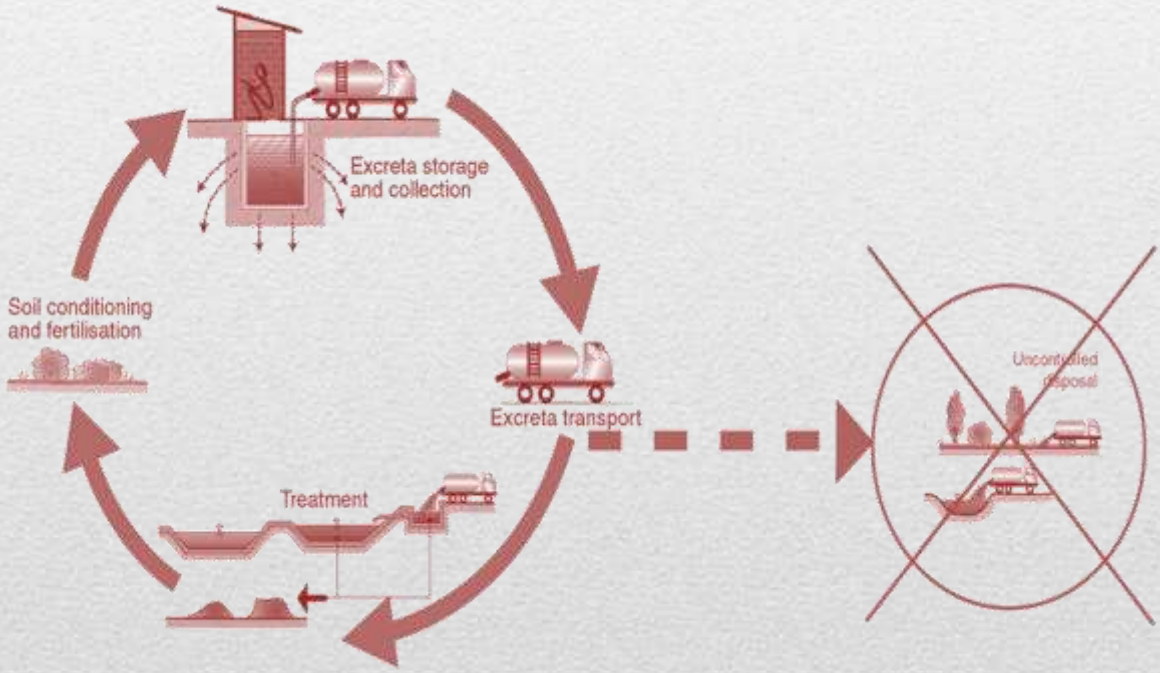
Module on Legal & Institutional frameworks in Faecal Sludge Management

Background Note



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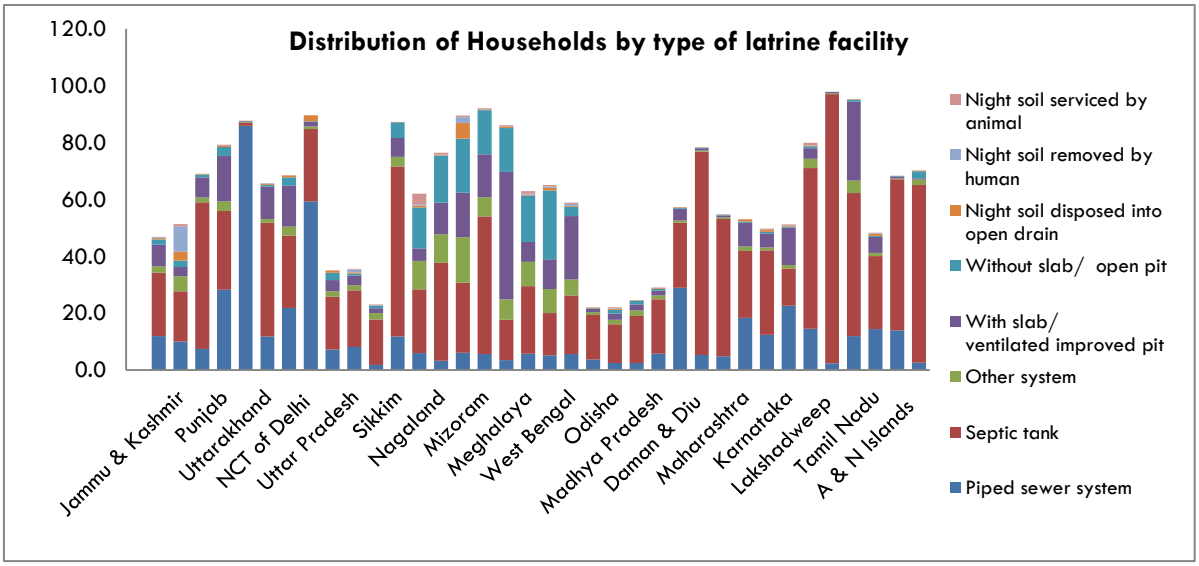
Background

Sustainable sanitation is not only about providing toilets, but to ensure full cycle of sanitation management which comprise of providing access to toilets, collection/containment of septage[1] (Black water) and sullage (grey water), conveyance and treatment of this waste and final disposal and reuse through appropriate means. Therefore, amongst others mentioned here, the treatment and management of faecal sludge[2] is integral to safe sanitation practices.

Key Question	*Who is responsible for providing sanitation facilities to citizens?*

Provisioning of sanitation facilities in the country primarily rests with local government bodies – municipalities or corporations in urban areas (called the Urban Local Bodies or ULBs) and gram panchayats in rural areas.

Though traditionally, a decentralised system of septage management has been prevailing in India, the legal and regulatory framework on sanitation has primarily focused on providing a centralised sewerage system for transportation of sewage by the local bodies without much emphasis on decentralised septage management. Policy and legal framework were planned in a conventional sense focussing more on connecting different parts of the city with a centrally managed sewage collection and treatment system. The centralised sewerage system is highly capital and labour intensive as they require continuous power, skilled operators and extensive electro mechanical maintenance and also since the cities were growing exponentially, the local bodies in India with limited financial resource, found it difficult in terms of financing and management to cover the newly developed areas and localities. According to the Census 2011 only 32.7% of urban households and 2.2% of rural households in India are connected to piped sewer system. The graph below shows the coverage of different types of facilities used by households across all States which indicates that about 22% of the households resort to on-site facilities like septic tanks and soak pits:



[1] What is Septage? "Septage" is the liquid and solid material that is pumped from a septic tank, cesspool, or other treatment facility after it has accumulated over a period of time.

[2] Faecal sludge comprises all liquid and semi-liquid contents of pits and vaults accumulating in on-site sanitations installations, namely unsewered public and private latrines or toilets, aqua privies and septic tanks. These liquids are normally several times more concentrated in suspended and dissolved solids than wastewater.

Premises that are not connected to the central sewage system depend on localised solutions like soak pits, septic tanks etc. (referred to as on-site sanitation system[3]) from which sewage/septage would require to be extracted periodically and transported and disposed in a scientific manner. However, though dependence on on-site sanitation system is very high as shown in the graph above, the management of septage generated by these on-site sanitation facilities are not regulated effectively in India. In practice the sewage/septage is dumped into water bodies. This has resulted in poor sanitation conditions resulting in unhygienic and unhealthy environment.

One of the major challenges in urban sanitation is the collection, treatment and disposal or reuse of Faecal Sludge. Adequate facilities and services for collection, transportation, treatment and disposal of faecal sludge do not exist in most of the cities and towns. Most of the on-site sanitation systems are emptied manually in the absence of suitable facilities. While the complexities remain without being addressed adequately in terms of financial, technical and managerial solutions, the legal and regulatory development has also not happened in an effective manner despite having such huge environmental implications. In this backdrop, this note discusses the existing legal and regulatory framework to handle various issues linked to Faecal Sludge Management with the objectives to understand the existing legal environment for safe collection and handling of the Faecal sludge.

[3] On-site sanitation, also called decentralised sanitation, is a system where the treatment of excreta or sewage takes place at the same location where it is generated.

Part A: Central Policy Framework for Faecal Sludge Management

Inadequate sanitation has great environmental, economic and health impact. In order to minimize these impacts, Government of India has undertaken several measures including increased investment in sanitation, policy initiatives, regulations, public campaigns, schemes and programmes to improve sanitary conditions in the country. This is resulting in gradual raise in the sanitation status during the last two decades. A large part of improved sanitation[4] is dependent on septic tanks and other form of onsite sanitation systems and hence the problem of efficient septage management is growing fast in India. Presently there is no specific regulation or guidelines dealing specifically with the safe handling, transport and disposal of septage in the country. Most of the current laws and policies deal with water, wastewater and sanitation services, but the septage management is not covered in a holistic manner. At Present, there is no comprehensive urban sanitation law in India, neither at the Central nor at the State levels. Instead, the sources of law relating to urban sanitation exist in a multitude of legal instruments, including pollution control laws, municipal laws, laws governing parastatal bodies, public health laws and building and sanitation byelaws. National Urban Sanitation Policy made in the year 2008, provides the basis for government and private sector interventions for urban sanitation.

"Along with construction of individual and community toilets, the government is focusing on solid waste and septage management. Policy initiatives for promoting procurement of energy and compost produced from municipal solid waste are at an advanced stage of consideration"
Union Minister of Urban Development and Parliamentary Affairs M Venkaiah Naidu during winter session, New Delhi December 2015

This Section of the notes provides the legal and policy framework that are instrumental for development of sanitation infrastructure. In this regard, the central, State and municipal level enactments, policies, programmes, schemes, regulations, etc. are briefly discussed.

A. Constitutional Provision

Water supply and sanitation is a State responsibility under Constitution of India and following the 73rd and 74th Constitutional amendments, the States gave the responsibility and powers to the Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) to implement them.

The right to sanitation in India takes its legal basis mainly from fundamental rights enshrined in the Constitution and most importantly fundamental rights to life.

(a) Fundamental Right: The right to sanitation is a part of the fundamental right to life. The concept of sanitation as it is understood in India includes personal hygiene, home sanitation, safe water, garbage disposal, excreta disposal and waste water disposal[5]. Though right to sanitation has not been included explicitly as a fundamental right under the Constitution, the higher judiciary has interpreted it as a part of the fundamental right to life. The Supreme Court and various high courts

Article 21 of the Indian Constitution deals with
"Right to Life" according to this, "no person shall be deprived of his life and liberty except according to the procedure established by law"

[4] An improved sanitation facility is defined as one that hygienically separates human excreta from human contact
[5] Government of India, Nirmal Bharat Abhiyan Guidelines, 2012 (New Delhi: Ministry of Drinking Water and Sanitation)

have expanded the scope of the fundamental right to life under Article 21 and read the right to sanitation and right to clean and wholesome healthy environment as its inherent part. This inference was first made in the case of **Attakoya Thangal v. Union of India**[6]. Thereafter, the Hon'ble Supreme Court of India in its various decisions has treated the right to live in pollution free environment as part of fundamental right to life falling under Article 21 of the Constitution and to include right to livelihood, food, sanitation, drinking water and so on as a means to the same (Refer observations made by the court in this regard in various cases provided in Box given below).

In **Virendra Gaur v. State of Haryana, (1995) 2 SCC 577**: In the case concerning the use of a land reserved for open spaces for better sanitation, environment and the recreational purposes held that right to life encompasses within its ambit sanitation without which life cannot be enjoyed.

Subash Kumar V State of Bihar, AIR 1991 SC 420: "The right to live is a fundamental right under Article 21 of the Constitution and it includes the right of enjoyment of pollution free water and air for full enjoyment of life" [Para 7]

Municipal Council, Ratlam V Vardichand, 1980: In this case, the power of citizens to approach authorities forcing them to provide sanitation facilities was established. It also asserted the legal duty of local bodies to provide sanitation facilities and it was held that the financial constraints of local bodies cannot be claimed as a reason to delay or to not fulfill this duty.

(b) Directive Principles of State Policy: Thus being a constitutional right, the right to sanitation casts duty upon the government to create conditions through legal and policy interventions so that everyone can enjoy the right to sanitation. Part IV of the Constitution of India provides the Directive Principles of State Policy which guides the government action and are required to be observed by the Government while formulating these laws and policies. Environment protection and improvement aspects were explicitly provided under Article 48-A under Part IV. Article 48-A declares that – ***"The State shall Endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country".*** This implies that every legal and policy interventions of the Government for improving sanitation conditions shall be with the purpose of protecting and improving the environment.

M.C. Mehta V Union of India[1]**:** In this case, Supreme Court said that Articles 47 and 48 cast a duty on the state to secure and improve the health of the people and to protect and improve the environment. Thus interpretation of these articles proves that states shall not only provide clean water to the people but also prevent the pollution of the water.

(c) Fundamental Duties: Article 51-A(g) of the constitution casts a duty on every citizen to protect and improve environment. It states that, ***"It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures".*** Thus a responsibility corresponding to that in Article 48-A has been imposed on every citizen in the form of Fundamental duties.

L.K. Koolwal v State of Rajasthan[1]**:** the High Court gave directions to clean the city of Jaipur and save it from its unhygienic conditions. The Rajasthan Court in this case invoked Art 51 A (g) of the Constitution and was of the view that though this provision is a Fundamental Duty, it gives citizens a right to approach the Court for giving a direction to the municipal authorities to clean the city and maintenance of health, sanitation and environment.

[6] Attakoya Thangal v. Union of India, AIR 1990 Ker 321.

B. Central Level Legislations

One of the common key challenges quoted with regard to Faecal Sludge Management in India is the lack of adequate/effective policy framework and lack of explicit state sanitation strategies on safe disposal of faecal sludge. There exists no comprehensive legal framework on the Faecal sludge management. Nevertheless, the existing laws on environmental regulations however, address various aspects of sanitation and thereby contribute to realisation of the right to sanitation and sanitation services to certain extent. These mostly stem from, The Environment (Protection) Act, 1986, the Water (Prevention and Control of Pollution) Act, 1974 and the laws enacted with the purpose of prohibiting manual scavenging. This part of the note deals with the relevant enactments which puts responsibilities on the local bodies to ensure safe handling and disposal of septage generated within their boundaries.

Key Question	*Which Acts/Regulations should I refer to understand the responsibilities related to FSM?*

a. Environmental (Protection) Act, 1986 (EPA)

The EPA was enacted with the object of regulating any activity, mostly industrial activity, which has the potential to pollute the environment. However, the Act is essentially an enabling legislation which strengthens the hands of the Central Government in overseeing environmental protection.
EPA is called as an umbrella legislation as its potential scope is broad and it encompass protection of various components like water, air and land and interrelationship among water, air, land, human beings, other creatures, plants, micro-organisms and property. Ample power is given to the central government under EPA for taking all measures as it seems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. The EPA was the first environmental statute to give the Central Government authority to issue direct written orders including orders to close, prohibit or regulate any industry operation or process or to stop or regulate the supply of electricity, water or any other services.

Section 5 of the EPA
"… the Central Government may, in the exercise of its powers and performance of its functions under this Act, issue directions in writing to any person, officer or any authority and such person, officer or authority shall be bound to comply with such directions. Explanation--For the avoidance of doubts, it is hereby declared that the power to issue directions under this section includes the power to direct—

(a) the closure, prohibition or regulation of any industry, operation or process; or
(b) stoppage or regulation of the supply of electricity or water or any other service"

Government has the power to take samples of air, water, soil or any other substance from any place for analysis[7]. The Act explicitly prohibits discharge of pollutants in excess of prescribed standards.

Section 7 of the EPA
"No person carrying on any industry, operation or process shall discharge or emit or permit to be discharged or emitted any environmental pollutants in excess of such standards as may be prescribed"

The Central Government is authorized to set new national standards for ambient quality

[7] Section 11 of the EPA

of the environment and standards for controlling emissions and effluent discharges; MoEF, while exercising its power under EPA, has so far enforced several rules and regulations. It has adopted industry specific standards for effluent discharges and emissions from different categories of industries. The Ministry has also designated certain state and Central Officials to carry out specified duties under the Act and has designated specific laboratories for testing the samples of air, water and soil obtained under the Act.

Key Question	*What is the legal recourse to be adopted if someone is openly polluting water and land by dumping septage without treatment?*

b. The Water (Prevention and Control of Pollution) Act (Water Act)

The most commonly reported problem with the septic tank usage is lack of proper construction, overflow and opening during rainy season resulting in pollution of underground water. Apart from this, the water bodies were also getting polluted because of the practice of disposal of faecal sludge directly into the water bodies and agricultural land in the absence of specific land for disposal of faecal sludge.

To counter check the pollution of water bodies, The Water Act was enacted in 1974. The purpose of the Act is to prevent and control water pollution, and for maintaining or restoring water quality in the country. Water Act is a specific legislation of first of its kind in India to prevent pollution of water bodies. The Act was enacted with a view to control pollution of rivers and streams which assumed considerable importance as a result of increasing industrialization and urbanization. The Act is intended to ensure that the domestic and industrial effluents are not allowed to be discharged into the water courses without adequate treatment as such discharges would render the water unsuitable as source of drinking water as well as for supporting aquatic life and for use in irrigation.

The Act can be used as a tool to take action against illegal discharge of faecal sludge into the water bodies by the private service providers in FSM sector.

Pollution Control Boards constituted under the Act at the central and state level are made responsible to take necessary measures for prevention, control or abatement of water pollution. Few of the key roles and responsibilities of these agencies in this regard are set out in the table below;

Agency	Roles and responsibilities
Central Pollution Control Board	• to promote cleanliness of streams and wells in different areas of the state • advise central government on matter concerning protection of water from being polluted • providing assistance to State Board in performing their functions, laying down the emission standards etc.
State Pollution Control Board	• planning programme for prevention, control or abatement of water pollution. • to advise the state government on matter relating to water cleanliness. • regularly inspect the sewage or trade effluents emitted from different sources and also to inspect the plants and other treatment methods used to treat the sewage and trade effluents. • to lay down, and modify or annul effluent standards for sewage and trade effluents and for the quality of receiving waters. • to evolve economical and reliable methods for the treatment and disposal as well as better utilization of sewage and trade effluent. • lay down standards as to the emission of the trade effluents

The Act provides for a permit system or "Consent" procedure to prevent and control water pollution. The Act generally prohibits disposal of polluting matter in streams, wells and sewers or on land in excess of the standards established by the state boards.

A person must obtain consent from the state board before establishing any industry operation or process, any treatment and disposal system or any extension or addition to such a system which might result in the discharge of sewage or trade effluent into a stream well or sewer or onto land. The state board may condition its consent by orders that specify the location, construction and use of the outlet as well as the nature and composition of new discharges.

The Act empowers a state board, upon thirty days' notice to a polluter, to execute any work required under consent order which has not been executed. The board may recover the expenses for such work from the polluter. The Act gives the state boards the power of entry and inspection to carry out their functions. Moreover, a state board may take certain emergency measures if it determines that an accident or other unforeseen event has polluted a stream or well. These measures include removing the pollutants, mitigating the damage and assuming orders to the polluter prohibiting effluent discharges.

c. The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993

The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993 serves as a primary instrument to eradicate practice of manual scavenging. The definition of manual scavenging as per the Act, 1993 does not specifically cover manual cleaning of septic tanks and sewers cleaning, though this is implied under the Act. The key objectives of the Act are to prohibit engaging or employing or permit such engagement or employment for manually carrying human excreta and to prohibit construction or maintenance of a dry latrine. In this regard, the Act prohibits a person from engage in or employing for or permit to be engaged in or employed for any other person for manually carrying human excreta.

What is manual scavenging?

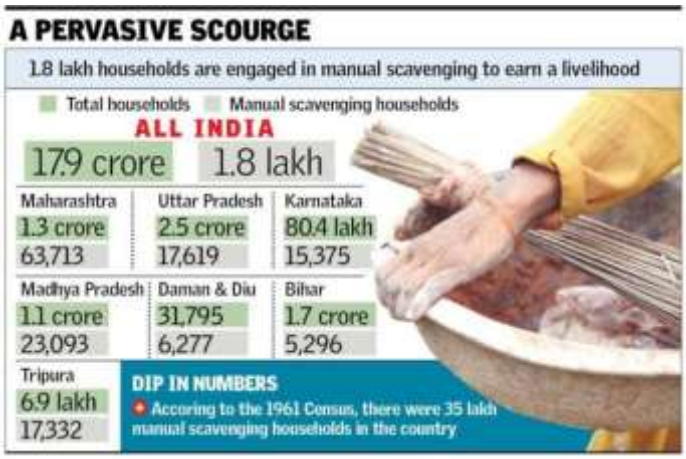
Emptying septic tank periodically is an important function in the Faecal Sludge Management Chain. This is also called as de-sludging. Timely de-sludging is essential to avoid overflowing from the septic tank and to achieve desired settlement of sediments in the tank. In Indian cities, most of the septic tanks are de-sludged manually. This is considered as an unpleasant and repulsive job, precipitates human contact with faecal matter, and since the sludge (including fresh excreta) generally gets spilled around the tank during emptying, this poses a risk of transmission of diseases of faecal origin – in any case, this is tantamount to manual scavenging.

Given the safety and health risks of manual desludging, it is critical for cities to take measures to stop this common practice by taking necessary measures to put an end to this demeaning practice.

The District Magistrate or a Sub-Divisional Magistrate is appointed as an Executive Authority under the Act with the responsibility to rehabilitate and promote the welfare of people engaged in manual scavenging. As such the Executing Authority is empowered under the Act to take necessary steps to prevent manual scavenging through issuance of direction and prevent and mitigate environmental pollution. The Act empowers the Government to make schemes for regulating conversion of dry latrines into water-seal latrines,

construction and maintenance of Water-seal latrines and rehabilitation of the persons who were engaged in or employed for as manual scavengers.

Contravening the provisions of the Act attracts penalties up to one year imprisonment and fine upto Rs. 2,000. Further, the Act also provides penalty for continued contraventions.



Though the practice of manual scavenging is officially banned since decades in India, the practice still continues with impunity in several States. Socio-Economic Caste Census data released on July 3, 2015 reveals that 1,80,657 households are engaged in the degrading work of manual scavenging for a livelihood. Maharashtra, with 63,713, tops the list with the largest number of manual scavenger households, followed by Madhya Pradesh, Uttar Pradesh, Tripura and Karnataka, as per Census data.

Given the safety and health risks of manual desludging, it is critical for cities to take measures to urgently put a stop to this demeaning practice. Cleaning of septic tanks and sewers shall encouraged to be carried out using mechanical devices that obviates the need for manual scavenging. This must include stringent restrictions on and punitive measures for all private parties offering septage clearance services. Public sector units including local governments, municipalities (and water utility personnel involved in manual cleaning of sewers and septic tanks) should also be brought under strict vigil to prohibit any manual cleaning, and the full adoption of mechanical devices, safety gear for occupational safety, and practices that reduce to the minimum, any risk of physical contact, as well as protect against hazards posed by noxious gases while cleaning septic tanks, pits or sewer systems.

Primary reasons for ineffectiveness of the Act to eradicate the practice of manual scavenging

- The Act do not address the more insidious forms of manual scavenging, such as cleaning open gutters, manholes and septic tanks.
- An individual right to file a complaint is not recognized under the Act; Only specifically appointed authorities can file complaints, and only within a limited time frame. As a result, by 2006, not one complaint had been filed under the Act.
- Act relies too heavily on the States to enforce the ban on manual scavenging

d. Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

This Act was made with a view to make the law regulating manual scavengers more effective. The Act recognises the link between manual scavengers and weaker sections of the society. It therefore, views manual scavenging as being violative of their right to dignity.

Key Question	*Are there any prohibitions in FSM sector which I should be aware of before providing such services?*

The Act has the wider scope and higher penalties compared to the 1993 Act. While 1993 Act covers only dry latrines under its ambit, the 2013 Act encompasses the sewerage system, railway tracks, septic tanks etc. The objective of the Act is not only restricted to prohibiting employment as manual scavengers but also extended to provide rehabilitation to the manual scavengers and their families

Enactment of Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 has emerged as a **major driver for the FSM Sector**.

and prohibit manual cleaning of sewers and septic tanks without protective equipment and construction of sanitary latrines. The Act in its wider ambit defines, "manual scavenger" to include a person engaged or employed, inter alia, for manual cleaning of human excreta in an insanitary latrine or in an open drain or pit or railway track etc.

The Act makes rural and urban government bodies responsible for ensuring sanitation service. It is the responsibility of the District Magistrate under the Act to rehabilitate manual scavengers. The Local Authorities and District Magistrate are made responsible for implementation of Act. They shall (i) ensure that no person is engaged or employed as manual scavenger within their jurisdiction, (ii) ensure that no one constructs, maintains, uses or makes available for use, an insanitary latrine, (ii) take necessary measure for rehabilitation of the manual scavengers; and (iv) investigate and prosecute the person contravening provisions of the Act.

Under this Act, the Government has power to appoint Inspectors for performing activities in the defined jurisdiction which includes examining and testing any latrine, open drain or pit or premises, examine any person whom he finds in such premises or place, require any person whom he finds on such premises, to give information about people engaged there as manual scavengers and the agencies appointing them, seize or take copies of such registers, record of wages or notices or portions found relevant.

Safai Karamchari Andolan vs. Union of India, WP (CIVIL) NO.583 OF 2003

An NGO Safai Karmachari Andolan moved Supreme Court in 2003 seeking a declaration stating that manual scavenging and the operation of dry latrines violated the fundamental rights enshrined in Article 14 (Equality before Law), Article 17 (Abolition of Untouchability) and Article 23 (Right Against Exploitation) of the Constitution of India. The petition highlighted poor implementation of the Employment of Manual Scavenging and Construction of Dry Latrines Prohibition Act and sought its implementation. This petition resulted in GoI passing Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.

Court in this case, directed the respondent that, persons included in the final list of manual scavengers shall be rehabilitated as per the provisions of of 2013 Act.

This case highlights the commitment of the law and institutions towards eradicating the practise of manual scavenging.

Act envisages constituting a vigilance committee for each district and sub-division to advise the District Magistrate, oversee the economic and social rehabilitation of manual scavengers, co-ordinate the functions of all concerned agencies with a view to channelise adequate credit for the rehabilitation of manual scavengers and monitor the registration of offences. Monitoring Committees are constituted at both central and state level to monitor and advise the State/Central Government and local authorities for effective implementation of this Act.

Gaps in the Act

There are no specific authority made responsible for rehabilitation and no interim measure till rehabilitation /alternative employment is secured.

Further, it has been made the duty of every local authority to use appropriate technological appliances for cleaning. However, no time period, funds or other directive has been given for such transition of methods of cleaning

Neither the state nor the centre is mandated under the Bill to provide financial assistance for the conversion of insanitary latrines

The key highlights of the Act are as follows;

i. Prohibition of construction of an insanitary latrines or engaging or employing manual scavenger by any person, local authority or any agency
ii. Every person engaged or employed for manual scavenging shall stand discharged immediately from obligation to do manual scavenging.
iii. Every occupier or owner of the insanitary latrines to demolish or conversion thereof into sanitary latrines at his own cost
iv. Prohibition of hazardous manual cleaning of septic tanks and sewers to ensure health and safety of workers engaged in respect thereof
v. All the agreement relating to engaging a manual scavenger entered prior to the Act as shall become void
vi. Penalizes up to five years imprisonment for contravening the provisions of the Act

The Municipality shall undertake following acts of rehabilitation with respect to any manual scavenger:

i. Person identified to be engaged in manual scavenging shall be given, within one month,—
    - a photo identity card, containing, inter alia, details of all members of his family dependent on him, and
    - such initial, one time, cash assistance, as may be prescribed;
ii. their children shall be entitled to scholarship
iii. such person shall be allotted a residential plot and financial assistance for house construction, or a ready-built house, with financial assistance
iv. such person or at least one adult member of his family, shall be given, subject to eligibility and willingness, training in a livelihood skill, and shall be paid a monthly stipend of not less than Rs.3000, during the period of such training such person or at least one adult member of his family, shall be given, subsidy and concessional loan for taking up an alternative occupation on a sustainable basis.

"National Safai Karamchris Finance & Development Corporation"(NSKFDC), an Apex Corporation was set up in January, 1997 under Section 25 of the Companies Act as a 'Not For Profit' Organization for providing financial support in the form of soft loans to safai karmacharis/scavengers and their dependants. NSKFDC is a wholly owned Government Undertaking under the aegis of Ministry of Social Justice & Empowerment.

C. Central Level Policies

a. National Water Policy, 2012

Recognising that the availability of utilisable water is coming under constant strain and expecting this scenario to intensify in future, National Water Policy, 2012 was made.

National water policy for the first time, recognised water for sanitation and hygiene as a problem and recommended **offering incentives for decentralised and water-saving sanitation** and sewerage systems.

The policy addresses issues such as scarcity of water, inequities in its distribution and lack of a unified perspective in planning, management and use of water resources. The respective State water policy is required to be drafted/revised in accordance with this policy.

Basic principles for Sanitation covered as part of this policy are set out below.

- Access to safe and clean drinking water and sanitation should be regarded as a right to life essential to the full enjoyment of life and all other human rights
- Water, over and above the pre-emptive need for safe drinking water and sanitation, should be treated as an economic good so as to promote its conservation and efficient use
- To provide improved water supply in rural areas with proper sewerage facilities
- Reuse of urban water effluents from kitchens and bathrooms, after primary treatment, in flush toilets should be encouraged
- Urban water supply and sewage treatment schemes should be integrated and executed simultaneously. Water supply bills should include sewerage charges.

b. National Urban Sanitation Policy (NUSP)

The National Family Health Survey-3 (NFHS, 2005-06) reported that 17% urban households in India did not have access to any toilets at home, 24% households were sharing toilets, about 27.6% households had septic tanks and 6.1% had pit latrines that were classified as improved. Another 5% toilets were as "Flush/pour flush not to sewer/septic tank/pit latrine"-in other words, human excreta from these installations were being let out untreated into land and water bodies without any confinement or treatment.

A NIUA (2005) study of 300 class I and class II cities noted that…."while all the metropolitan cities have a sewerage system, only a third-of the Class I cities and less than one-fifth of the smaller sized urban centres have a sewerage system, leading to a conclusion that many households will acquire on-site arrangements like pit latrines and septic tanks in cities and locations where sewerage systems are not available.

These situation drew attention for taking necessary steps for proper management of on-site sanitation.

In the above background, in 2008, the Ministry of Urban Development (MOUD) issued the National Urban Sanitation Policy (NUSP).

Definition of Sanitation

Safe management of human excreta, including its safe confinement treatment, disposal and associated hygiene-related practices

Overall Goal of the policy

To transform Urban India into community-driven, totally sanitised, healthy and liveable cities and towns

NUSP has accorded high importance to plan and implement actions for the organised and safe management of faecal matter from on-site installations that hitherto have received limited attention. The septage management under the policy refers broadly not only faecal sludge removal from septic tanks but also that removed from pit latrines and similar on-site toilets. In this regard, NUSP specifically highlights the importance of safe and hygienic facilities with proper disposal and treatment of sludge from on-site installations (septic tanks, pit latrines, etc.) and proper operation and maintenance (O&M) of all sanitary facilities.

NUSP aims to raise awareness; promote behaviour change; achieve open defecation free cities; develop citywide sanitation plans; and provide 100% safe confinement, transport, treatment and disposal of human excreta and liquid wastes.

The NUSP mandates states to develop state urban sanitation strategies and work with cities to develop City Sanitation Plans (CSPs). Further, it explicitly states that cities and states must issue policies and technical solutions that address onsite sanitation, including the safe confinement of faecal sludge. The objectives of NUSP are to be realized through CSPs and state sanitation strategies.

The specific goals envisaged to be achieved under the NUSP and the key areas identified to achieve these goals are as follows:

Specific Goals of the Policy

- Awareness generation and behaviour change;
- Open defecation free cities;
- Integrated city-wide sanitation
- Sanitary and Safe disposal
- Proper O&M of all sanitary installation

i. Awareness Generation and Behaviour Change
   - Generating awareness about sanitation and its linkages with public and environmental health amongst communities and institutions;
   - Promote mechanisms to bring about and sustain behavioural changes aimed at adoption of healthy sanitation practices;

ii. Achieving Open Defecation Free Cities:
   - Promote access to households with safe sanitation facilities (including proper disposal arrangements);
   - Promote community-planned and managed toilets wherever necessary, for groups of households who have constraints of space, tenure or economic constraints in gaining access to individual facilities;
   - Adequate availability and 100% upkeep and management of Public Sanitation facilities in all Urban Areas, to rid them of open defecation and environmental hazards;

iii. Integrated City-Wide Sanitation
   - Mainstream thinking, planning and implementing measures related to sanitation;

- Accord priority to sanitation provision, including planning, implementation and O&M management

iv. Sanitary and safe disposal
- Promote proper functioning of network-based sewerage systems and ensuring connections of households to them wherever possible;
- Promote recycle and reuse of treated waste water for non-potable applications.
- Promote proper disposal and treatment of sludge from on-site installations (septic tanks, pit latrines, etc.);
- Ensure that all the human wastes are collected safely confined and disposed of after treatment so as not to cause any hazard to public health or the environment.
- Proper Operation & Maintenance of all Sanitary Installations

v. Proper Operation and Maintenance of all Sanitary Installations
- Promoting proper usage, regular upkeep and maintenance of household, community and public sanitation facilities;
- Strengthening ULBs to provide or cause to provide sustainable sanitation services delivery

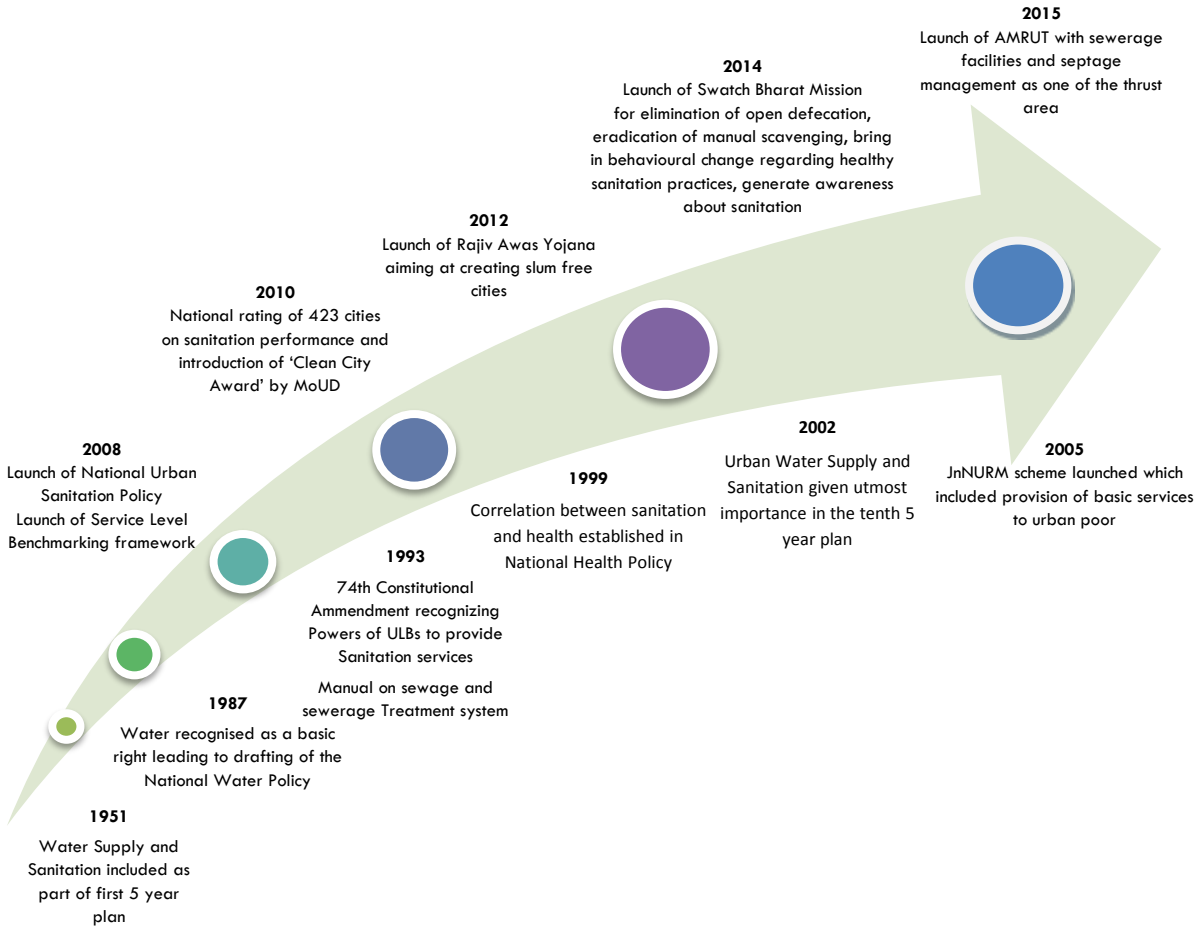
As of now there are very few cities that have finalized their CSPs, and those plans that have been developed have not been implemented. This remains a major drawback in the implementation of the NUSP.

D. Key initiatives and reforms in Sanitation sector

In addition to the above, Government of India has introduced various initiatives, schemes and programmes from time to time for improving the sanitation services of the country. Some of the major initiatives and reforms implemented include the following;

- Manual on sewerage and sewage treatment issued by Central Public Health and Environmental Engineering Organisation (CPHEEO) to guide the practicing engineers dealing with the sanitation sector in the country for achieving the goal of "Sanitation for All".
- JnNURM scheme launched in 2005 with the objective to bring in efficiency urban infrastructure and service delivery mechanism.
- Service Level Benchmarking (SLB) initiative covering water, sanitation, solid waste management and storm water drainage.
- Swatch Bharat Mission was launched in the year 2014 to accelerate the efforts to achieve universal sanitation coverage and to put focus on sanitation. Under the scheme, if the sewerage system is not available within 30 meters from the proposed household toilet, in addition to the construction of the toilet superstructure, funding is available for construction of an on-site treatment system (such as twin pits, septic tanks, bio-digesters, or bio-tanks) for the collection, treatment and/or disposal off sewage at, or near the point of generation.
- Atal Mission for Rejuvenation And Urban Transformation (AMRUT), launched in June 2015 focuses on sewerage facilities and septage management as one of the thrust areas. The key mission component include Faecal Sludge Management- cleaning, transportation and treatment in a cost-effective manner and also emphasise on the mechanical and biological cleaning of sewers and septic tanks and recovery of operational cost in full.

The diagram below represents the evolution of initiatives in the sector over the last few decades.



Review of Best Practises

Some of the key initiatives undertaken in a few countries in the South East & South Asian region with respect to policy/institutional frameowrks have been listed below:

1. Philippines- the national government instituted the National Sewerage and Septage Management Program (NSSMP) as mandated by the Clean Water Act of 2004, to encourage local government units (LGUs) to implement sewerage and sanitation projects. In Baliwag, Philippines, the water district implemented a septage management project on its own, with the local government's role limited to providing the regulatory regime and support to the advocacy campaign. A few cities have local ordinances (Dumaguete and Marikina), others are developing them. Most have sanitation plans, but need to synchronize with the development of the National Sewerage and Septage Master Plan.

2. Malaysia-Considered as the leader in septage management in the region nationalized sewerage services in 1993, transferred all wastewater assets to the federal government, and offered services through a single, private concessionaire, Indah Water Konsortium (IWK) which has successfully established clear guidelines mandating developers to construct their own treatment facilities hence reducing burden on the government for providing the same. The consolidation of sewerage services and empowerment of a single authority-IWK has led to efficient development and reinforcement of its expertise to disseminate its knowledge across the country. Having established a functioning program and infrastructure, the federal government is now deploying a new framework to decentralize responsibilities back to local service providers and integrate the management of water and wastewater resources in each locality.

3. Thailand- The 1992 Public Health Act enacted in the country makes the local governments responsible for managing septage as a solid waste and prohibits illegal dumping. There are various other guidelines published for designing and planning of sanitation facilities.

4. Vietnam- Has enacted the 2009 Orientation on Water Supply and Sewerage Services which provides for regulation on septage mangment. Further, as per the 2008 Building Code, all households are mandated to have a septic tank.

A rapid assessment was conducted to understand the policy frameworks of the countries in the region by USAID in 2010, excerpts of which have been provided in the table below:

	Southeast Asia					South Asia	
	Indonesia	**Malaysia**	**Philippines**	**Thailand**	**Vietnam**	**India**	**Sri Lanka**
National Septage Management Policy	No specific national septage management policy; 2008 national Policy and Strategies on Domestic Waste-water Management: requires increasing the use of existing STPs to 60%	1994 Sewerage Services Act, 2006 Water Services Industry Act: clear, comprehensive language on managing septage	2004 Clean Water Act: requires local governments and water districts to provide septage management or sewer connections; DOH Manual gives implementation guidance	1992 Public health Act: local governments are responsible for managing septage similarly to the solid waste and prohibit illegal dumping. Ministerial regulations guide tank design, and septage col-lection and treatment	2009 Orientation on Water Supply and Sewerage Services calls for septage management regulations; 2008 Building Code: all households must at least have a septic tank	2008 national Urban Sanitation Policy: tasks states and cities to provide 100% safe disposal of human waste	none
Models of local policy	Local parliaments are responsible for implementing policies, but only a few have issued; see Malang's ordinance, and Surabaya's treatment plant regulations; none require regular desludging	none, national management only, though moving towards decentralization	A few cities have local ordinances (see Dumaguete and Marikina), others are developing them. Most have sanitation plans, but need to synchronize with the development of the national Sewerage and Septage Master Plan.	78% of surveyed local governments in Thailand have septage management ordinances, but few require scheduled desludging and few enforce tank design per code.	Water, wastewater, solid waste policies under review, should add septage management, then elaborate and adopt at the local level along with enforcement regulations. See nam Dinh, hCMC local ordinances.	Several states' urban sanitation policy now address this; The recent scheme of AMRUT however considers septage management as a component	Model ordinance in local languages has been developed, but not yet adopted.

	Southeast Asia					South Asia	
	Indonesia	**Malaysia**	**Philippines**	**Thailand**	**Vietnam**	**India**	**Sri Lanka**
Challenges	Lacks national comprehensive management policy; lack of political commitment to accelerate or prioritize sanitation development; little public awareness;	no clear method of implementing SPAn regulations; opening the sector to more service providers could challenge monitoring and enforcement.	national act vague on institutional roles; no common interpretation of the many regulations in this area. Lack of appropriate technology models and baseline data at the local level.	Separation of septage and sewerage management; lack of enforcement; little political concern now that Thailand has 99% access to sanitation. no effluent standards for septage facilities; lack of public awareness; no motivating or enforcement mechanisms.	Lack of national and local policies; limited government and public awareness; no enforcement of existing regulations; lack of experience in formulating desludging regulations.	No city has been able to cover septage management in a comprehensive manner. Lack of political will; politicians, households, and others resist change; limited Inter departmental coordination; no timeline for NUSP; septage is still a grey area.	Lacks national and local policies; and guidelines; models have been developed with USAID assistance but need to be adopted.

The above initiatives indicate a more macro level regulatory intervention. However in a few more cases, it has been observed that the local governments/Municipalities have been proactive in terms of

- Framing new bye-laws for incorporating septage management as one of the basic services
- Formulating a licensing process for regulating services of vacuum tankers
- Setting of additional tariffs, sanitation taxes, cess etc. for making septage management a sustainable business
- Setting up of revolving Sanitation funds to ensure access to the marginalized communities
- Providing subsidies and incentives for environmentally sound practises, output based aids etc.
- Providing unused land for development of FSTP projects etc.

The table below provides details of case studies where such initiatives have been undertaken:

Sl. No.	Project title	Key features	Learnings/key success factors for future initiatives	Reference for further information
1.	Devanahalli Fecal Sludge Treatment Plant, Karnataka	• First Integrated FSM project implemented by the ULB with the support of external funding in the country • Land provided by the ULB while funding for infrastructure obtained by the Bill & Melinda Gates Foundation • Project planning, designing & implementation undertaken by CDD Society • Alternative revenue sources from advertising, co-composting and addition of a small maintenance fee in property tax to make project sustainable	• Comprehensive planning and survey of existing situation is essential to ensure long term sustainability of the project • Public and private cooperation essential for implementation of a city wide initiative • Awareness creation and training of all stakeholders especially the ULB officials on alternative options • Alternative revenue mechanisms for making the projects sustainable which can be achieved through a comprehensive IEC activity • Strong monitoring & regulation of vacuum tank operators to ensure that there is no open dumping of untreated septage	CDD Society, Bangalore Tel No.- +91-(0)80-28486700
2.	Community- based Sanitation (SANIMAS) a community-based development approach to improve access by low-income households to sanitation services in	• SANIMAS projects have been implemented in more than 22 provinces and 100 communities in Indonesia since 2003 • Developed in a partnership of development agency and Government department-BORDA and the partner network in close co-operation with the inter-ministerial Water and	• A complete sanitation value chain planning • Demand responsive approach by the Community itself is essential to ensure success • Standardized implementation practices would need to be planned for future replication • Community self-selection of desired activities	• The Ministry of National Development Planning / National Development Planning Agency (Bappenas), Jalan

Sl. No.	Project title	Key features	Learnings/key success factors for future initiatives	Reference for further information
	Indonesia.	Environmental Sanitation Working Group/BAPPENAS • Community level planning and implementation of sanitation projects beneficial specially for crowded slums	instead of planning by an external entity • Multi-stakeholder funding and contribution • In-build Capacity Development & Training Programs as a part of comprehensive planning • PPP management of infrastructure and facilities through CSR initiatives • Impact monitoring at a regular interval to ensure continued performance	Taman Suropati No.2 Jakarta 10310, Tel. 021 3193 6207 • http://isdb-indonesia.org/project/sanimas-community-based-sanitation-project/ • http://www.borda-sea.org/sanitation-by-communities-sanimas.html
3.	Faecal sludge management in Accra, Ghana	• Integrated FSM project planned at a city level • Partnership between waste management department and local private vacuum truck operators • Public participation by supporting the project and paying increased tariff for better services • Efficient planning for the entire city to cover the un-covered high density areas also	• Tailor-made solutions need to be planned based on the existing situation in the city • Continued cooperation from the ward Corporators, public, RWAs/NGOs & private operators along with the ULB officials very essential for making the project sustainable • Comprehensive IEC activities are essential to garner public support • Efficient contract structuring with promotion of the concept of collection centres can satisfy the needs of public as well as private operators • Conversion of insanitary latrines essential to make project successful	• http://www.eservices.gov.gh/ • http://www.ircwash.org/sites/default/files/Boot-2008-Use.pdf
4.	Kitakyushu Wastewater Management (JAPAN)	• Combined sewer system planned for the city • The central government provides subsidies at fixed rates, which depend on the type of facilities. • The funding of unsubsidized facilities is done through local bonds and the general account of the local government. Residents also partly	• The development of a legal and financial support system from the central government was a powerful incentive for sewerage implementation. • Local government also provided subsidy through the municipal bonds. • Tariff offset by the government subsidies	• https://www.city.kitakyushu.lg.jp • Financing mechanism for wastewater and sanitation, ADB, 2016

Sl. No.	Project title	Key features	Learnings/key success factors for future initiatives	Reference for further information
		pay for the capital cost through beneficiary contribution • Sewerage Finance Research Committee (SFRC) determines the fundamental principle for the financing of sewage works according to socioeconomic conditions • Cost of project was shared between municipality bonds (65% of total cost), subsidies from the central government (26%), beneficiary contribution (3%), and the general account of the city (6%) • At the time of bond repayment by local governments, the law authorizes about 50% redemption with the tax revenue allocated to local governments for this purpose	making the project viable • Appropriate cost and risk sharing among public and private parties • Adoption of combined sewer system • Strong monitoring and regulation	
5.	Increasing Household Access to Domestic Sanitation in Greater Colombo, Sri Lanka	• Sanitation services to low income groups with external funding by GPOBA, a multi-donor trust fund administered by the World Bank • performance-based subsidies disbursed on the basis of realized pre-agreed outputs, after an independent verification of their eligibility for financing under the project • Concept of universal sanitation services combining both on-site and off-site systems • Household contribution of reduced access fee	• Encourage partnership in terms of investments by both service providers as well as service beneficiaries • Performance based and time bound subsidies encourage timely completion of works • OBA payments and contracts have to be packaged in a way that incentivizes sustainable service delivery alongside the entire sanitation value chain • Strong monitoring and regulation key to success of performance based financing	• https://www.gpoba.org/project/P111161 • GPOBA- OBA Working Paper series, 2010 • Financing mechanism for wastewater and sanitation, ADB, 2016
6.	Carbon Credits for the Kinoya Sewerage Treatment Plant (FIJI)	• methane capture and combustion project have a major impact on development • of similar and other potential renewable, projects eligible under the Clean Development Mechanism (CDM) • Asia Pacific Carbon Fund (APCF) cofinances carbon savings through up-front payment against the purchase of CERs to be generated	• First of its kind project in the pacific under the CDM category • Additional revenue benefits for the Authority through Certified Emission Reductions (CER) • Cross subsidization of other non-profitable/unsustainable services possible by such mechanisms	• http://pacific.acp-cd4cdm.org/media/322130/fiji_kinoya-sewerage-treatment-plant.pdf • https://cdm.unfccc.int/Projects/DB/TUEV-SUED1299488431.

Sl. No.	Project title	Key features	Learnings/key success factors for future initiatives	Reference for further information
		by the project • Project part financed by ADB • Local acceptance of project as it eliminated the issue of bad odour in open treatment plants	• Useful for highly industrialized cities/towns	41/view • http://www.waterauthority.com.fj/ • Financing mechanism for wastewater and sanitation, ADB, 2016
7.	National Biodigester Program in CAMBODIA	• Project undertaken under Cambodia's National Biodigester Program, which is being managed by the Ministry of Agriculture, Forestry, and Fisheries, aims to disseminate domestic biodigesters as indigenous, sustainable energy source through the development of a commercial, market oriented biodigester sector in selected provinces • Funding by Dutch Ministry of Foreign Affairs, through their Asia Biogas Program and GIZ • Funding allocated to program establishment and maintenance, information, education, and communication activities, and a flat rate subsidy on the cost of the bio-digesters for farmers • Project involved cooperation from many partners ranging from local governments, to research institutes, learning centres, entrepreneurs etc.	• Sustainability of such programs depend on a comprehensive framework involving banks, business houses, MFIs, technology institutions, IEC players etc. • Local monitoring key to continuity and success of projects • Participation of local NGOs essential for widespread use of biodigestors	• http://nbp.org.kh/ • Financing mechanism for wastewater and sanitation, ADB, 2016 • http://www.snv.org/project/national-biodigester-programme-nbp-cambodia
8.	Sanitation Revolving Fund in Vietnam	• Revolving fund for building on-site sanitation facilities for low-income households • Working capital for the revolving funds was provided by the World Bank, the Government of Australia, the Government of Finland, and the Government of Denmark • Small loans provided over 2 years at partially	• Concept of revolving funds proved highly sustainable with a high repayment rate of 99% • Attractive lending procedures help as catalyst for households to take interest • Creation of Savings and Credit groups was seen as critical to ensure repayment of the	• https://www.wsp.org/.../WSP-Financing-On-Site-Sanitation-Vietnam-Case-Study • http://wspst.org.vn/en/sanitation-

Sl. No.	Project title	Key features	Learnings/key success factors for future initiatives	Reference for further information
		subsidized rates to low-income and poor households to help them construct or improve on-site sanitation facilities, mainly individual septic tanks and urine-diverting and/or composting latrines, or to build sewer connections • Program also included a significant software support component for sanitation promotion, the creation of Savings and Credit groups, and hygiene education • Women unions appointed to administer funds • Services of Savings and Credit groups and Revolving fund management boards used in each city	loans and regular savings contributions	revolving-fund/other-activities/sanitation-revolving-fund.html • Financing mechanism for wastewater and sanitation, ADB, 2016 • https://m.talkvietnam.com/tag/revolving-funds/

Suggested reading

1. Primer on Faecal Sludge and Septage Management, Ministry of Urban Development, Government of India
2. Advisory Note on Septage Management in Indian Cities, Ministry of Urban Development, Government of India (available in the url- http://moud.gov.in/advisory)
3. "Guidelines for Decentralized wastewater management" prepared by MoUD Centre of Excellence in DWWM, Department of Civil Engineering, Indian Institute of Technology Madras, December 2012 (available in the url- http://moud.gov.in/advisory)
4. "Sceptical about Septage", Down To Earth, State of India's Environment 2015(available in the url- www.cseindia.org/userfiles/sceptical-about-septage.pdf)
5. Policy Paper on Septage Management in India, Centre for Science and Environment
6. Realising the Right to Sanitation in Rural Areas, IELRC policy Paper