DRAFT POLICY ON FAECAL SLUDGE MANEGEMENT FOR LEH TOWN

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MCL
Municipal committee of Leh

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LEDeG (Ladakh Ecological Development Group) works on promoting ecological and sustainable development that harmonises with and builds upon local traditions and culture of Ladakh .
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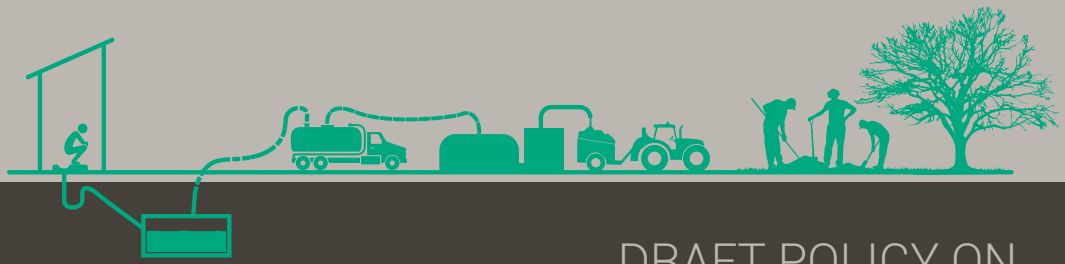

DRAFT POLICY ON **FAECAL SLUDGE MANEGEMENT** FOR **LEH TOWN**

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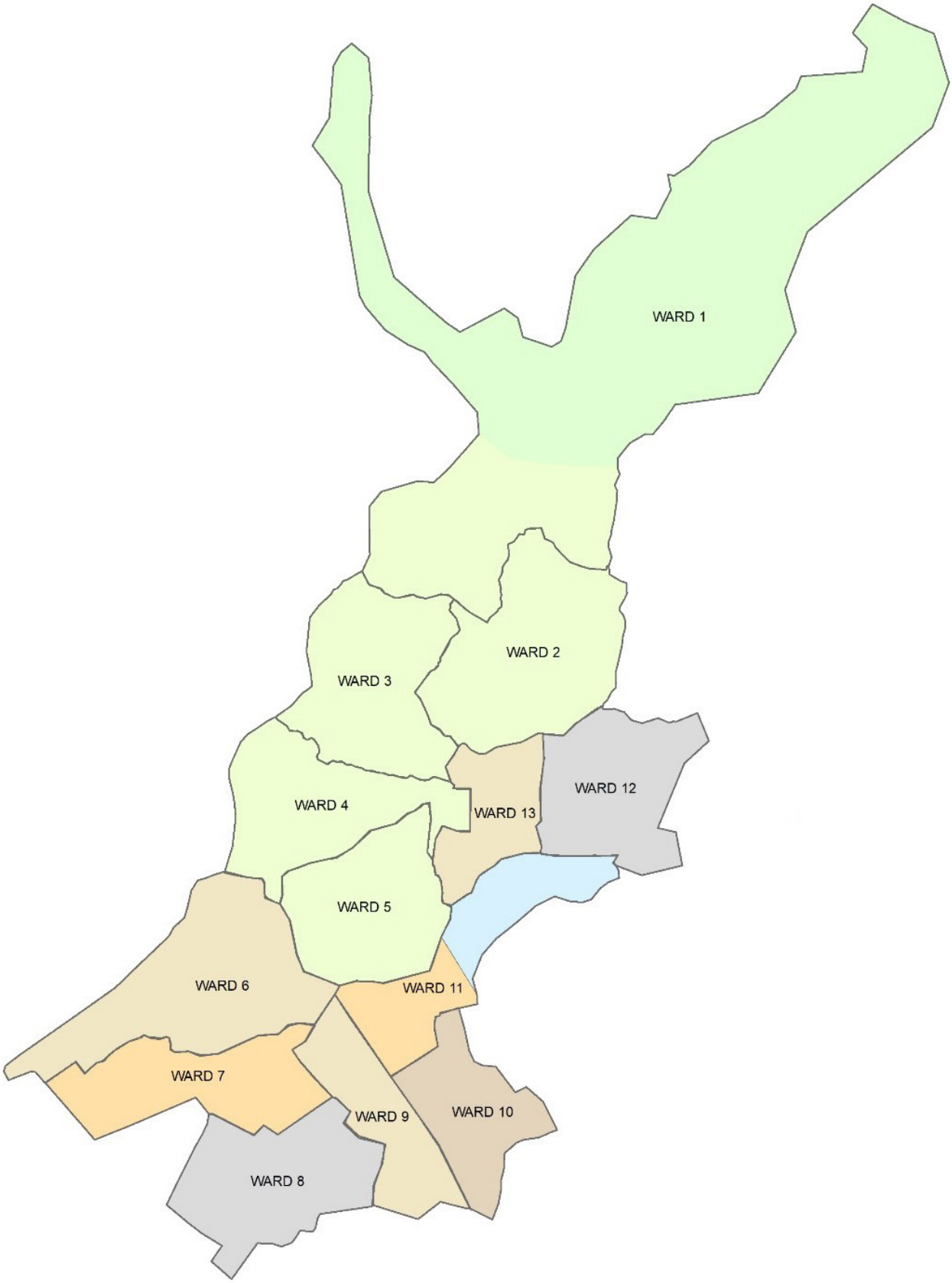
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Introduction:

Under the Sustainable Development Goal, India is required to provide safe and healthy environment to its native. Hygiene and sanitation practice are highly significant to make sure healthy lives and help well-being for all ages. Sanitation is one of India's major problem and the main issue in urban region. Domestic effluent is different from faecal sludge as faecal sludge consists mostly human excreta instead of waste that discharges from bathroom, housecleaning and bathroom etc.

Faecal Sludge and Septage Management is the method of safe collection, conveyance, treatment and disposal/ reuse of faecal sludge and septage from onsite sanitation systems such as pit latrines, septic tanks, etc. It managed the mixture of human waste (solid and liquid) that is not transported by a centralized sewerage system. A normal FSSM system consists of mechanized desludging of a septic tank/soak pits by a suction emptier machine, which then stores the collected waste in a closed container and transport it to a treatment facility. At the treatment facility (either a dedicated FSTP or co- treatment in STP), the faecal sludge undergoes various stages of physical, chemical and biological treatment. Some efficient treatment facilities also incorporate resource recovery (methane, reuse of treated wastewater, manure/ soil conditioner, etc.) in the treatment process. The final residual product from the treatment plant is either recycled/reused or disposed safely in the surrounding environment that would comply with all pollution and quality standards. There can be various deviations from this process at different stages of the sanitation value chain depending upon the site situation, techno-economic feasibility and capacities of the operators & regulators.

Figure 1: Flow diagram of Faecal Sludge Management

Sanitation status in Leh town:

Under the Sustainable Development Goal, India is required to provide safe and healthy environment to its citizens. Safe sanitation practice is extremely necessary to ensure healthy lives and promote well-being for all ages.

As per the 2011 Census, Leh has a population of 30,870 and town has 13 municipal wards. In 2017 a modern faecal sludge treatment plant (FSTP) was commissioned by MCL to combat faecal sludge and septage contamination of water resources. Tourism and hotel industry have led to a construction booms in hotels and infrastructure. The town has high in-migration, due to large magnitude of economic opportunities available. Sewerage remains the gold standard of sanitation services in Leh town despite major shortfalls in coverage and underutilization of existing capacity. In 2017, MCL and BORDA implemented a first in India public private partnership for turnkey design, construction, set up and operations of city-wide faecal sludge management services. It is established in Leh to scientifically clean septic tanks and dry soak pits and treat the septage and faecal sludge from these. It has a treatment capacity of 12,000 litres per day. The Faecal Flow Diagram (FFD) reveals that over 600 tanks and pits have been cleaned and 1,600 loads collected so, an average of 2.6 loads per septic tank. The plant has prevented around 5 million litres of concentrated faecal sludge from being discharged into the environment. Also, there are various challenges in providing FSM services in the town: streets are narrow and its difficult for the suction to reach septic tanks, and low air pressure reduces efficiency of motors and making it difficult to pull sludge long distances. Currently important progress has been made by PHED in upgrading the water supply network, expanding water supply sources, laying a sewer network, and planning a sewage treatment plant (STP). New sewage treatment plant of capacity 3 MLD at a cost of Rs 14 crore, including 3 years of operations and maintenance is under construction and will cover only 40% of the town, mostly densely populated areas. It is located near by the Indus river outside Leh, and treated water can't easily be reused and will be drained into the river.

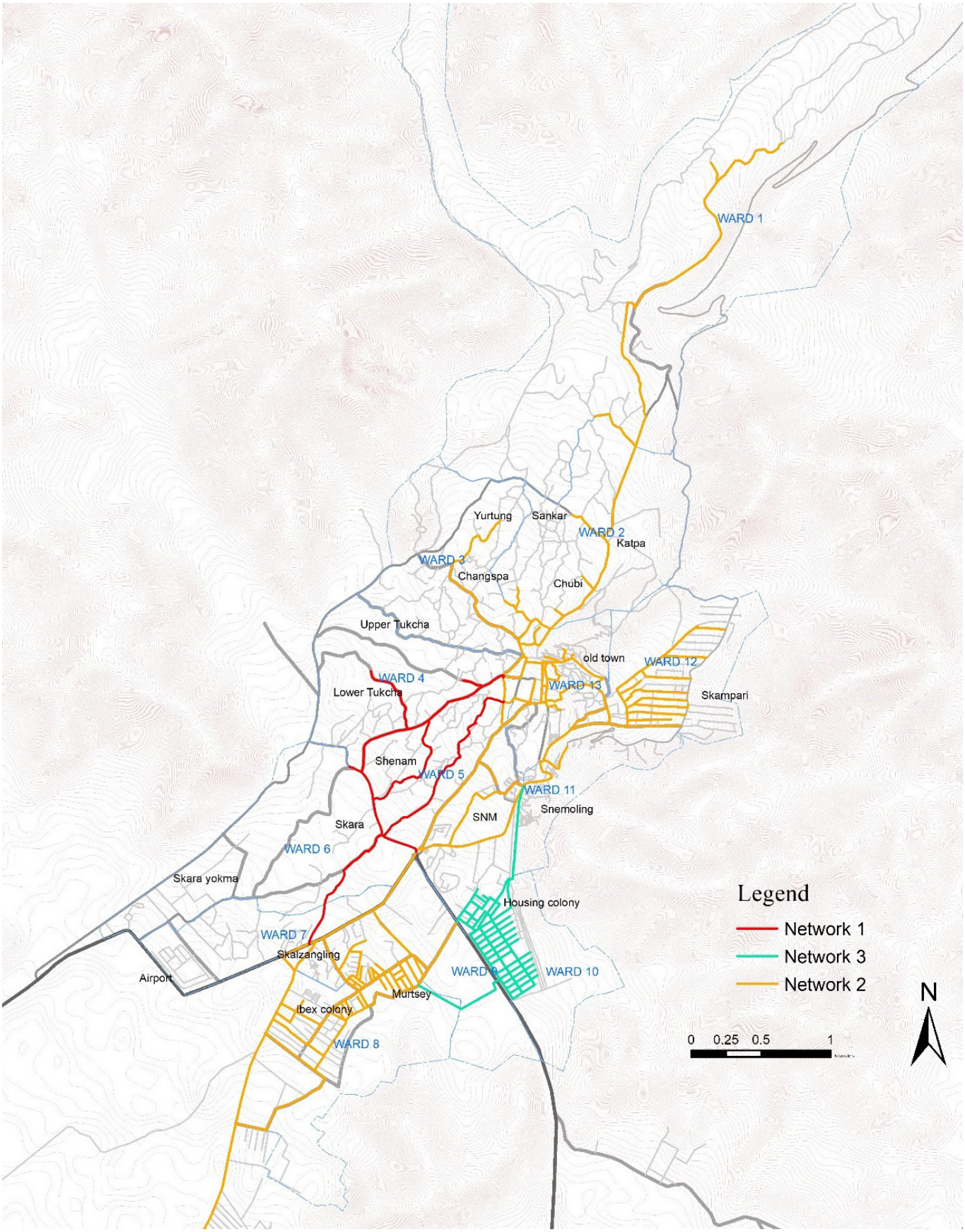

Figure 2: Sewerage Network system in Leh town

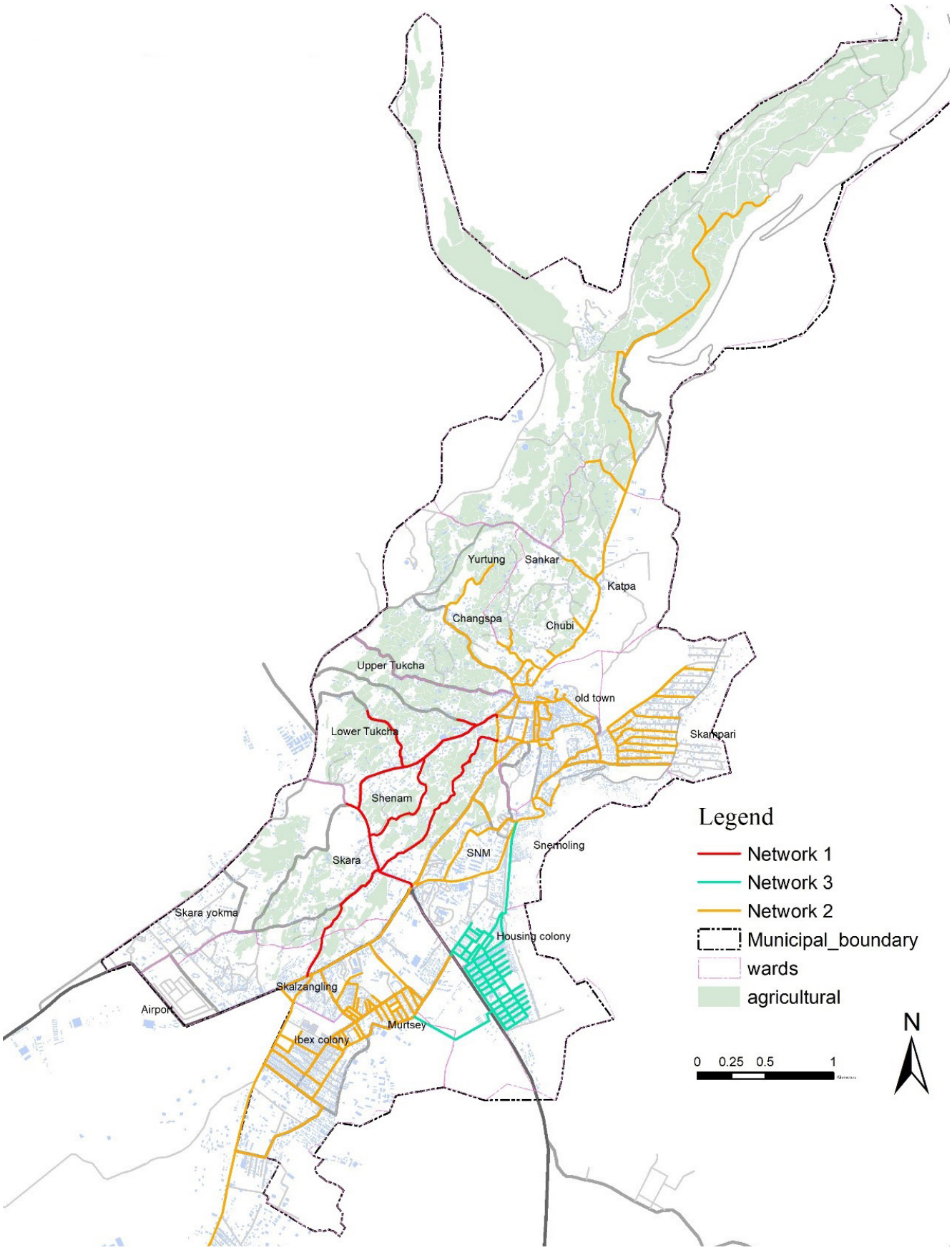

Figure 3: Sewerage network coverage in Leh town

Key issues and Challenges

- Most of the septic tanks present are not constructed as per the standard specifications, leading to varying sizes, partial lining, frequent failures, leakages/ contamination of water bodies or soil etc.

- Most households only call for septic tank cleaning services when the tank is overflowing or on the verge.

- The frequency of desludging typically varies from 5 - 10 years due to irregular sizes and usage pattern, which far exceeds the prescribed interval of 2-3 years as recommended by CPHEEO Manual, Ministry of urban development (MoUD) advisory on Septage management (2013).

- Private desludging operators are generally unregistered and lack necessary training to safely carry out these cleaning services. There are no standards or specifications for equipment and trucks, which are custom built with sub-par material. Once the waste is collected by the operator, it is disposed arbitrarily, usually in natural streams, rivers, open land or even inside existing Sewers.

- Uniform lack of awareness and capacities for Faecal Sludge and Septage Management in Leh town, especially among the residents, service providers and the ULBs.

- Active participation and organization are missing among the residents- limited knowledge on FSSM practices, no community level monitoring of existing operations, untimely desludging of septic tanks by households, prevalence of undesirable toilet hygiene and usage, construction of onsite systems not at par with standards, etc.

- ULBs not properly introduced to planning for FSSM, technologies, standard procedures, management framework, manpower requirements, etc., and thus are unable to take necessary action/initiatives.

- The private desludging operators do not follow the mandate to wear safety boots, goggles, gloves and mask while carrying out the desludging operations which exposes them to the risk of getting injured and infected in the process. It is uneconomical for the operators to treat the waste themselves before disposing it. They are also partly unaware of its hazardous consequences.

Climate considerations & Suitable Containments

- Climate considerations while constructing the containments is lacking. Leh, is a cold arid zone while constructing septic tanks and laying pipes, insulation needs to be provided in order to prevent the septage from freezing. Lack of awareness among people about what should be done to prevent the septage from freezing, how to check if the septage has frozen.

- Most stakeholders (such as various state government departments, ULBs, residents, desludging operators, service providers, etc.) are not up-to-date on latest developments in FSSM - modern technologies, standard construction techniques, operating procedures, safety & hygiene safeguards, etc.

- Toilet systems – such as septic tanks, pit pour flush latrines, etc. are not constructed as per design specifications – BIS and NBC, and thus there are frequent incidences of leaks, freezing of septage in cold climate, breakages, failures and contamination of soil, air and water.

- Most of the time desludging operators and Service providers are not properly trained and do not use safety equipment during operations.

Institutional Framework

- Absence of dedicated service level benchmarks for FSSM

- Limited availability of Standard Designs, Operating Procedures, Guidelines, Manuals, dedicated norms, etc. for city-wide FSSM to aid the ULBs for effective planning and implementation.

- The private operators are not licensed which leads to informal service delivery and illegal dumping of the collected sludge in drains and on open land without necessary treatment. be done to thaw the frozen septage and what should not be done in such circumstances. This leads to mishandling of the sludge at the containment level and it can lead to pollution and health hazards.

- No technological provisions to treat the waste in extreme cold and temperate climate.

Need for City FSSM Policy

Looking at the current baseline, it is important that departments responsible for managing the portfolio of public health, may undertake necessary precautionary measures, so that Leh town's citizen are not adversely affected. Bearing this in mind, MCL's earnest effort has been to contain the ill effect of the disposal of faecal matter directly into the environment. There is need to take necessary steps and it is with this view this that the FSSM policy is being conceived and prepared. The National urban sanitation policy (NUSP) of 2008 provides a vision for healthy and liveable cities and outlines different elements that are needed to achieve the vision. While the design standards and guidelines for construction of toilets, septic tanks have already been given and published by the Bureau of Indian Standards (BIS), attention in terms of treatment of septage requires to be addressed in the current scenario. The National FSSM Policy, 2016 provides a framework to managing faecal sludge across the sanitation value chain by cities. The CPHEEO also has provided guidance notes for treatment of septage and faecal sludge with its Sewerage Manual of 2013. The last two years of SBM implementation too has provided incentive towards creating awareness, building capacities of the officials and developing infrastructure to achieve ODF. The Government of Andhra Pradesh also in 2017 adopted an integrated approach to wastewater management allowing cities to jointly manage liquid wastewater and septage in an appropriate manner. Given this overall enabling environment and quantum of households' dependent on septic tanks, MCL proposes a holistic approach for faecal sludge management as a way forward. This policy document outlines the measures Leh town envisages towards preparedness to handle the sanitation value chain, beyond treatment methods. MCL meanwhile has also been preparing itself by conducted training programmes, capacity building workshops, monitoring and evaluation plan, financial planning to support the roll out of its policy.

Objective & Scope:

The key objective of the FSM Policy is to set the context, priorities, and direction for, and to facilitate implementation of FSM services in the ULBs such that safe and sustainable sanitation becomes a reality for all in each and every household, street, town and city in Leh town.

- Suggest and identify ways and means, including the methods and resources, towards creation of an enabling environment for realising safe and sustainable FSM in Leh town

- Define the roles and responsibilities of government entities and agencies, and of other key stakeholders such as the private sector, civil society organisations and citizens for effective implementation of FSM services

Objective:

The vision enunciated by Leh town is as follows, "All the inhabitants falling under the MCL area will live in a city that is free from health hazards, environment pollution and shall be adopting the best practices in sanitation". It provides for a targeted attention desirous for improved onsite sanitation services together with faecal sludge and septage management for benefitting the whole city with focus on the urban poor. The aim of this policy is to establish FSSM as a central component in delivery of safe sanitation service in Leh town by creating a favourable environment for its effective implementation in a pragmatic, sustainable and participatory manner. Leh town through this FSSM Policy enunciates and set priorities, commitments and direction for city-wide implementation of FSSM services in all the areas of MCL, such that safe and sustainable sanitation becomes a reality for all households. More specifically, the Policy will:

- Mainstream FSSM in the city by the year 2018. Ensure that all benefits of wide access to safe sanitation accumulate to all citizens across the sanitation value chain with containment, extraction, transportation, treatment, and disposal / re-use of all faecal sludge, septage and other liquid waste and their by-products and end-products.

- Ensuring timely and safe collection and transport of faecal sludge and septage.

- Complete treatment of all collected waster and ensure resources recovery.

- Suggest and identify ways and means, including the methods and resources, towards creation of an enabling environment for realising safe and sustainable FSSM in the town.

- Define the roles and responsibilities of various government bodies and agencies, and of other key stakeholders such as the private sector, civil society organisations and citizens for effective implementation of FSSM services throughout the town.

- While not compromising on the eventual compliance to the strict environmental discharge standards already set, it shall be recognising the constraints in achieving these standards, it will help in adopting an appropriate, affordable and incremental approach towards achieving these standards.

Scope:

This policy shall apply to all the areas within MCL whether public or private, residential, commercial, institutional, industrial, proposed/ planned or existing.

Key areas of improvement to be addressed while formulating policy for FSSM

While onsite sanitation is predominant in the city, there are key gaps in its implementation across the sanitation service chain. The gaps and consequences on lack of access to toilets are well reported, but the issues relating to septage collection, conveyance and treatment remain largely unknown and unaddressed. Apart from a series of technical challenges associated with faecal sludge emptying, transport and treatment, inadequate political, organizational and regulatory synergies are some areas that also need attention as Leh town moves forward in managing this service. There is urgent need to take appropriate measures to address these issues so that successful implementation is carried out and the goal is achieved. A summary of issues that requires to be addressed also provides the city an opportunity to reform and improve overall services delivery system, are:

- Reaching the unserved and poor
- Improving demand responsiveness
- Scope for integrated city-wide approach
- Strong legal and regulatory framework
- Improvements to city financial capacity
- Increasing awareness of all stakeholders
- Potential for of concerted action between stakeholders
- Technology choices

Gaps and issues in urban sanitation

Urban sanitation in India faces many challenges. Lack of adequate sanitation remains a major cause of disease in many developing countries. There are major gaps and consequences of lack of access to toiles are well reported, those related to septage collection, transportation and conveyance largely remains unknown and unaddressed.

- **Proper guideline:** There is no local guidelines regarding construction of septic tanks. Also no guidelines regarding their location – Septic tanks are often very close to water sources, hand pumps within a house. Building approval does need a septic tank plan, but no standard design provided and also there is no verification of construction.

- **Inappropriate tank sizing and design:** Incorrect sizing and construction of septic tanks. Most of the containment units are just simple soak pits. Our study showed only 9% of containment unit properly constructed. Septic tanks connected to individual toilets are often oversized due to lack of awareness among construction contractors about the design norms. These tanks do not meet the standards prescribed in the National Building Code

- **Plant capacity:** Building approval does need a septic tank plan, but no standard design provided. Plus no verification of construction. Municipal Committee Leh does have the in-house technical expertise or band-width to verify

- **Limited access to tanks:** Septic tanks are often placed under toilets, or are sealed, or cemented over, making it difficult to access them for cleaning/ emptying which dis-incentivizes their frequent cleaning

- **Lack of data for schedule cleaning:** Lack of good quality data on type, size, location of containment units hamper the schedule cleaning. for example, insufficient suction emptier trucks and number of containment units soak pit/septic tank to ensure regular cleaning/ emptying of septic tanks

- **Lack of formal private players:** Blue Water Company (BWC) is only private player in the field as of now. There has to be more of the competitive player for emptying and disposal of the Faecal Sludge. More player in the field will institutionalize best practices and regulations, which prevents establishment of norms around scheduled and safe cleaning

- **Treatment and Disposal:** Typically, most small-medium towns and cities lack adequate centralized/ decentralized facilities and designated sites for sewage and for septage treatment and disposal. As a result, all sewage is dumped without treatment into the rivers, while untreated sludge and septage is disposed of in a dumping ground.

- **Lack of awareness:** There is a lack of awareness among the general public on faecal and septage management.


Happiness doesn't come from what we get,
but from what we give.
Give us yourshit. Be happy.
LEH: BEAUTIFUL. SUSTAINABLE. RESILIENT.


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National Guidelines on FSSM:

Ministry of Housing and Urban Affairs (MoHUA) recognizes that the end objectives and corresponding benefits of SBM cannot be achieved without proper management of faecal sludge and septage across the sanitation service chain.

MoUD and a host of research and civil society organisations jointly drafted and signed a National Declaration on Faecal sludge and Septage management (FSSM) on 9th September, 2016. Pursuant to the Declaration, this FSSM Policy is being promulgated to address the gaps and provide the necessary directions to diverse stakeholders engaged in provision of FSSM services.

Awareness Generation and Behaviour Change: Generating awareness about faecal sludge and septage management and its linkages with public and environmental health amongst communities and institution.

Legislative & regulatory perspective:

Central Laws and Regulation:

The legal context for FSSM includes municipal building byelaws, environment laws, laws for the legal prohibition of "manual scavenging" and institutional laws that provide for the establishment, powers and functions of local authorities. The first category, which includes the ***Municipal Law, the Environment (Protection) Act, 1986*** and the ***Water (Prevention and Control of Pollution) Act, 1974*** provide a framework for control of effluent, sewage and septage discharge. Further, the ***Solid Waste Management (SWM) Rules, 2016*** under the Environment (Protection) Act apply to the final and safe disposal of post-processed residual faecal sludge and septage to prevent contamination of ground water, surface water and ambient air. Further, the SWM Rules 2016 will also apply for disposal and treatment of faecal sludge and septage, before or after processing, at landfills and for use as compost. The provisions of the ***National Building Code of India published by the Bureau of Indian Standards (BIS)*** as applicable for Septic tanks, soak pits, cess pools, leach pits, drainage fields etc.

Water pollution act 1974:

The government formulated this act in 1974 to prevent the pollution of water by industrial, agricultural and household wastewater that can contaminate our water sources. Wastewaters with high levels of pollutants that enter wetlands, rivers, lakes, wells as well as the sea are serious health hazards.

The main feature of the Water Act is the control of pollution through a permit or "consent administration" procedure. Discharge of effluents into water bodies was only allowed by obtaining the consent of the State Board, within restrictions it poses.

It is important to note that under the Indian Constitution, Water is a state subject. The Central Government cannot pass any legislation pertaining to state subjects unless such a legislation is approved by State Governments. This Act was passed after a majority of states of India (Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Rajasthan, Tripura and West Bengal and the Union territories) accepted this legislation.

Controlling the point sources by monitoring the levels of different pollutants is one way to prevent pollution, by punishing the polluter. Individuals can also do several things to reduce water pollution such as using biodegradable

chemicals for household use, reducing the use of pesticides in gardens, and identifying polluting sources at work places and in industrial units where oil are or other petroleum products and heavy metals are used.

Excessive organic matter, sediments and infecting organism from hospital wastes can also pollute our water. Citizen needs to develop a watchdog force to inform authorities to appropriate actions against different types of water pollution. However, preventing pollution is better than trying to cure the problems it has created, or punishing offenders.

The main objectives of the Water Act are to provide for prevention, control and abatement of water pollution and the maintenance or restoration of the wholesomeness of water. It is designed to assess pollution levels and punish polluters. The Central Government and State Government have set up PCBs to monitor water pollution.

The Water Act, 1974 with certain amendments in 1978 is an extensive legislation with more than sixty sections for the prevention and control of water pollution. And again amended in 1988 Amendment made it conform closely to the provisions of the Environment Protection Act, 1986. Among other things, the Act provides for constitution of central and State Boards for preventing water pollution, power to take water samples and their analysis, discharge of sewage or trade effluents, appeals, revision, minimum and maximum penalties, publication of names of offenders, offences by companies and Government departments, cognizance of offences, water laboratories, analysis etc.

Prevention and control of water pollution is achieved through a permit or 'consent administration' procedure. Discharge of effluents is permitted by obtaining the consent of the State Water Board, subject to any condition they specify. Any person who fails to comply with a directive of the State cannot, however, entertain in suit under this Act unless the suit is brought by, or with the sanction of the State Board.

Water Pollution Cess Act, 1977 According to this Act, anyone consuming water has to pay certain amount of cess depending on:

1. Whether the industry is using water for industrial cooling, spraying in mine pits or boilers feed,

2. For domestic purposes

3. In processing, whereby water gets polluted and pollutants are easily biodegradable.

4. In processing whereby water gets polluted and the pollutants are not easily bio-degradable and are toxic.

Those industries that had installed a suitable treatment plant for the treatment of industrial effluents can get a rebate of 70 per cent on the cess payable.

The Act has 64 sections compiled in VIII chapters. Chapter II establishes the Central and State Pollution Control Boards; Chapter IV describes the powers of the Boards; Chapter V explains steps to prevent and control water pollution; and Chapter VII describes penalties and punishment procedure when these rules are flouted.

Important features of the Water Pollution Act

Let us take a look at the main Sections of the Act.

- **Section 3 and Section 4:** Constitution of the Central Pollution Control Board and State Pollution Control Boards, respectively, are provided the authority to exercise the powers conferred to them under this Act.

- **Section13:** constitution of a joint board under this section, the Act recommends the constitution of a joint board for pollution control of there is an agreement between (a) two or more state government of contiguous states or (b) Central Government (representing one or more union territories) and state governments contiguous to one or more union territories.

- **Section 16:** Functions of the Central Board are described, some of which include:

    1. Advise the central government on any matter concerning the prevention and control of water pollution.
    2. Co-ordinate the activities of the State Boards and provide technical assistance and guidance
    3. Collect, compile and publish technical and statistical data relating to water pollution
    4. Establish or recognise a laboratory to enable the Board to perform its function under this section efficiently including the analysis of samples of water from any stream or well or of samples of any sewage or trade effluents.

- **Section 17:** Functions of the State Board are explained, some of which include:

    1. Plan a comprehensive programme for the prevention, control or abatement of pollution of streams and wells in the state and to secure the execution
    2. Advice the state government on matters of water pollution
    3. Inspect and lay down, modify or annual effluent standards for the sewage and trade effluents.
    4. Evolve economical and reliable methods of treatment of sewage and trade effluents

- **Section 19:** If the State Board feels that the provisions of this Act need not apply to some parts of the State, it may recommend the State Government to do so.

- **Section 20:** This section provides power to the State Board to appoint person(s) on its behalf to take surveys of any area and gauge and keep records of flow, volume and other characteristics of streams and wells to perform its functions dutifully.

- **Section 33:** This section gives power to the Boards to appeal to the courts to restrict certain actions, if it feels that it is likely to cause harm to water resources in an area. The court has the power to decide for or against such an application.

- Under the Chapter for penalties, various penalties are described pertaining to the contravention of provisions of different Sections of this Act. For example, *under Section 41, Whoever fails to comply with any order issued under clause (c) of sub-section (1) of section 32 or any direction issued by a court under sub-section (2) of section 33 or any direction issued under section 33A shall, in respect of each such failure and on conviction, be punishable with imprisonment for a term which shall not be less than one year and six months but which may extend to six years and with fine, and in case the failure continues, with an additional fine which may extend to five thousand rupees for every day during which such failure continues after the conviction for the first such failure.*

- **Section 51 and Section 52:** Under these Sections, the Act sets up the Central Water Laboratory and State Water Laboratory respectively.

- **Section 58:** Bar of jurisdiction- this bars the civil courts any jurisdiction in entertaining matters pertaining to appeals under this Act, by stating that *"No civil court shall have jurisdiction to entertain any suit or proceeding in respect of any matter which an appellate authority constituted under this Act is empowered by or under this Act to determine, and no injunction shall be granted by any court or other authority in respect of any action taken or to be taken in pursuance of any power conferred by or under this Act."* This effectively means that no person working to uphold this Act can be charged with offenses under the Act.

Notably missing from this Act is any provision to prevent pollution of groundwater resources. Further, non-point sources of water pollution from agriculture and discharge water from municipal sources are also not considered yet (both of which have become major sources of pollution today).

The Central Water Pollution (Prevention and Control) Act 1974 provides for the establishment of Water Pollution Control Boards at the Centre and state level. State Pollution Control Boards now exist in all states except Nagaland and Arunachal Pradesh. One of their functions is to inspect sewage, works and plants for the treatment of sewage and to review plans and schemes relating to the system for disposal of sewage. These boards are also entrusted to lay down standard of wastes to be dis- charged into water bodies.

Roles & Responsibilities:

MCL and households are the key stakeholders in the overall process of FSSM. They perform different roles given the context and interfaces they are exposed to.

Lead roles of households-

- Timely and regular cleaning of septic tanks through approved entities
- Regular maintenance and monitoring of septic tanks
- Timely payment of user fee and/or charges, if any, towards FSSM services
- Ensure Building Byelaws for construction of OSS (onsite sanitation) are followed
- Practice of Septage Byelaws as issued by the MCL

Lead roles of ULB:

- Design, develop, plan and implement ULB (Urban local bodies) level FSSM strategy
- Set up and ensure operation of systems for 100% safe and sustainable collection, transport, treatment and disposal of faecal sludge & septage
- Develop expertise, in-house and outsourced, to provide safe and effective FSSM services
- Awareness and behaviour change campaign to engage diverse stakeholders
- Develop training programmes for masons to build requisite skills for construction of quality septic tanks as per BIS / NBC (National Building Code) norms
- Set up systems to ensure financial sustainability in provisioning of FSSM services
- Achieve the objectives of FSSM Policy in a timebound manner
- Design and implement plans to eliminate manual scavenging and rehabilitate the manual scavengers
- Funding through specific schemes and plans
- Monitor and evaluate FSSM strategy and develop its implementation plan
- Implement Municipal Byelaws and Septage Byelaws.

Call Centre for Faecal Sludge Treatment Plant (FSTP):

Call centre of FSTP is a centralised office in place for receiving demands for desludging services and enquiries by making it convenient for the customers. Call centre is being operated by a Blue Water Company to administer incoming call and offer the services for emptying the septic tank or information enquiries from consumers.

Implementation strategy:

Faecal sludge and septage management (FSSM) for the local bodies includes both residential and non-residential/ commercial waste (but not including industrial waste). Implementation guidelines are vital as it provides direction, with knowledge, procedure and facilities for the efficient management of FSSM practices.

Expected Outcome:

As this Policy is implemented across the town, it is expected to yield significant benefits in terms of improved public health indicators and service level benchmarks, reduced pollution of water bodies and groundwater, and resource recovery leading to reuse of treated waste and other end products. Envisaged outcomes are;

- Safe containment, collection and conveyance of 100 percent human waste to treatment and disposal sites
- Cost effective solutions for management of human waste through integrated network sewerage and faecal sludge septage management.
- Clarity among different stakeholders on identifying and implementing best and economically viable sanitation solutions.
- Improvement in technical capability among ULB staff to effectively implement city FSSM.
- Scheduled emptying of septic tanks or other containment systems at an interval of 3 years as recommended by CPHEEO sewerage and sewage treatment manual and the (Ministry of urban development) MOUD advisory on septage management (2013).
- Safe disposal of all collected faecal sludge and septage at designated sites.
- Continuous improvements in efficiency and effectiveness in the whole FSSM chain: collection, treatment, containment, conveyance and disposal
- Containment of water bodies and groundwater from human waste (Faecal matter) reduced to zero levels in all the towns and cities.
- Nuisance from faecal sludge reduced to minimum levels, resulting in nuisance- free living space in the city.
- Maximum reuse of treated sludge as fertilizer in garden and farmlands, reuse of treated sewage, as source of energy where feasible and any other productive uses.
- Drastic reduction in incidences of diseases due to safe and sustainable FSSM services.

Policy Evaluation:

This Policy shall come in to force from the date of issue of this resolution. Policy may be reviewed as and when required for assessing its effectiveness and making changes if necessary.

NOTES

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