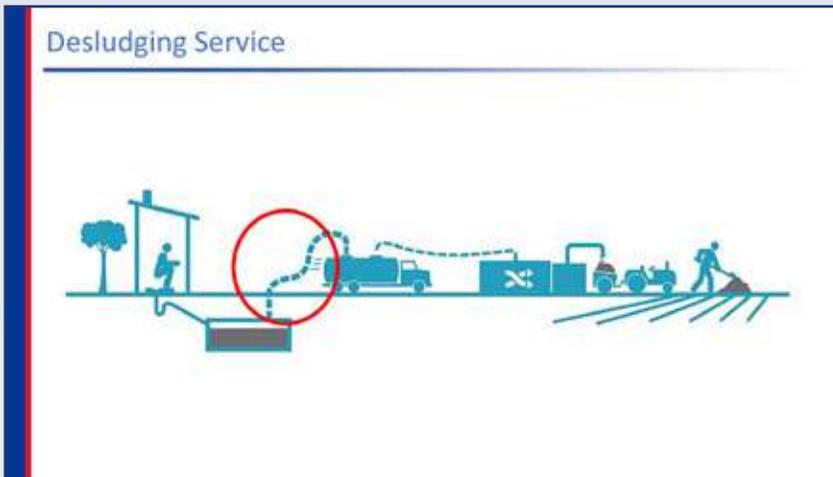
Slide 24



Slide 31



Slide 32



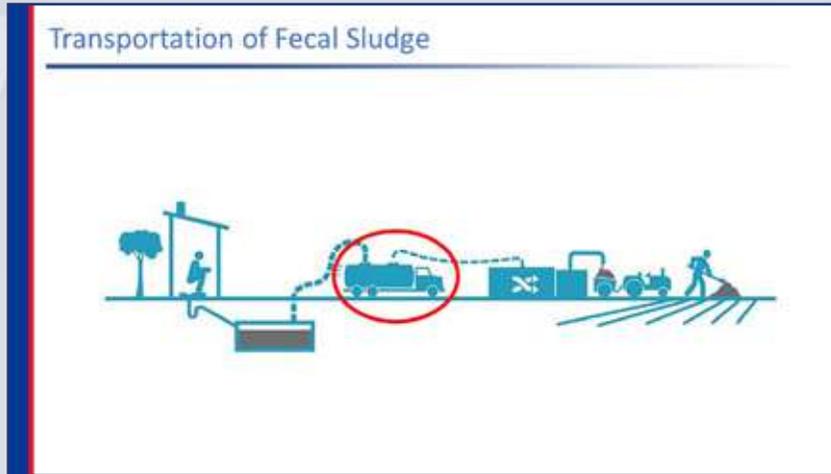
Slide 37



Slide 38



Slide 39



Slide 40



Slide 43

Challenges of Desludging and Transportation Service

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



Slide 44

Desludging and Transportation through CWIS

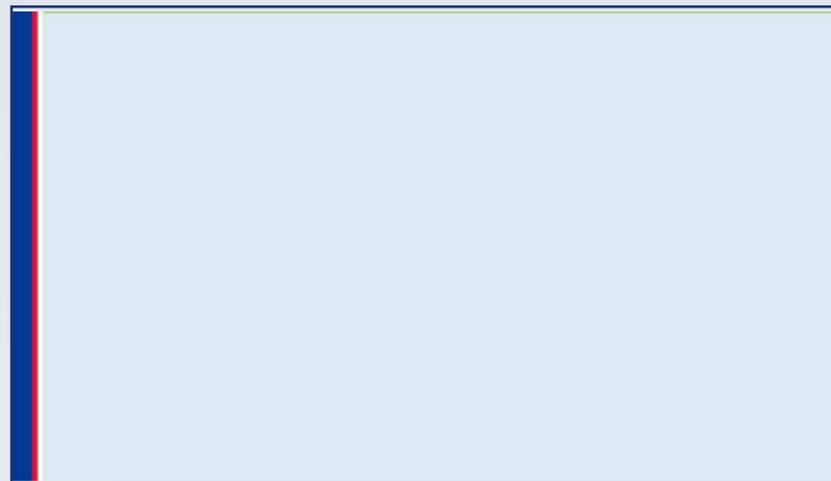


6 Groups
2 minutes

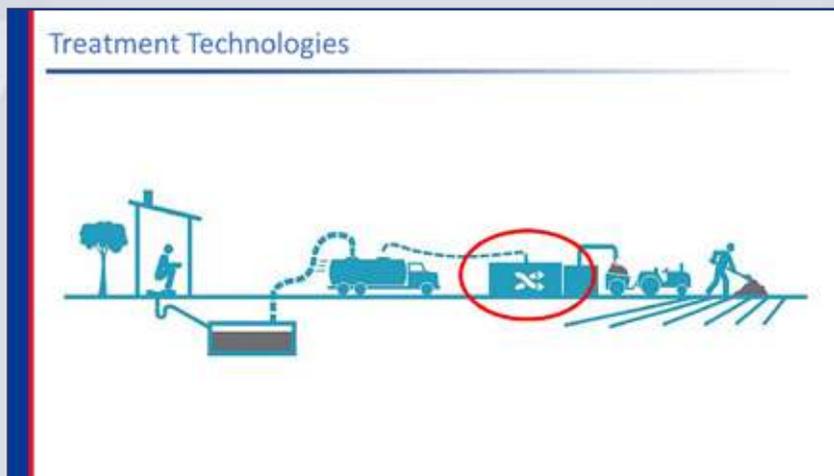
Slide 45

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

Slide 46



Slide 47



Slide 48

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

Slide 53

Hybrid Treatment Option

- **Basically Dewatering machine is used**
- **Reduces land area significantly**
- **Complex and Expensive to operate**

Slide 54

Fully Mechanical Treatment Option

- **Land requires minimal**
- **Complex and Expensive**

Slide 55

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



Slide 56

Evolving Transformative Technologies

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

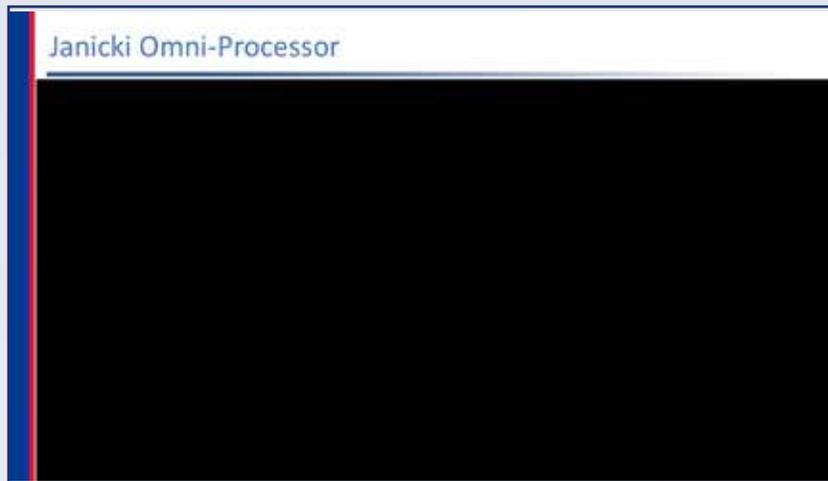
- Thermal
- Electrochemical
- Biochemical
- Mechanical
- Thermochemical



Slide 57



Slide 58



Slide 59



Slide 60



Slide 61

Nano-Membrane Toilet (Mechanical Processes)

IWA Project Innovation Awards – Gold winner!!



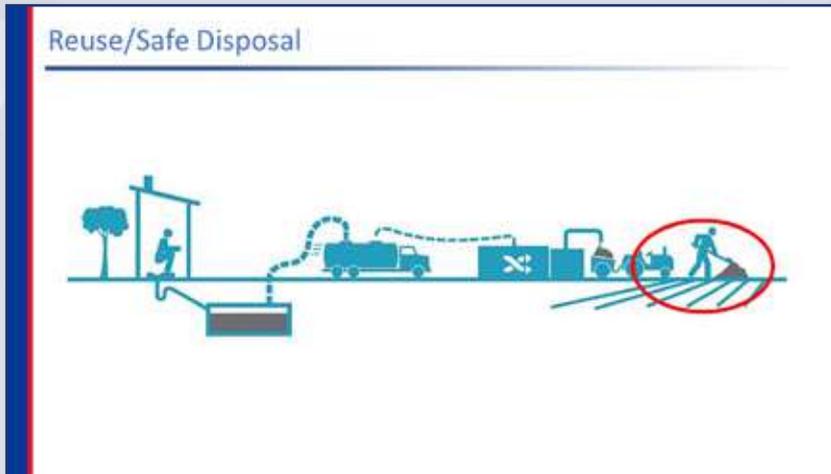
<http://www.nanomembranetoilet.org/>

Slide 62

Nano Membrane Toilet



Slide 65



Slide 66



Slide 69



Slide 70

References

- 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=tRzEtOHLeBk>
- <https://www.youtube.com/watch?v=jGPpXF7y9Rg>

Slide 71

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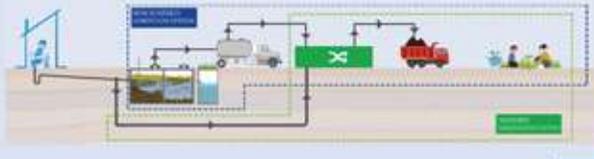


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SESSION 10

Monitoring and IMIS

Slide 1



Training on "Introduction to Citywide Inclusive Sanitation Approach"
Monitoring and IMIS
Resource Person



Slide 2

Before Starting...

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

Slide 5

Learning Outcomes

- 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

Slide 6

Presentation Outline

- 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

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



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



Slide 10

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

Slide 11

Data and Information

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



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.



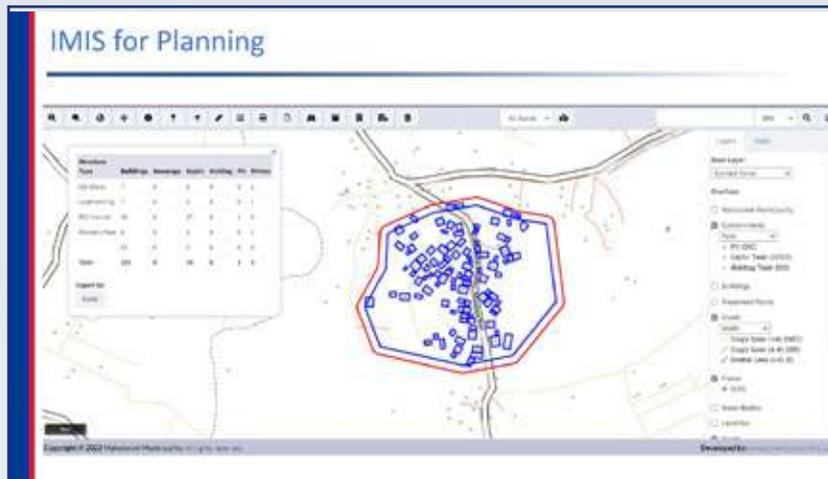
SDG 6.2 Goal: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation

Indicator 6.2.1a: Proportion of population using safely managed sanitation services

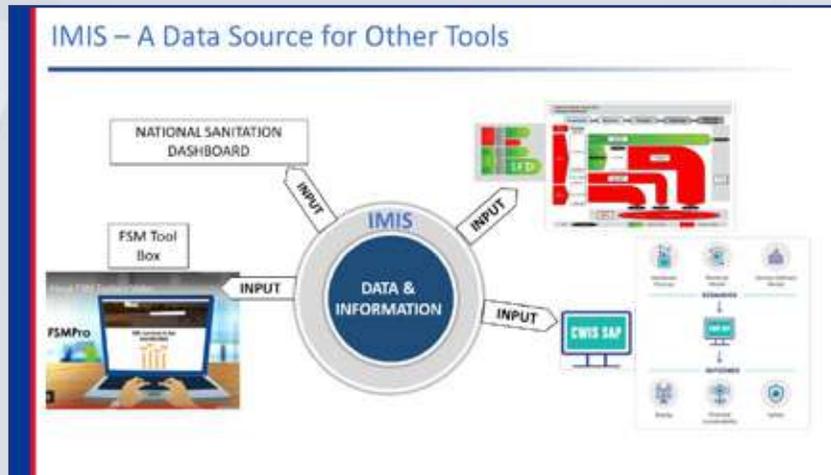
Slide 19



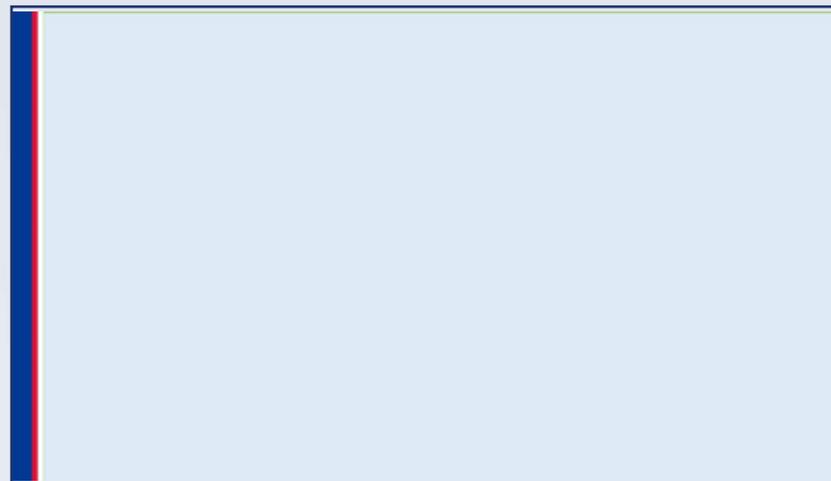
Slide 20



Slide 23



Slide 24



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



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



Slide 33

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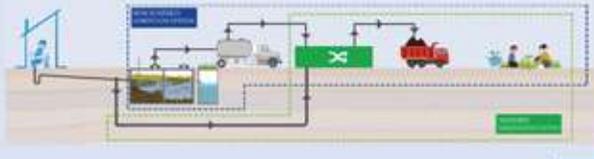


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SESSION **11**

Applying CWIS lens and Field Visit

Slide 1



Training on "Introduction to Citywide Inclusive Sanitation Approach"
Applying CWIS Lens
Resource Person



Slide 2

Before Starting...

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

Slide 5

Learning Outcomes

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

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?

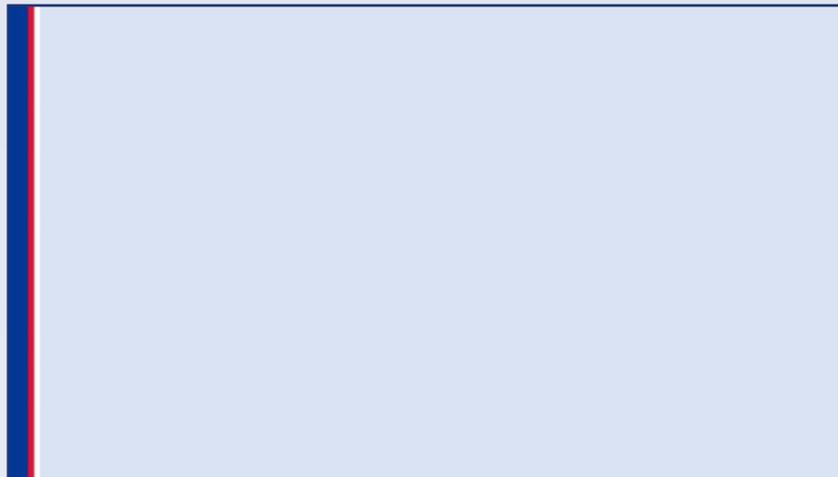
Slide 9

Finding from Presentation



Field Visit
1 hour

Slide 10



Slide 11

Group Discussion



5 minutes

Slide 12

Group Presentation



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

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