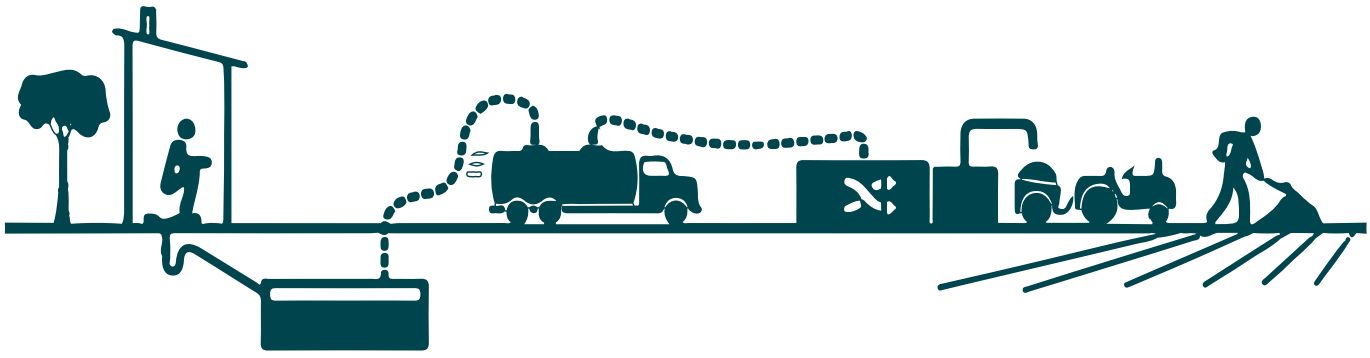
स्वच्छ भारत
एक कदम स्वच्छता की ओर

# FAECAL SLUDGE MANAGEMENT IN INDIA

## Faecal Sludge Management (FSM) in India

- If sanitation is to be managed safely, it is important to go beyond the toilet and examine containment, emptying, transport, treatment and reuse or disposal of faecal waste.
- FSM is central to achieving the vision of an 'Open Defecation Free' India. Developing solutions to challenges of FSM therefore has an important place in the sanitation story of the country.
- Efforts focus on large and dense villages (with populations of more than 4,000 people and density greater than 400 people per sq.km.) and census towns (these are not formally notified as urban bodies; they are administered as rural areas). There are more than 5,000 census towns in India

## Feacal Sludge Management is Critical for Safe Sanitation



- Toilets
- On-site storage
  Septic tanks, pits
- Emptying of septic tanks/pits
- Faecal sludge treatment
- Re-use of treated sludge and water

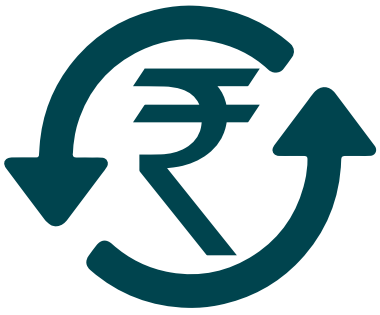
# Policy Push for FSM at Various Levels of Government

Sewerage systems have been the solution of choice for FSM in cities and urban areas of developing countries. However, sewerage networks involve high capital and operations and maintenance (O&M) costs. The FSM strategy chosen for census towns and urban areas in India focuses on septage management. Features include:

- Low capital and operational expenditure
- Low energy, low skill and easy to operate plant
- Produces compost and treated water
- Managerial strategies which include technology for extreme climates and performance-linked payment
- Uses information and communications technology (ICT) for GPS tracking of trucks and mobile applications (apps) to centrally coordinate service providers

The Government of India provides funds to provincial governments to set-up and carry out O&M

- Funds are transferred directly from the Ministry of Finance to gram panchayats for works related to sanitation, solid and liquid waste management (SLWM), etc.
- The Atal Mission for Rejuvenation and Urban Transformation (AMRUT) is rejuvenating 500 cities with respect to water supply, waste management, urban transport and development of green spaces and parks
- SLWM is funded under SBM(G) – all gram panchayats can take up funds, with financial assistance capped on the basis of the number of households, to enable them to implement sustainable SLWM projects



National Faecal Sludge and Septage Management Policy, 2017

Adopted by more than 20 states within a year

Entrepreneurship opportunity as a means of livelihood and employment

Standard model for equipment and safety gear, desludging vehicles, cleaning machines

# FSM pilot projects implemented successfully across India

## Devanahalli, Bangalore Karnataka

Devanahalli town is located in the rural district of Bangalore, Karnataka and has a population of 28,000*

Faecal sludge treatment plants for small towns:

- Suitable for rural/ peri-urban areas and 75% of Indian cities
- Low capital and operational expenditure
- Low energy, low skill, easy to operate plant
- Produce compost and treated water

http://www.cddindia.org/sites/default/files/H-FSTP-Brocher-17.pdf

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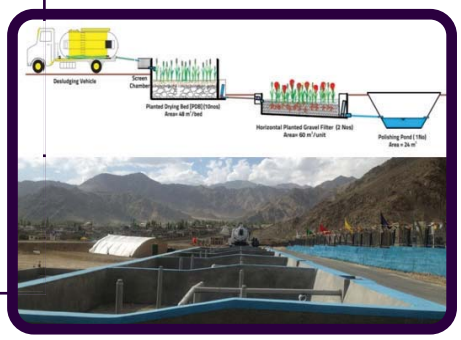
## Leh, Jammu & Kashmir

Leh is a town in the Leh district of the Indian state of Jammu and Kashmir. Situated at an altitude of 3,524 metres (11,562 ft), it has a population of 31,000

- Technology for extreme climates; suitable for rural areas
- Performance linked payment; 100% private investment

ttps://smartnet.niua.org/sites/default/files/resources/fstp.pdf



## Warangal City, Telangana

Warangal is the second largest city in the state of Telangana, after Hyderabad, with a population of 750,000*

- FSM in Warangal town uses ICT with GPS tracking of trucks and mobile apps to co-ordinate service providers from a central location

* As per census population data 2011

ttps://smartnet.niua.org/sites/default/files/resources/fstp.pdf


## Scaling up FSM across Urban India

- Post-toilet services for sustaining toilet use and maintenance
- ODF+ and ODF++ protocols defined for cities
- ODF-sustainability and ODF+ defined for urban areas
- Certification for services across the sanitation value chain
- Self-certification is followed by independent verification

## Way Forward for FSM

An array of measures are required to ensure sustainable FSM for both urban and rural areas. Solutions need to be easily replicable, scalable, environment friendly and cost effective.

Design appropriate technologies : Treatment systems need to take into account the geographical conditions, have low operational and maintenance costs

Create a robust institutional and regulatory framework with specific roles and responsibilities for each stakeholder

Create a participatory approach: Awareness generation activities to be carried out to instill the importance of FSM with both implementers and local population groups.

Develop sustainable financial models and tariff structures: This is utmost importance for sustainability of FSM finance. The financial model is to be framed in a manner which covers the cost of the treatment plant, transportation and be affordable to users.

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