



Online **ADB Sanitation Dialogue 2021**

ACCELERATING INCLUSIVE SANITATION

12–22 April 2021

Mixing and Matching Sanitation Systems

An Introduction

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Inclusive Sanitation in Practice

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Outline

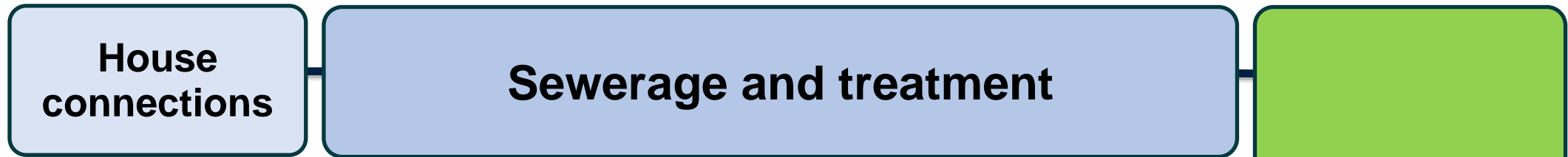
1. Types of sanitation system: sewerred and non-sewerred
2. Factors to consider in selecting sanitation systems
 - A. Current sanitation situation and priority gaps
 - B. Services and user demand
 - C. Policy, institutions and regulations for sustainability
 - D. CWIS: complementing other investments
3. Main messages and more information



1. Types of sanitation system



Networked (sewered)



Non-networked (non-sewered)



1. Sewered sanitation systems



- Domestic
- Commercial
- Institutional
- Public
- Shared/ community

Connection to sewer

- Conventional sewers
 - Gravity or pumped
 - Separate (foul sewer) or combined (with stormwater)
- Shallow, simplified or condominial sewers

Toilet with septic tank

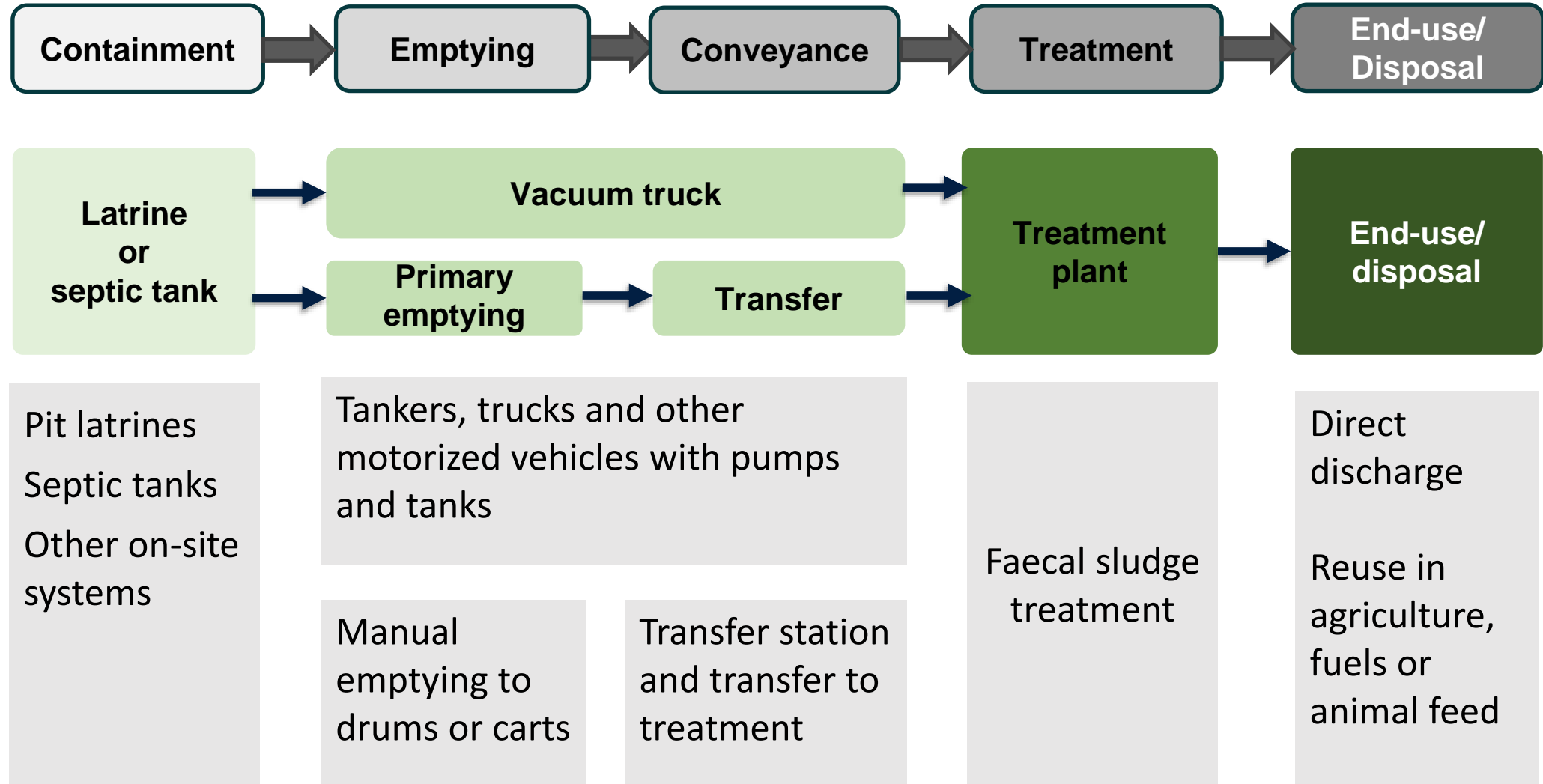
- Solids-free sewers (small bore)

- Centralized treatment
- Decentralized treatment – multiple plants medium, small

- Direct discharge
- Reuse in agriculture, fuels or animal feed



1. Non-sewered sanitation systems



2. CWIS Factors to consider

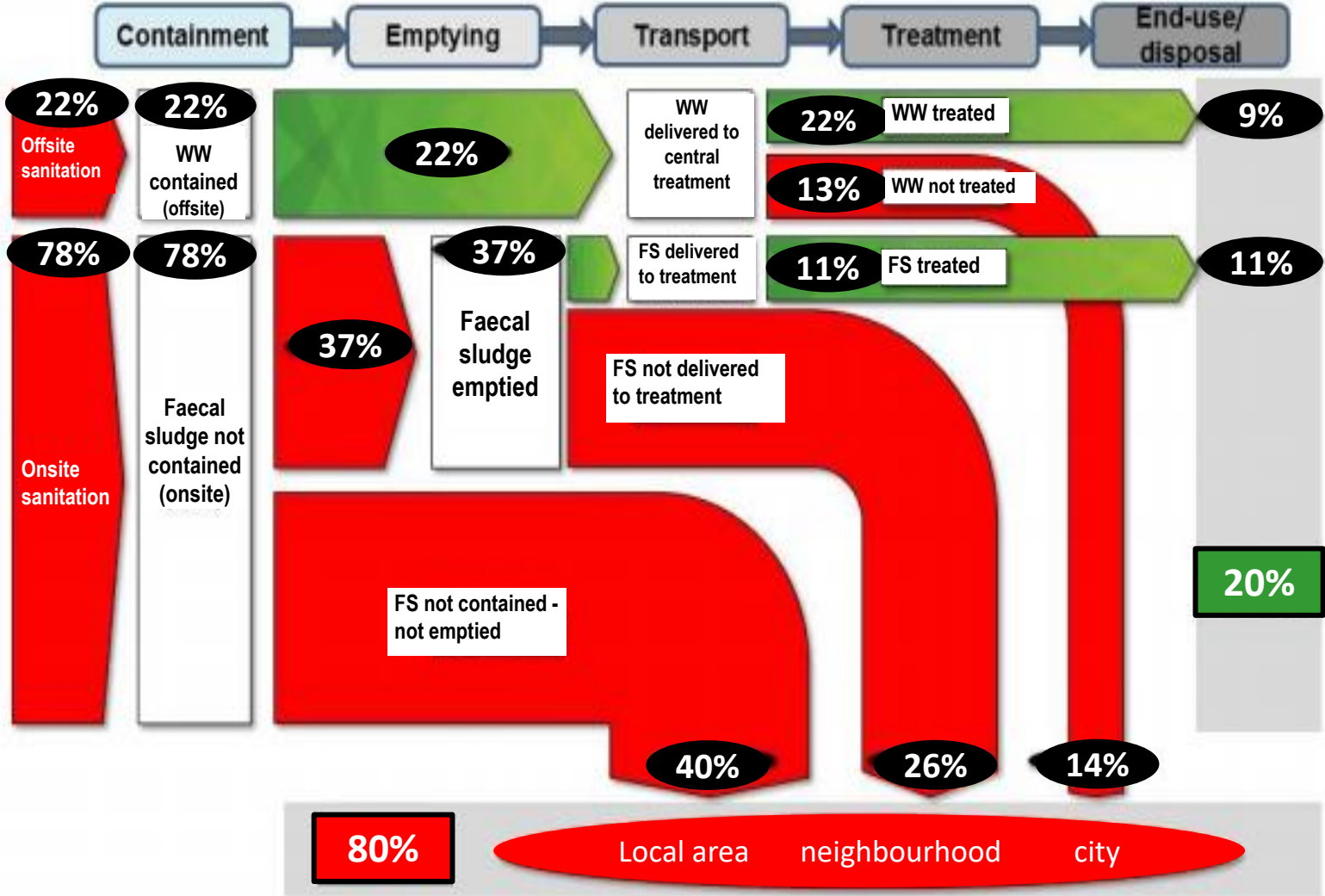
A: What is the existing city sanitation situation?

Kochi / India (15. October 2015)
Desk based

Status: REVIEWED

SFDs identify:

- Where faecal waste is going



% of population

Safe - or managed

Unsafe - or unmanaged



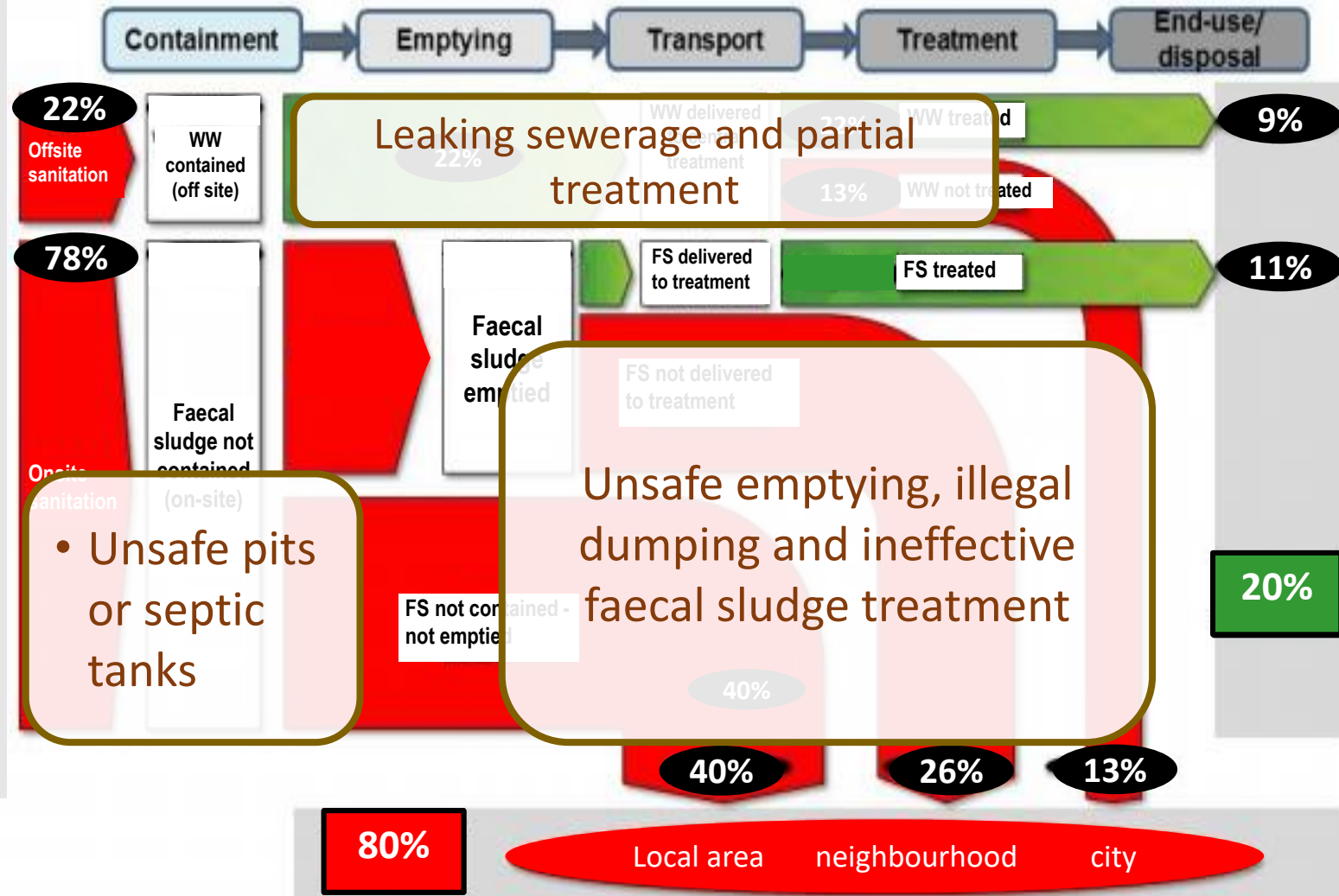
2. CWIS Factors to consider

Where the gaps in the sanitation chains?

Kochi / India (15. October 2015)
Desk based

Status: REVIEWED

- SFDs identify:
- Where faecal waste is going
 - Gaps and problems in the sanitation chain



% of population

Safe - or managed

Unsafe - or unmanaged

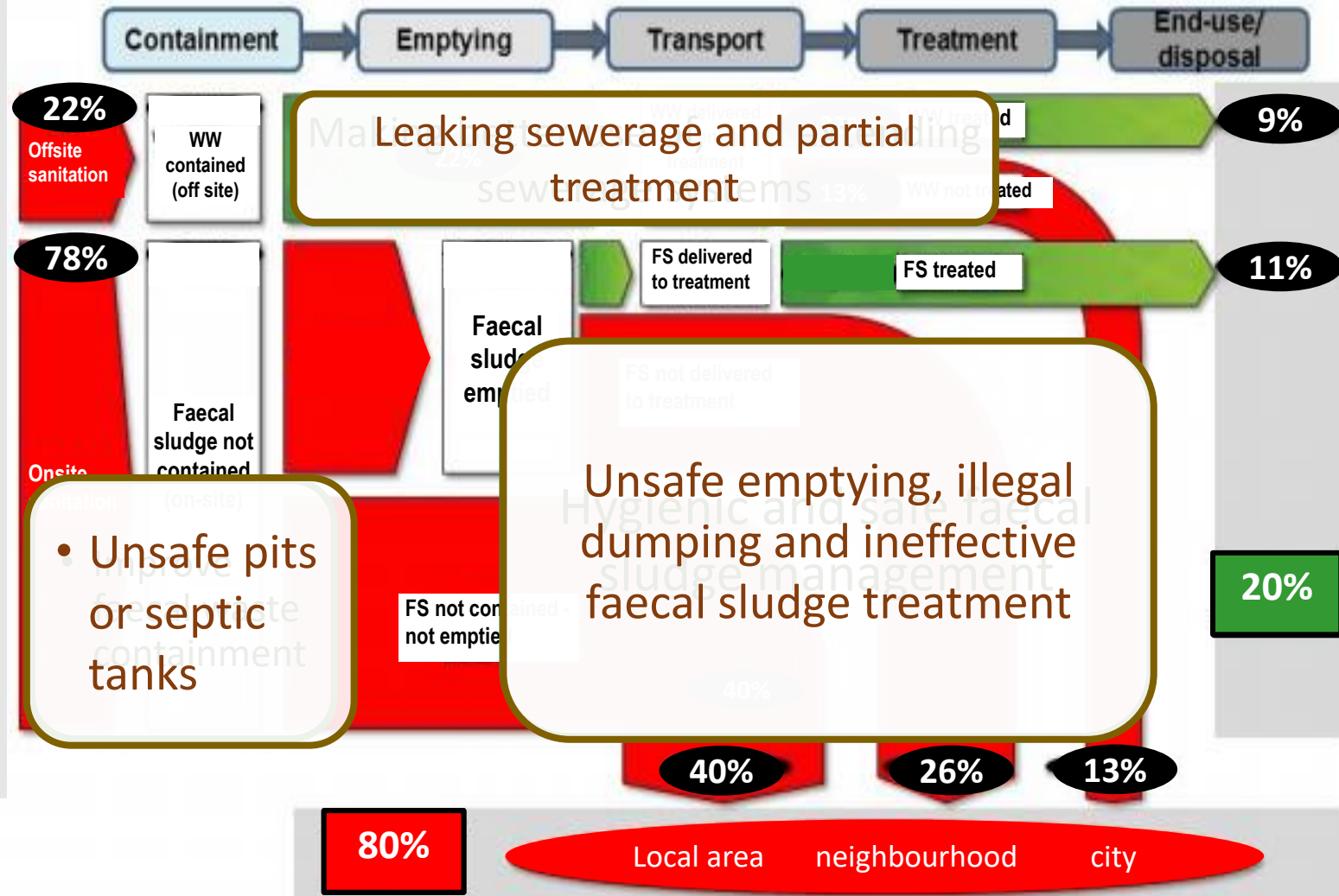


2. CWIS Factors to consider

What improvements are needed to the sanitation chains?

Kochi / India (15. October 2015)
Desk based

Status: REVIEWED



- SFDs identify:
- Where faecal waste is going
 - Gaps and problems in the sanitation chain
 - Priority areas for improvement

% of population

Safe - or managed

Unsafe - or unmanaged



2. Factors to consider:

B: Existing services and user demand

Which services exist from a user perspective?

- Private or shared toilets? Include the formal, informal and poor areas.
- Is there hygienic formal or unregulated FSM? Is it affordable, to everyone?
- Housing type, tenure and density? Access to piped water supply?
- Are users satisfied with their domestic and neighbourhood cleanliness, hygiene, smells etc?
- What level of improvements are users seeking and willing to pay for?

Aim to build on, develop, improve and expand existing sanitation services



2. Factors to consider:

C: Policy, institutions and regulations

- Are institutional responsibilities clear for sewerage and non-sewerage services?
- What is the capacity of the institutions to effectively operate and manage the sewerage systems?
- How is the private sector involved - informally or formally?

- What capacity building is needed? e.g. IT systems, finance, equipment, knowledge etc
- Do regulations to support the new investments exist? e.g. mandatory sewer connections, regular emptying etc.
- Are regulations practical, enforceable and incentivised?

The [City Sanitation Service Delivery Assessment](#) (CSDA) is a tool for working with stakeholders to review policy, institutions and regulations for urban sanitation services

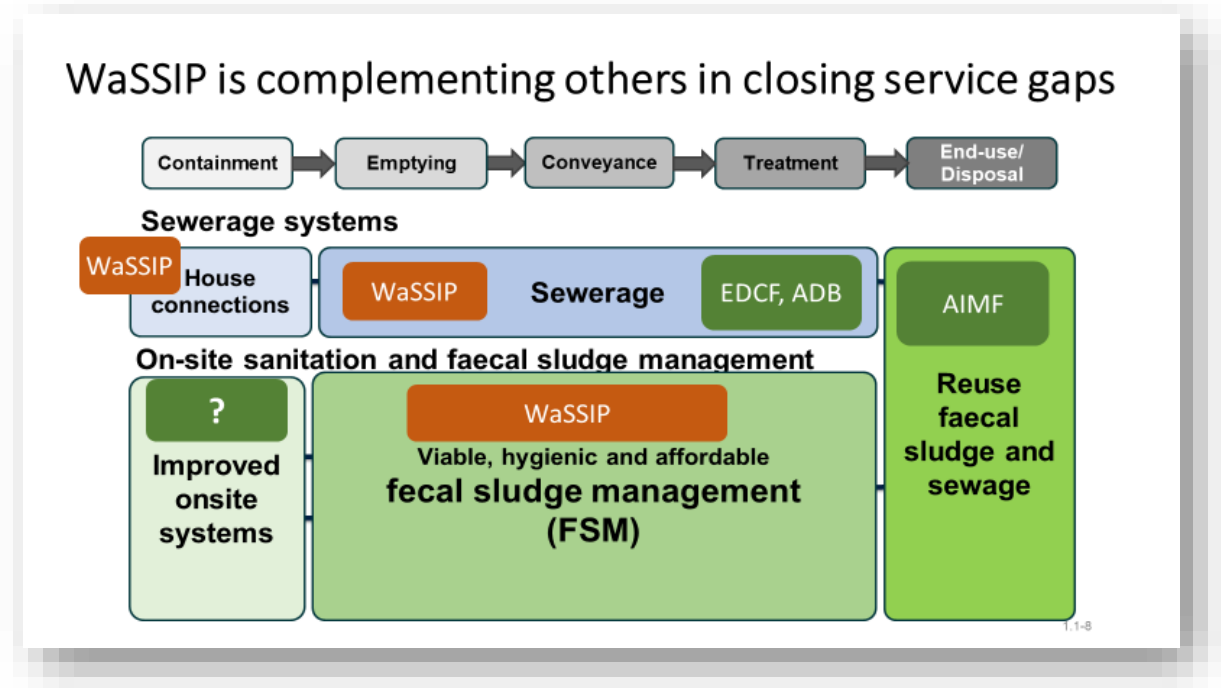
Sewered sanitation				Non-sewered sanitation			
	WC, house connection	Sewerage	Sewage treatment & reuse	Toilet, pit or septic tank	Emptying & transport	Sludge treatment & reuse	
Enabling							
Policy, legislation	Red	Yellow	Green	Yellow	Yellow	Red	
Planning, budgeting	Red	Green	Green	Yellow	Red	Red	
Inclusion	Red	Red		Red	Red		
Delivering							
Funding	Red	Red	Red	Red	Red	Red	
Capacity, outreach	Red	Yellow	Green	Green	Green	Green	
Inclusion	Red	Red		Red	Red		
Sustaining							
Regulation, cost recovery	Red	Red	Red	Red	Yellow	Red	
Institutions, service providers	Red	Yellow	Green	Red	Yellow	Yellow	
Inclusion	Red	Red		Red	Red		



2. Factors to consider:

D: For a citywide approach – complement other investments

- What are Government sanitation funds being spent on?
- What are development partners contributing to in the city?
- What service gaps could an ADB project fill within the overall CWIS approach of the city?
- Balance infrastructure with funding to support capacity development, regulatory and M&E systems and community engagement.



In Siem Reap, World Bank’s WaSSIP project was designed to fill gaps in the sanitation chains.



Selecting sewered and non-sewered services, typically

Sewer services in areas where

- Sewered systems already exist, can be extended or connections added
- Properties are multi-story, high density and have piped water access
- There is willingness to charge residential tariffs, and
- Users are willing to pay for O&M costs
- Many properties have flush toilets
- An account-holding institution is mandated to provide services

See CWIS Guidance Notes 9 and 10

Non-sewered services in areas where

- Water supply is not shared
- Onsite service providers already exist, even informally
- There is low willingness to charge O&M costs for sewerage or services
- Low density development mean sewers are expensive to install and operate
- Sewerage systems don't exist or only serve a small portion of the city.



Key messages

- A safe sanitation chain can be delivered by sewerred and non-sewerred sanitation systems
- Cities require a mix of sanitation systems to be able to serve everyone
- Factors to consider include
 - Existing sanitation services, gaps and the priority gaps to address
 - Better services to households at tariffs they are willing to pay – to support sustainability
 - The necessity for supportive policy, institutions and regulations
 - Planning a city-wide approach – a range of different but complementary investments



Introduction to Types of Sanitation Systems

Types of sewerred and on-site sanitation and FSM (non-sewerred) systems and considerations for selection

Guidance Note	9a
Date	24 Mar 21
Version	Rev. 04

Draft CWIS Guidance Note for ASD 2021

Related GNs	10 Selecting technology for O&M
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Technology Choices for Sustainable Operation and Maintenance

O&M considerations for selecting sewerred and non-sewerred options.

Guidance Note	10
Date	24 Mar 2021
Version	Rev. 3

Draft CWIS Guidance Note for ASD 2021

Related GNs:	9 Types of sanitation system 11 Alternative sewerred systems 12 Options for wastewater, septage and fecal sludge treatment
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See CWIS Guidance Notes 9 and 10 for more detail and information



References and resources

[Capacity development for City Wide Inclusive Sanitation:](#) Online course available on [YouTube](#), with extensive [resource materials](#)

[World Bank CWIS Initiative:](#) Resources and short videos

[Sanitation, Water and Solid Waste for Development:](#) Free online courses including FSM, Planning and Design of Sanitation Technologies

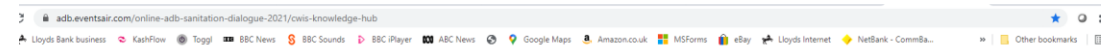
[City Service Delivery Assessment for CWIS:](#) A tool for discussing the enabling environment for sanitation in a city

[Sustainable Sanitation and Water Management Toolbox](#) Online tools and resources to solve sanitation and water management challenges

[SFD Portal](#) For raising, 120+ SFDs and information on how to develop an SFD



ConCaD
consulting capacity development
for urban sanitation services



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CWIS Guidance Notes 9 and 10



The CWIS Knowledge Hub is a curated short selection of urban sanitation resources, tools, and other materials on the concept and principles, design, and implementation of citywide inclusive sanitation (CWIS). ASD 2021 participants are encouraged to use these materials to learn more about CWIS, as a complement to the knowledge and practical solutions from the ASD webinars and workshops.