



SCHOOL OF WATER AND WASTE

AAETI

THE POLICY & PRACTICE FORUM 2023

Session (2):

(Scaling Up of Affordable and Sustainable Water & Waste Management)

POLICIES AND PRACTICES FOR NON-SEWERED SANITATION

April 25 - 27, 2023



Structure of Presentation

Contents...

- Sanitation Global scenario
- Inclusive Planning approach
- Non sewerer sanitation service chain
- Infrastructures and standards
- Reinvited toilets
- Learnings and Success stories from Indonesia, Malaysia and Japan
- CWIS framework
- GWSC and GSCOE
- Regional shift to Safely managed sanitation

SANITATION: GLOBAL SCENARIO

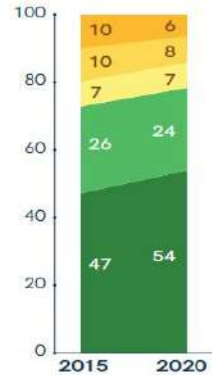
3.6B

people globally lack access to
safely managed sanitation

7%

Increase in proportion of global
population using safely managed
services since 2015

Nearly half the world's population
lacked safely managed sanitation
services in 2020



Global sanitation coverage, 2015-2020 (%)

Safely Managed

Improved and not shared - excreta
safely disposed in situ or off-site¹

Basic

Improved and not shared - excreta
not safely disposed

Limited

Improved (e.g. sewer, septic, VIP
latrines) and shared facilities

Unimproved

Use of pit latrines without a slab or
platform, hanging and bucket latrines

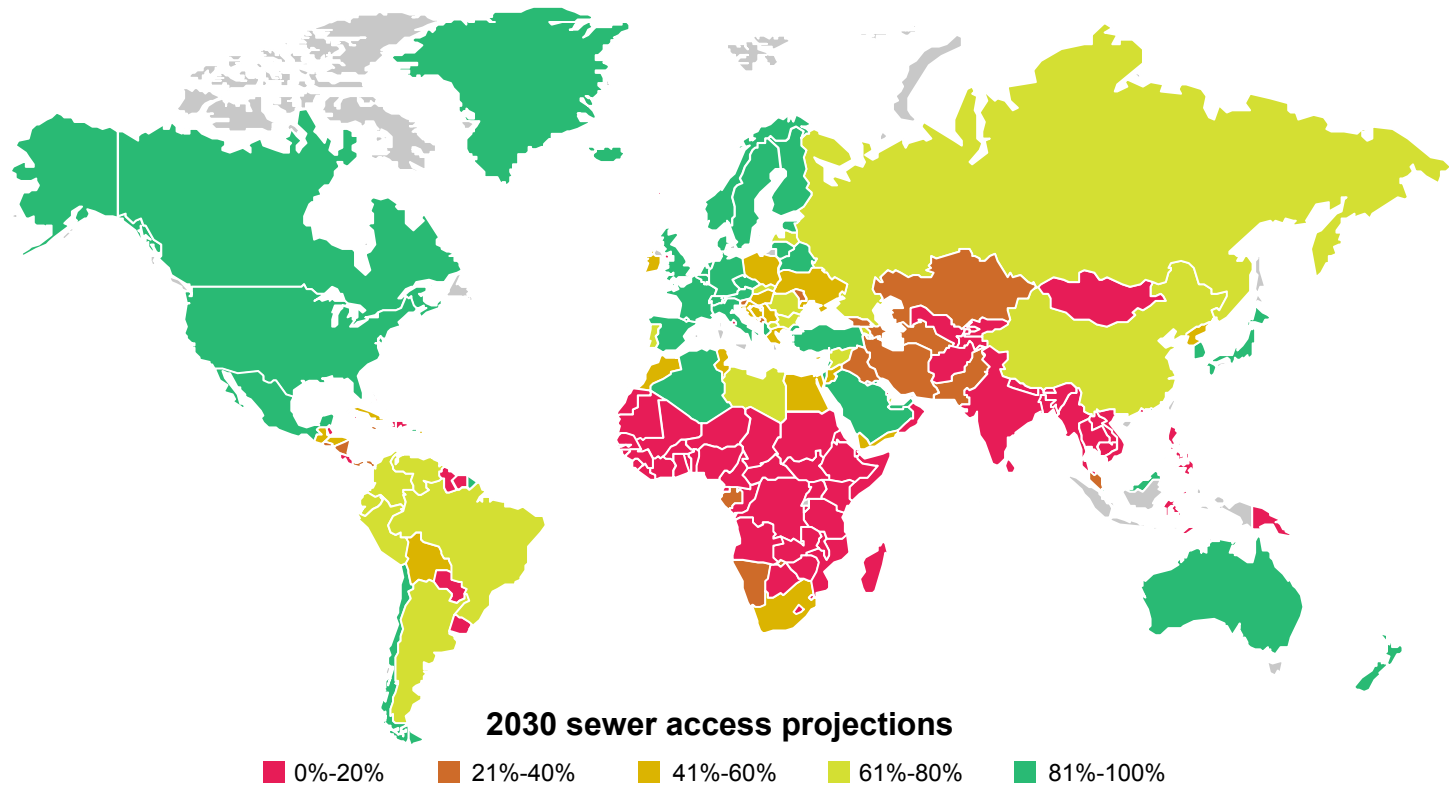
Open Defecation

Disposal of human faeces in fields, or
other open spaces or with solid waste

**Faster progress required to achieve the SDG goal of
safely managed sanitation by 2030**

1. Transported and treated offsite

SEWERS WILL REACH FEW IN MANY CITIES, INDICATING NEED FOR AN ALTERNATIVE SOLUTION



NETWORK SANITATION SYSTEMS AND HEALTH CONCERNS



Reminder- FSMA Spotlights Webinar: Sewage Network Data as a Potential Tool for Cholera Outbreak Prediction

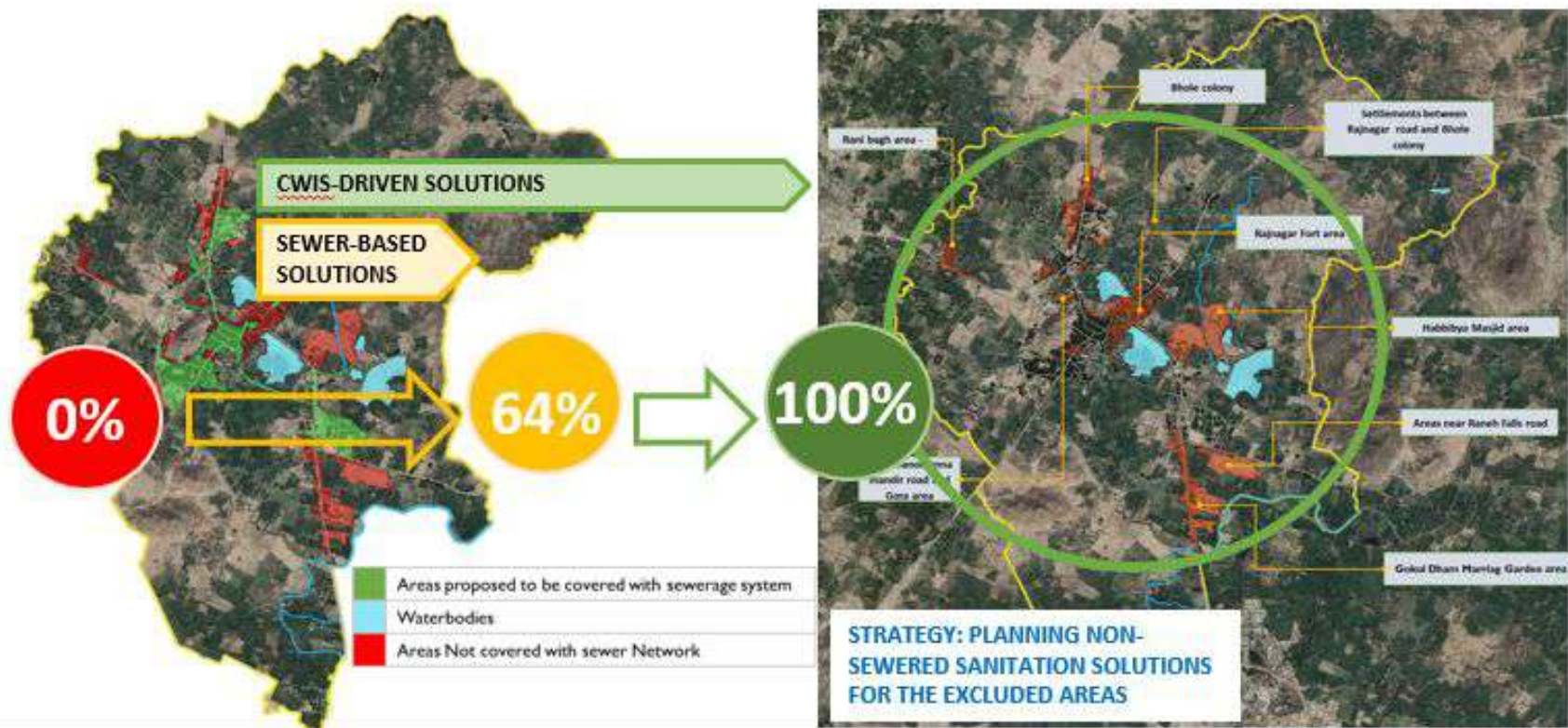
Wednesday 26th April
12:00 NOON CET

[Click here to register!](#)

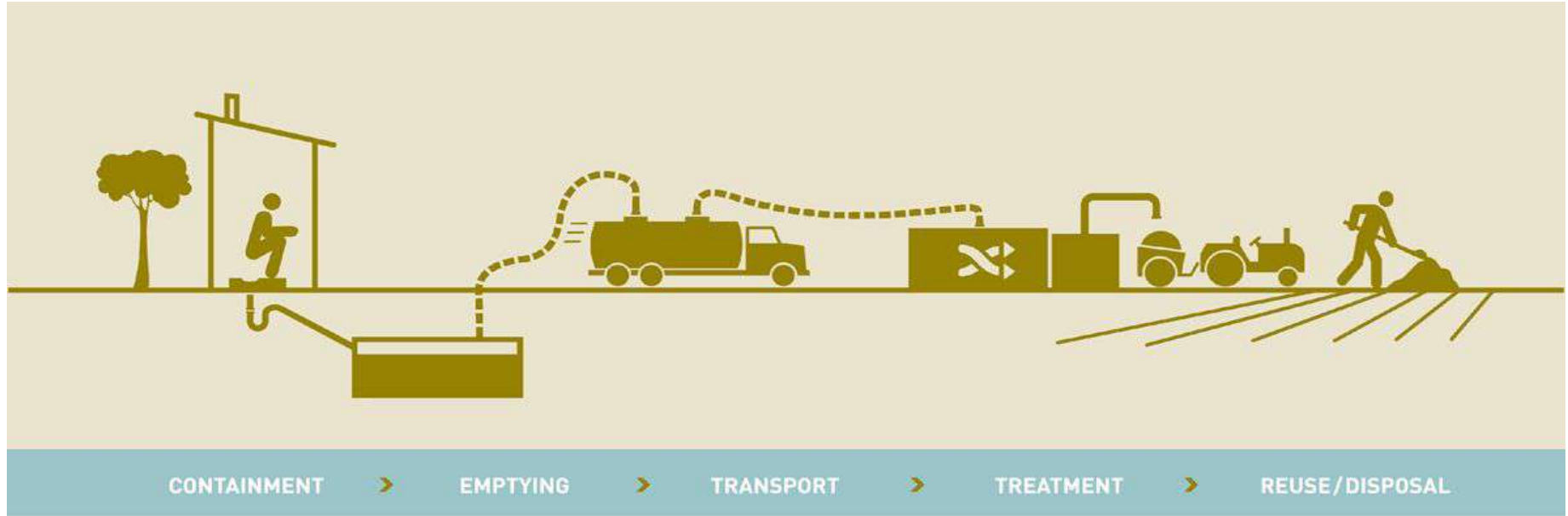
In this webinar, FSMA Spotlights showcases an award-winning project funded by the Bill and Melinda Gates Foundation aimed to identify areas suitable for sewage treatment plants in Lebanon and assess the feasibility of a new sludge treatment technique, the omniprocessor. Unfortunately, the project revealed that most of the sewage networks were not connected to the treatment plants and that all of the treatment plants had been shut down due to the economic collapse resulting in a 200% inflation rate in early 2023.

Despite this setback, the data collected during this project was still valuable and was shared with government officials and funders to highlight the potential risk of a cholera outbreak in the country, given the lack of functioning treatment plants and the extensive, untreated sewage networks.

INCLUSIVE PLANNING APPROACH : MADHYA PRADESH



NON SEWERED SANITATION: SERVICE CHAIN



Re-invented the Toilet

Omni - Processor

HOUSEHOLDS REINVENTED TOILETS TECHNOLOGIES IN THE PIPELINE (*NOT YET AVAILABLE FOR PURCHASE*)

All systems use combustion for solids processing, recycle water for flushing, and can fit indoor bathroom, or configured to have the treatment systems outside.



Design by Georgia Tech
Tech transfer under
discussion



Design by Cranfield University,
licensed by Huatie and JOMOO



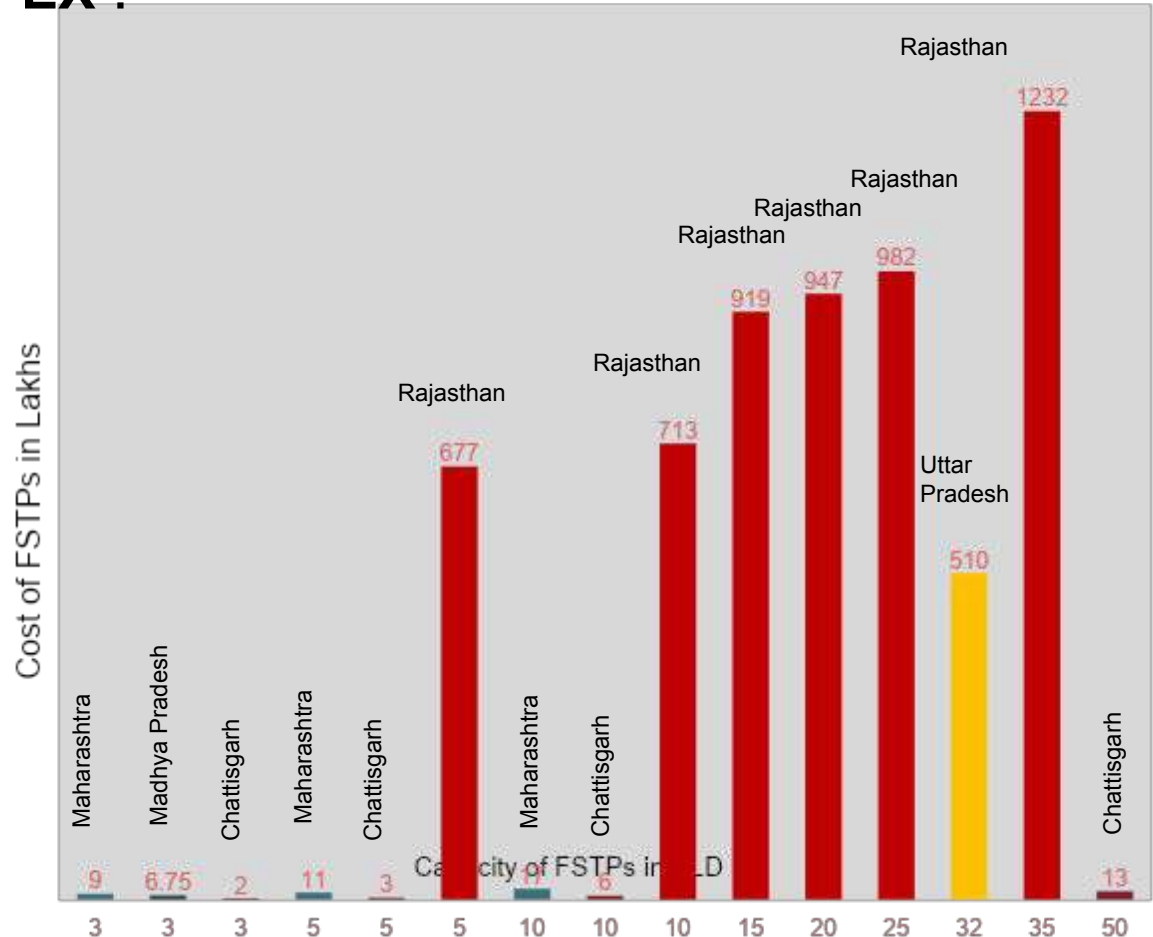
Design by Samsung /
SAIT tech transfer
under discussion

DIFFERENT TYPES OF FSTP INFRASTRUCTURES



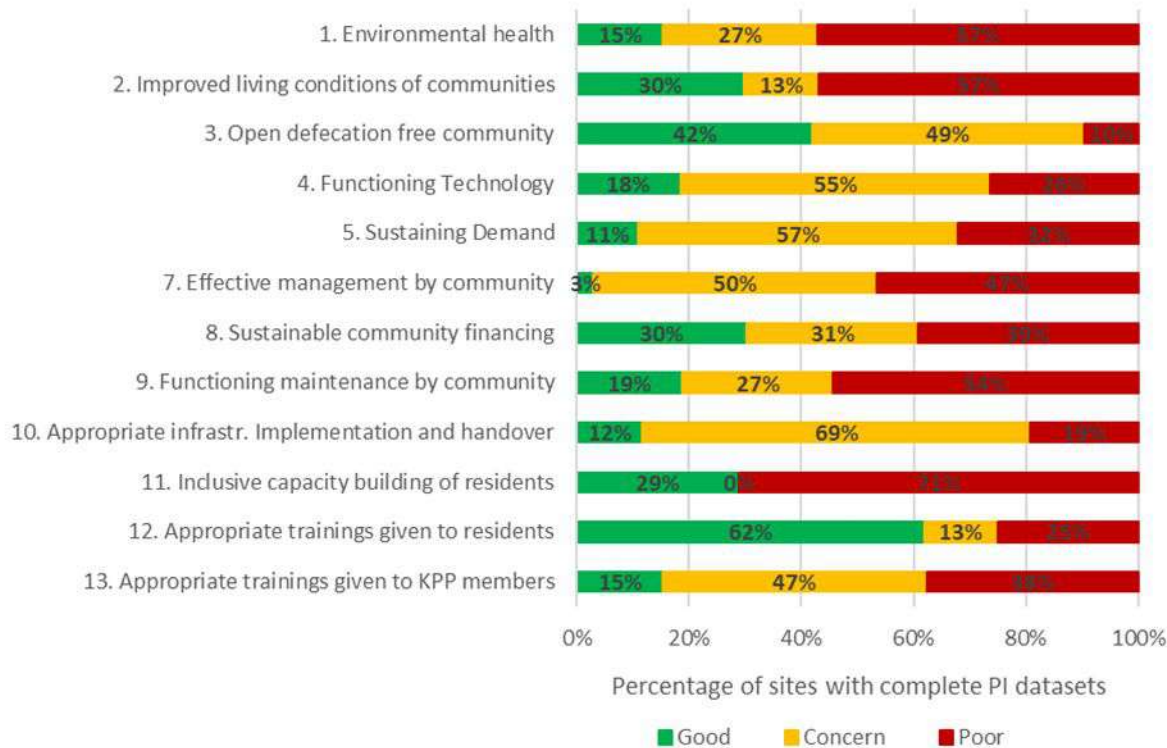
WIDE RANGE OF OPEX !

capacity in KLD	cost in lakhs (INR)	state
3	9	Maharashtra
3	6.75	Madhya Pradesh
3	2	Chhatisgarh
5	11	Maharashtra
5	3	Chhatisgarh
5	677	Rajasthan
10	17	Maharashtra
10	6	Chhatisgarh
10	713	Rajasthan
15	919	Rajasthan
20	947	Rajasthan
25	982	Rajasthan
32	510	Uttar Pradesh
35	1232	Rajasthan
50	13	Chhattisgarh



INDONESIA LEARNING

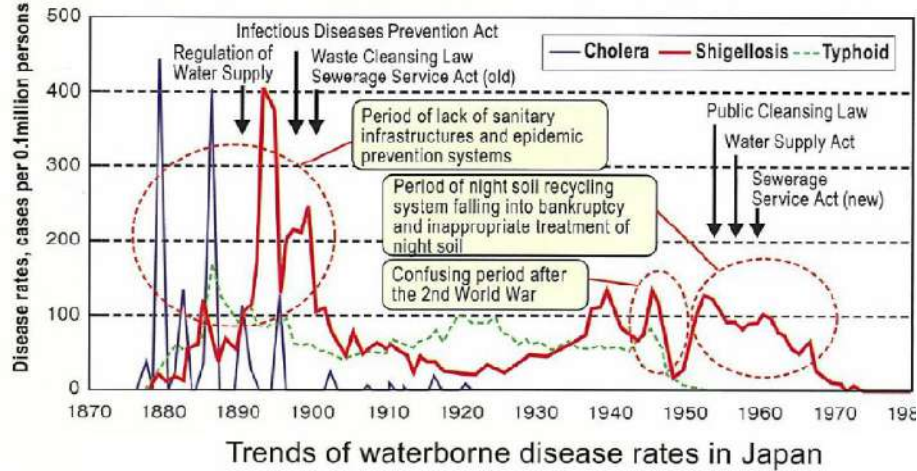
- Since **2002 to 2019** almost 22,000 SANIMAS projects completed in every province of Indonesia, serving an estimated 6 million people
- No other country in the world has implemented this type community sanitation project at such a scale before
- Almost \$1 billion invested over 6 key programs
- 97% implemented by MoPWH
- Average infrastructure cost per location = \$32,000
- Average number of household connections = 54



LEARNING FROM THE SUCCESS



JAPAN & MALAYSIA PASSED THROUGH ALL PROBLEMS



Shift from manual to mechanized night soil/sludge collection system

- Night soil was originally carried in wooden buckets by farmers from house to house



- Development of mechanized vacuum vehicles by Kawasaki City and start of operation in 1952 (first use of such vehicles) → 26 000 vehicles today



Tokyo Bay

Sumida River

Kanda River

Evolution of vehicles used for night soil/sludge collection and transport in Japan



A two-wheeled cart in 1950s



The first small vacuum truck in 1960s



A normal vacuum truck



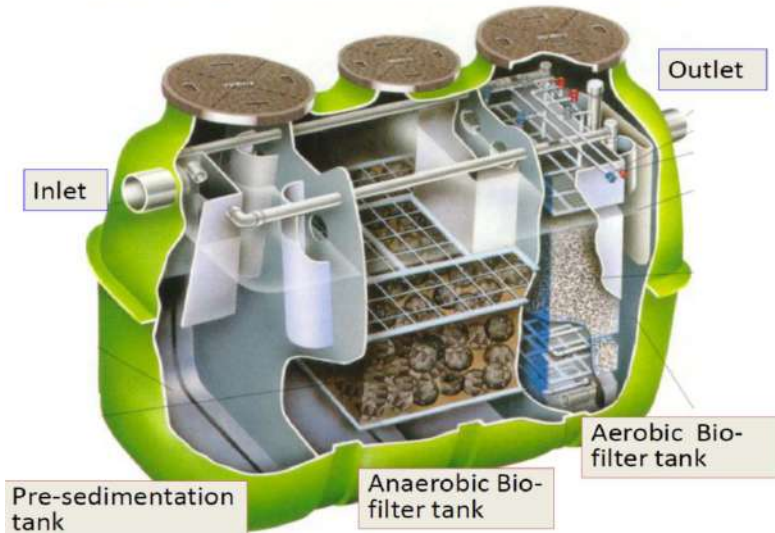
A vacuum truck with concentrating function

DEVELOPING WORLD CAN LEARN A LOT FROM JAPAN

Enactment of PAWTP (Johkasou) Act 1983

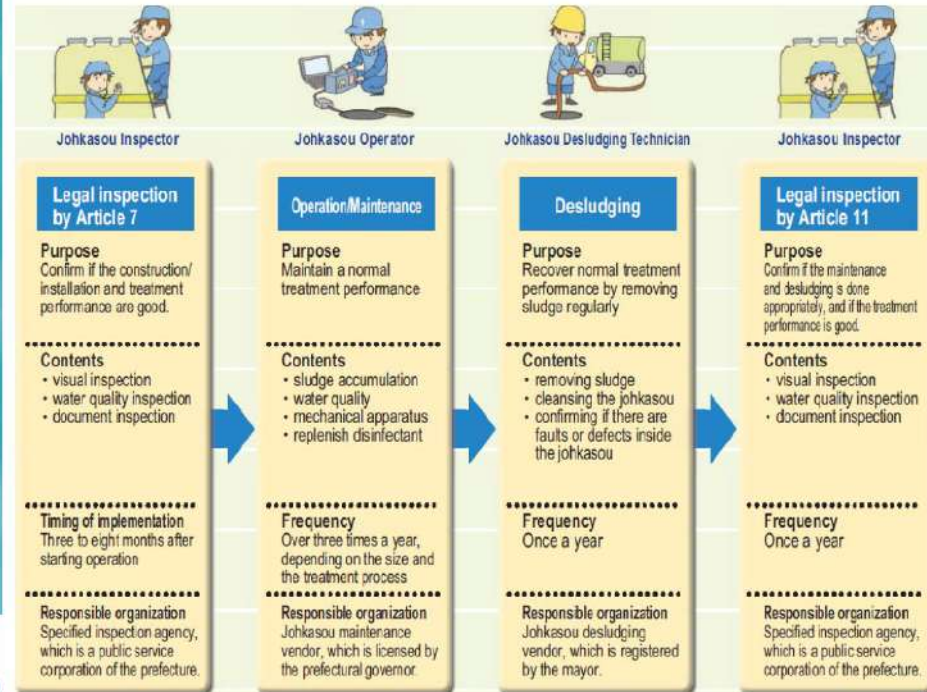
An overhaul of Japan's Decentralized Waste water management system

OPERATION & MAINTENANCE OF SMALL-SCALE PAWTP

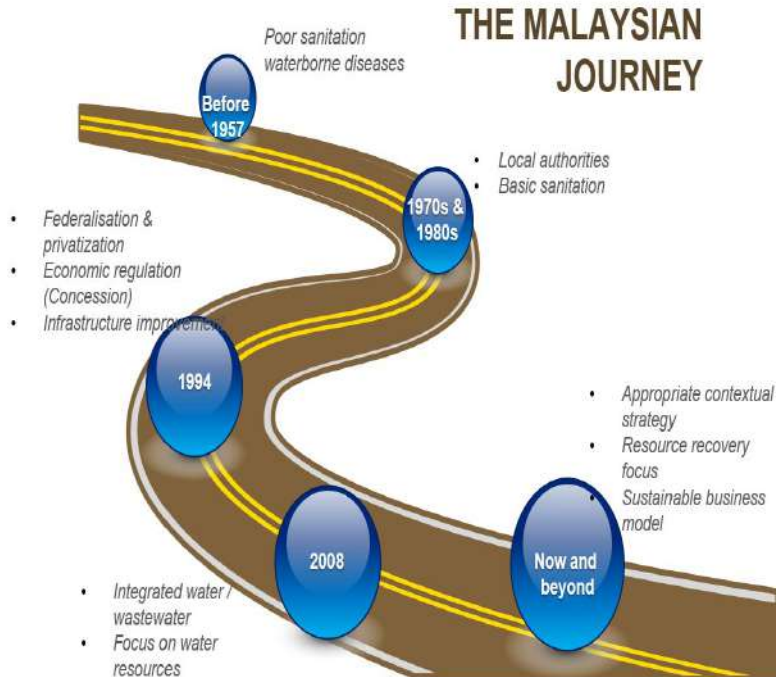


LEGAL FRAMEWORK FOR NON-SEWERED SANITATION

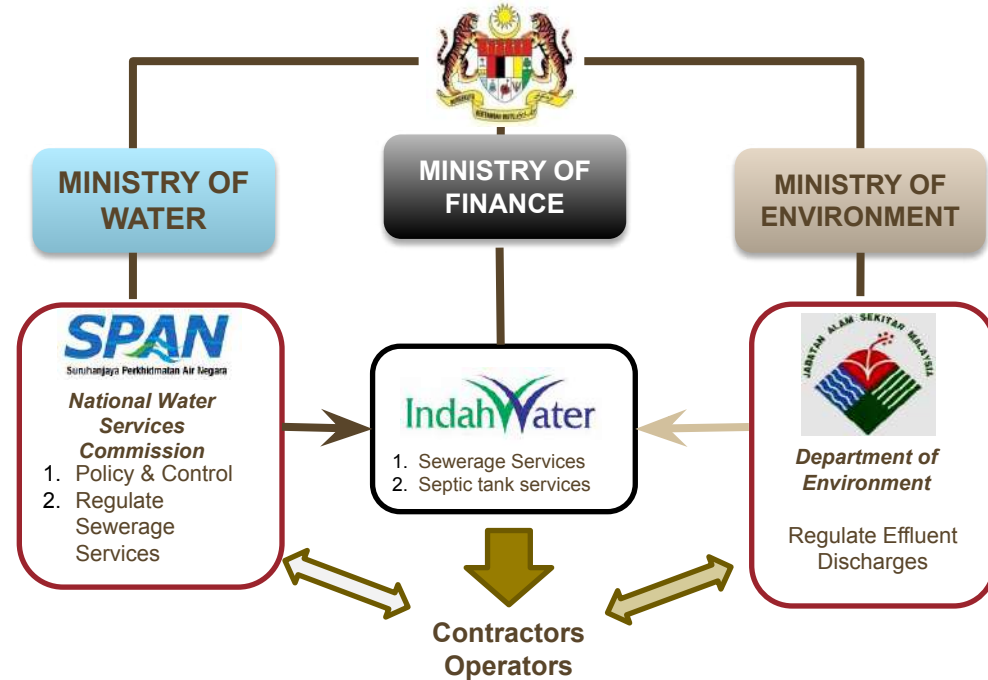
Inspections, O&M and regular desludging



MALAYSIAN SUCCESS OF JOURNEY & REGULATORY ARRANGEMENTS



REGULATORY ARRANGEMENTS



STORY OF CHANGE: EASTERN & SOUTHERN AFRICA WATER & SANITATION (ESAWAS)



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Mission

To facilitate the development of effective regulation of water supply and sanitation services in the Eastern and Southern African region.

SAVE THE DATE

No events found

Regulatory Governance training for South Asia Regulators

20 April 2023

Citywide Inclusive Urban Sanitation 3-Paper Series Publications

Who has responsibility? Ensuring Accountability

Resource Planning and Management

E-LEARNING Sanitation Compliance & Enforcement

Tailored Training

None Consultancy

CWIS FRAMEWORK: A PUBLIC SERVICE SECTOR APPROACH



CWIS OUTCOMES



EQUITY

Services reflect fairness in distribution and prioritization of service quality, prices, deployment of public finance/ subsidies



SAFETY

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



SUSTAINABILITY

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



CWIS SYSTEM FUNCTIONS

RESPONSIBILITY

Authority(s) execute a clear public mandate to ensure safe, equitable and sustainable, sanitation services for all

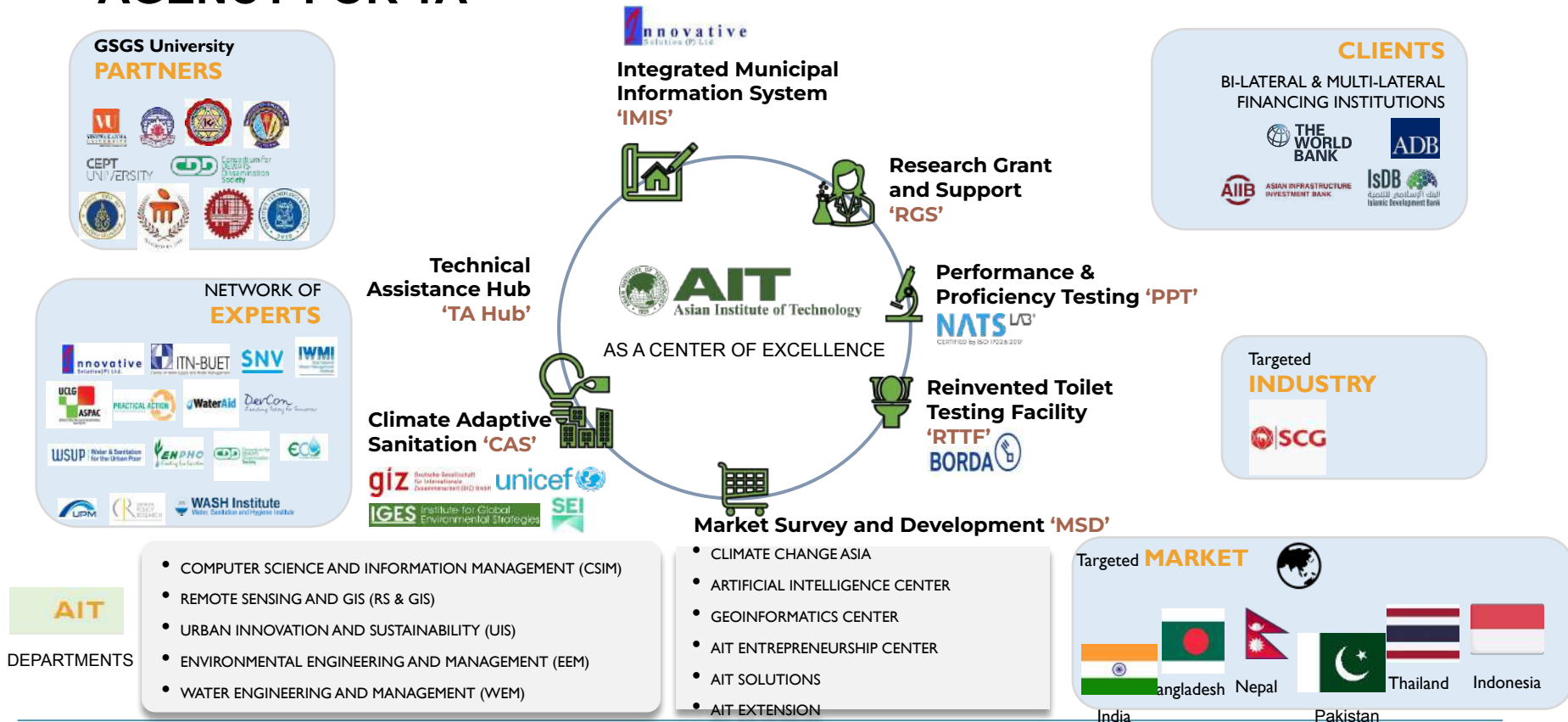
ACCOUNTABILITY

Authority's(ies') performance against mandate is monitored and managed with data, transparency, and incentives

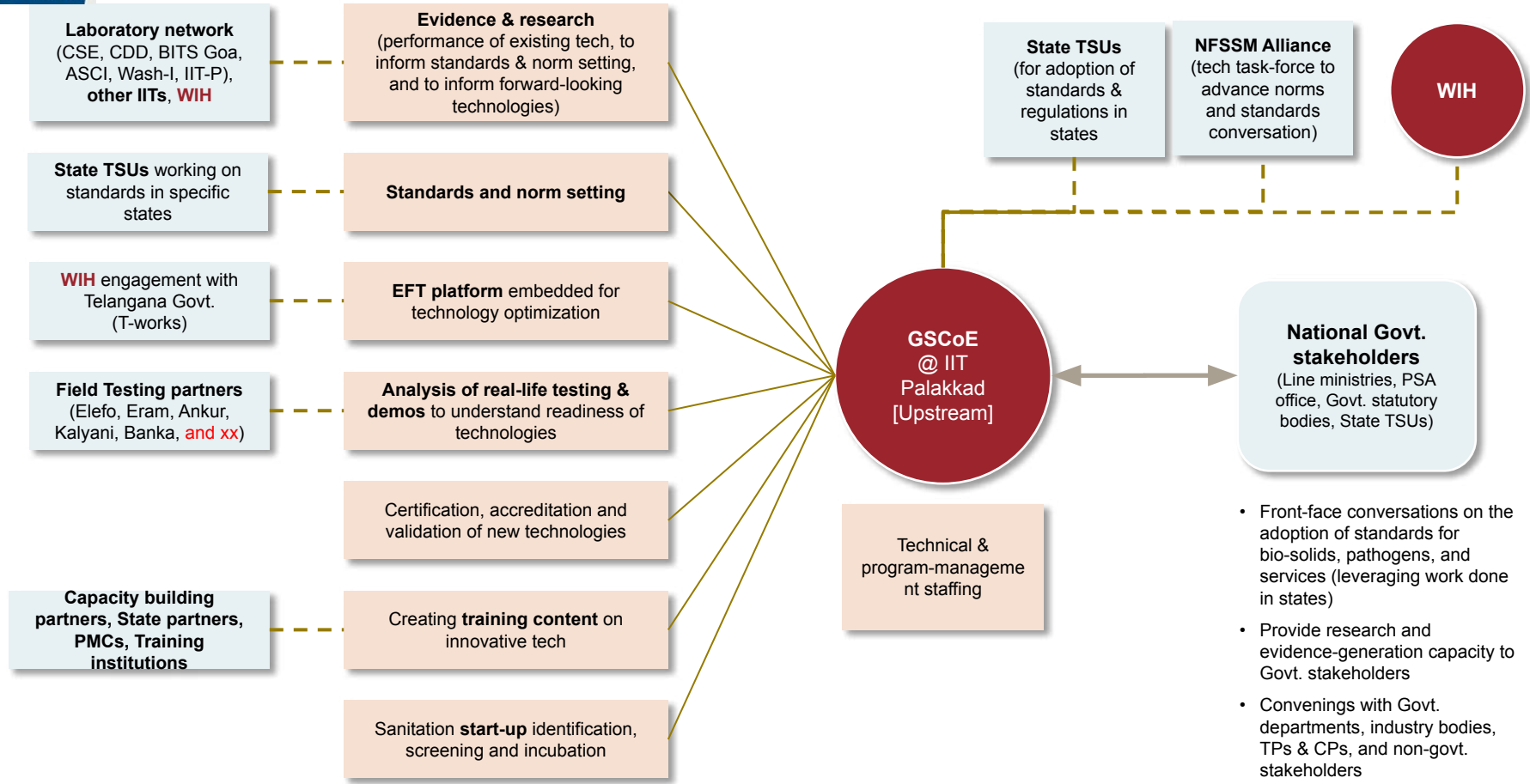
RESOURCE PLANNING & MANAGEMENT

Resources—human, financial, natural, assets—are effectively managed to support execution of mandate across time/space

GLOBAL WATER AND SANITATION CENTER AS A RESOURCE AGENCY FOR TA



ENVISIONED ROLE OF GSCOE AT IIT PALAKKAD



Key functions

Partners/ stakeholders

--- Linkages

MECHANISMS FOR CROSS LEARNINGS AND BEST PRACTICES TO THE SOUTH ASIA REGION TO SCALE INCLUSIVE SANITATION OBJECTIVES



Disseminating knowledge and learnings from India to South Asia by fostering a **regional collaboration** towards **cross learning and sharing**



**Workshops and
convenings**

Curate **workshops, convenings, working groups** at a South Asia level, aggregate knowledge and share **learnings, case stories, and challenges** on CWIS



**South to South
Exposure Visits**

Curate **exposure visits** that enable stakeholders to learn from and share implementation approaches based on the gaps and thematic area of focus



**Institutional Capacity
Building**

Advisory and mentorship support towards **strengthening the Communities of Practice** to scale CWIS



**Codifying Learnings &
Best Practices**

Support local partners towards curating **knowledge products / media narratives** to build thought leadership and allow replication



Inclusion

Access, equity and empowerment of marginalized groups



Private Sector Engagement

Enhanced participation by developing an enabling ecosystem, via model contracts, ease in payments, etc.



Capacity Building

Training and building curricula for capacitating govt., administrative officials, and other stakeholders



Monitoring & Evaluation

Data collection and tracking for quality assessment & policy creation



Climate Change

Building city resilience by planning and adapting towards climate change



Collaborative Platforms

Building collaborative systems for a holistic approach to service delivery for sector outcomes

Sanitation Tours

LEADERSHIP DEVELOPMENT FOR

CITY-WIDE INCLUSIVE SANITATION

Learning visits for the achievement of
sanitation goals and SDG 6 in South Asia



India



South Asia



World



GOVERNMENTS IN SOUTH ASIA: LEADING THE REGIONAL SHIFT TO SAFELY MANAGED SANITATION

INDIA



National Workshop on Urban Sanitation, April 2016



MoUD at FSM4 International Conference, February 2017

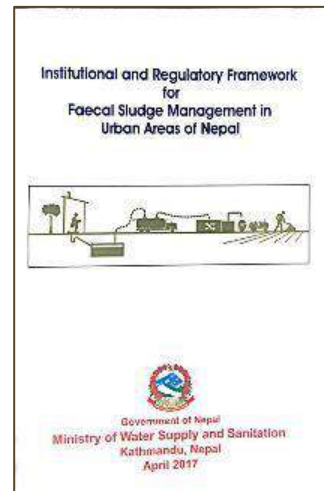


Primer on FSSM released at National Workshop on City's Journey Beyond ODF – FSSM, September 2016



National FSSM Policy released at National Workshop on UD, 28th February 2017

BANGLADESH & NEPAL



Thank you !

Roshan Raj Shrestha

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Bill & Melinda Gates Foundation

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