

INDIA SANITATION PROGRAM OVERVIEW

ICPR Workshop on Changing the Urban Landscape

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ROOTS OF THE SANITATION CRISIS

- High burden due to fecal-oral contamination
- Low coverage and scale
- Non viable markets & delivery networks
- Expensive expert solutions
- Limited innovation capacity



Picture courtesy: WaterAid

URBANIZATION IN INDIA DEMANDS NEW RESPONSES

India Trends

- 33 percent in 2015
- 40 percent by 2030
- Or 1.47 billion in 2030, an additional 194 million from 2015
- In 2011 65 million in slums, estimated to grow to 104 million by 2017 – a growth of 37%!



Implications

- Demand for housing, services, infrastructure
- Without tenure often unable to connect to services
- Risks of water insecurity and inequitable services
- Integrated approaches:
 - *Across all areas*
 - *Linking services, planning and governance*

URBANIZATION IN INDIA & SANITATION CHALLENGES

India Trends

- Population 400 Million—600 Mn in 15 years
- 8,000 towns and cities



Implications

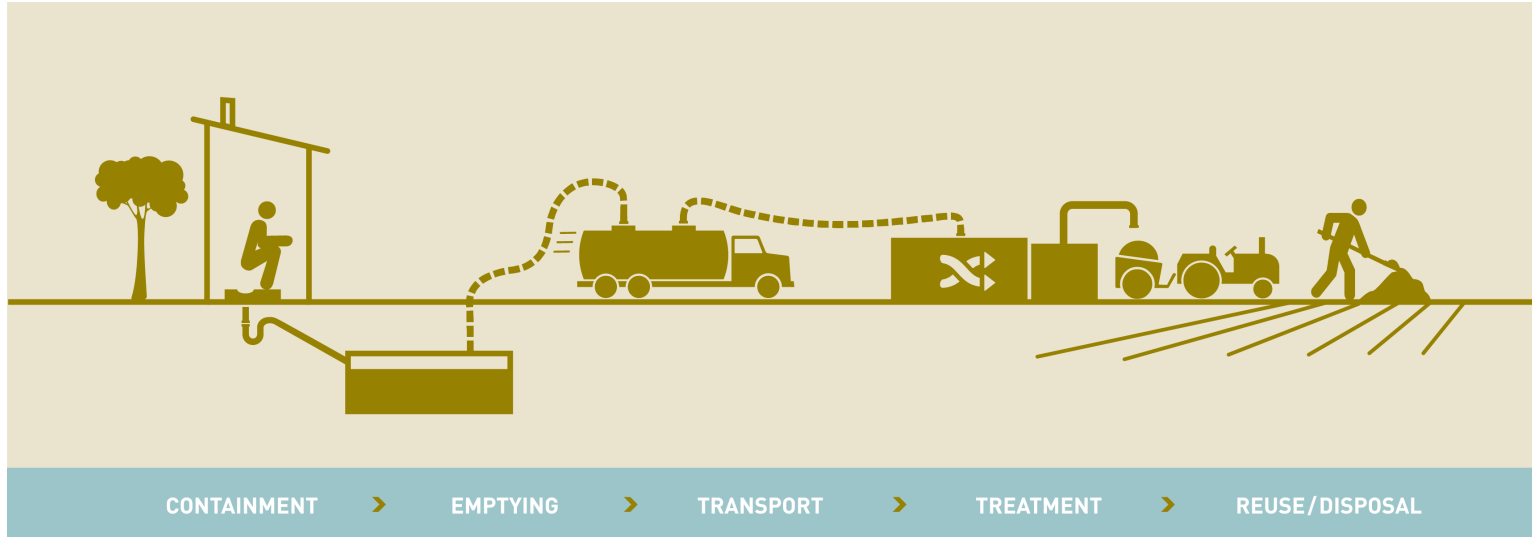
- Cities generate 40 Billion liters of sewage daily (100L/capita)
- 10 Billion is “treated” (25%)
- Only 7 cities treat 50% of sewage
- About zero is treated for re-use
- Cost of poor sanitation: 6.4% of GDP (World Bank)

FECAL SLUDGE & SEPTAGE MANAGEMENT (FSSM): OFT-IGNORED COMPONENT IN SANITATION SECTOR

- Manual emptying common; mechanical equipment underutilized where available
- Provision of services often unregulated; informal market
- Limited performance of existing technologies
- Septage management projects often over-focus on infrastructure
- As with sewage treatment projects, O&M costs & roles undervalued
- High emptying frequency; poor households pay higher fee



THE SANITATION SERVICE CHAIN

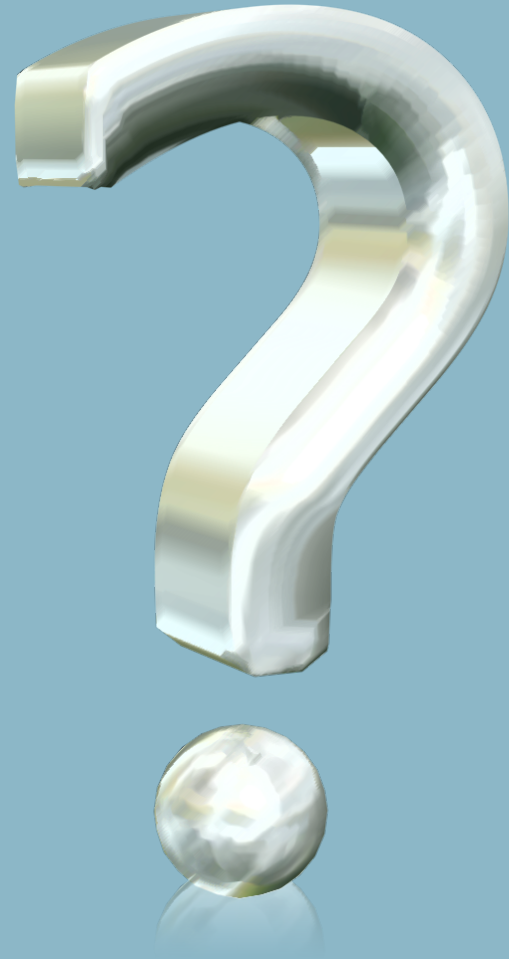


We focus on two fundamental sanitation challenges:

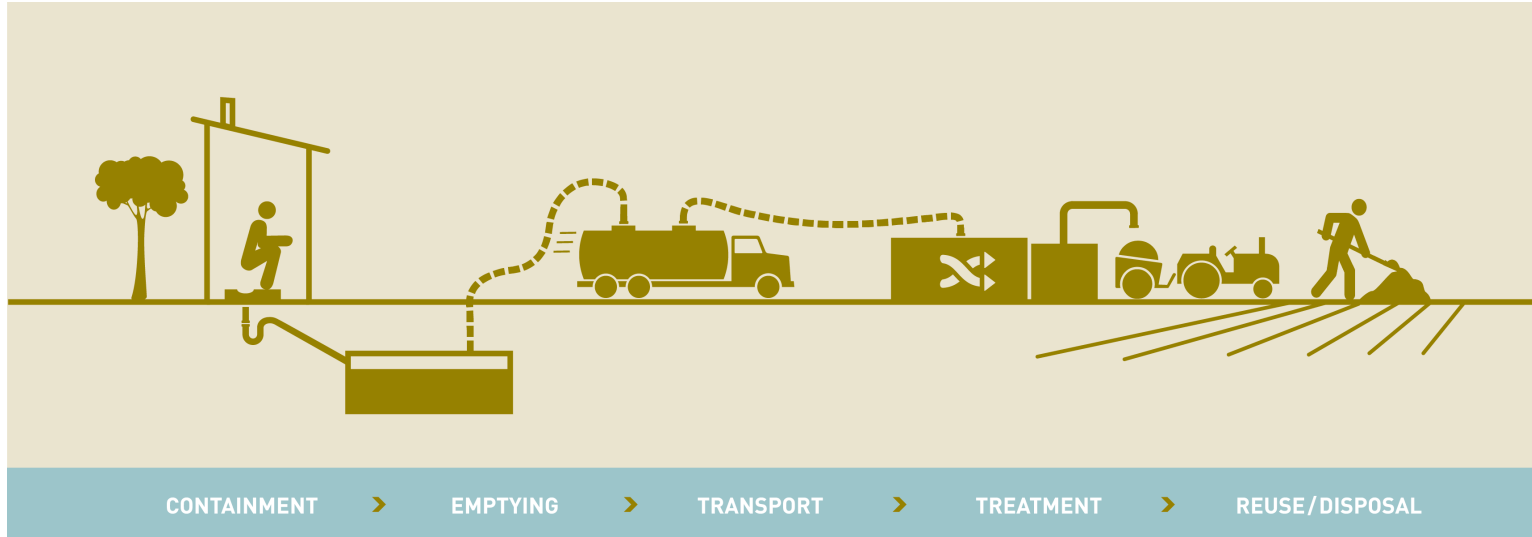
1. Expanding and improving sanitation without central sewers, because this is – and will be – by far the most common type of sanitation service used by the poor
2. Making sanitation services safe and sustainable by addressing the failure to effectively transport, treat, and reuse waste captured in on-site facilities

WHAT IF?

The sanitation value chain could be made more efficient with innovation



THE SANITATION SERVICE CHAIN



We focus on two fundamental sanitation challenges:

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REINVENTING THE TOILET

Using transformative technologies throughout the sanitation value chain to plug key gaps



NEW PRODUCT CATEGORIES, BUSINESS OPPORTUNITIES

Reinvented Toilet



- \$0.05/person/day
- No pathogens
- User demand
- 5 kg per day
- Less than 25% total solids

Omni-Ingestor



- Access 90% of pits
- Effective Emptying
- Efficient Transport
- 50 GPM
- 0 to 40% solids

Omni-Processor



- Decentralized
- Nutrient Recovery
- Energy Production
- 20 tons per day
- 20 to 50% solids

Biologically & Environmentally Safe • Profitable • Sustainable

WE ASPIRE TO REDUCE THE LEAKAGES AND DYSFUNCTIONALITIES IN THE EXISTING VALUE CHAIN

Fundamentally transform the sanitation sector to reach universal use of sustainable sanitation services, which contributes to health and gender equality outcomes for the underserved

Technologies

- Disruptive technological innovation to upset the status quo of traditional sewers and latrines
- Commercialize with strong private sector partner
- Identify interim technologies for sludge and septage treatment

Systems & Infrastructure

- Move donors to fund FSSM infra., not just sewer systems and latrine construction
- Transform the enabling environment (talent, access to finance, toolkits, citizen engagement platforms, etc.)