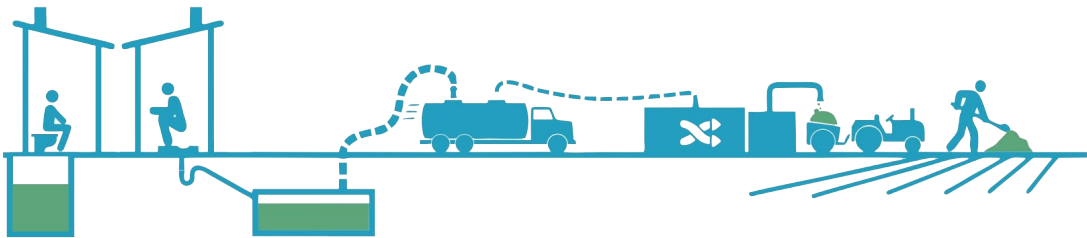




Government of Jammu & Kashmir

Faecal Sludge & Septage Management




Policy Document - Jammu & Kashmir
2017

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ABBREVIATIONS

AMRUT	Atal Mission for Rejuvenation and Urban Transformation
BIS	Bureau of Indian Standards
CBO	Community Based Organization
CPHEEO	Central Public Health and Environmental Engineering Organisation
CSP	City Sanitation Plan
CSR	Corporate Social Responsibility
DEWAT	Decentralized Waste Water Treatment
DPR	Detailed Project Report
DRDO	Defense Research and Development Organization
DULB	Directorate of Urban Local Bodies
FSSM	Faecal sludge and septage management
FSTP	Faecal Sludge Treatment Plant
GIS	Geographic Information System
Gol	Government of India
GoJK	Government of Jammu & Kashmir
GPS	Global Positioning System
HH	Household
IEC	Information, Education and Communication
IHHT	Individual Household Toilet
IT	Information Technology
J & K	Jammu and Kashmir
JMC	Jammu Municipal Corporation
LPCD	Liter per capita per day
LSG	Local Self Government
MIS	Management Information System
MLD	Million litres per day
MSW	Municipal Solid Waste
MoU	Memorandum of Understanding
MoUD	Ministry of Urban Development
NBC	National Building Code
NGO	Non- Governmental Organization
NMSH	National Mission on Sustainable Habitat



NOC	No Objection Certificate
O & M	Operation and Maintenance
OSSF	On site sanitation facilities
PPP	Public Private Partnership
SBM	Swacch Bharat Mission
SLIP	Service Level Improvement Plan
SMC	Srinagar Municipal Corporation
SMP	Septage Management Plan
STP	Sewage Treatment Plant
UEED	Urban Environmental Engineering Department
ULB	Urban Local Bodies
URIF	Urban Reforms Incentive Fund
VGf	Viability Gap Funding
WASH	Water Sanitation and Hygiene

KEY TERMINOLOGY

Effluent: The wastewater that flows out of a treatment system or supernatant liquid discharged from the septic tank.

Sludge: It is the settled solid matter in semi-solid condition. It is usually a mixture of solids and water deposited on the bottom of septic tanks, ponds, etc. The term sewage sludge is generally used to describe residuals from centralized wastewater treatment, while the term septage is used to describe the residuals from septic tanks.

Faecal sludge: Faecal sludge is the solid or settled contents of pit latrines and septic tanks. Faecal sludge differs from sludge produced in municipal wastewater treatment plants. Faecal sludge characteristics can differ widely from household to household, from city to city, and from country to country. The physical, chemical and biological qualities of faecal sludge are influenced by the duration of storage, temperature, intrusion of groundwater or surface water in septic tanks or pits, performance of septic tanks, and tank emptying technology and pattern.

Septage: Septage is the contents of septic tanks. It includes the liquids, solids (sludge), as well as the fats, oils and grease (scum) that accumulate in septic tanks over a period of time.

Grey water or Sullage: Domestic dirty water not containing human excreta. Sullage is also called grey water. It may be the waste water from housecleaning, kitchens and bath rooms.

Scum: It is extraneous or impure matter like oil, hair, grease and other light material that floats at the surface of the liquid in the septic tank, while the digested sludge is stored at the bottom of the septic tank.

Sewage or Black water: Wastewater generated from toilets containing human excreta and fecal matter is called sewage or black water.

Pit Latrine: latrine with a pit for collection and decomposition of human excreta and from which liquid infiltrates into the surrounding soil.

Pour-flush Latrine: Latrine that depends for its operation of small quantities of water, poured from a container by hand, to flush away feces from the point of defecation.

Septic Tank: An underground tank that treats wastewater by a combination of solids settling and anaerobic digestion. The United States Environmental Protection Agency (US EPA) defines a septic tank as a watertight, onsite treatment system of domestic sewage, consisting of two or more compartments, in which the sanitary flow is detained to permit concurrent sedimentation and sludge digestion.

Desludging: The operation of removing sludge (and septage) from septic/ digestion tanks, pit latrines or any other primary treatment units is called de-sludging. Usually this is done by mechanical means (by vacuum suction pump) but manual de-sludging is sometimes used despite it being banned in India.

Faecal Sludge Treatment Plants (FSTPs): An independent septage and Faecal sludge treatment facility for remediating the solid and liquid components to prescribed standards for safe disposal and reuse.

INTRODUCTION

1

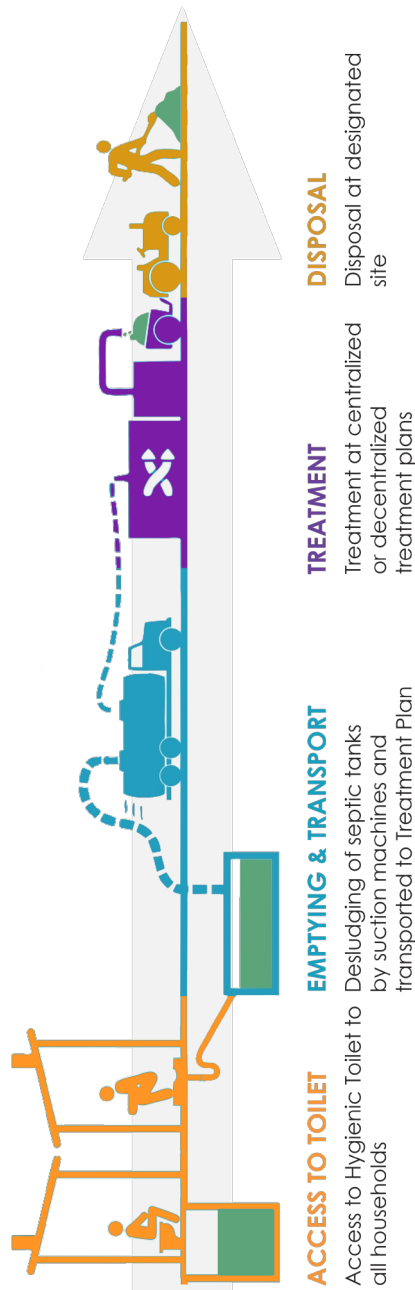
1.1 WHAT IS FSSM?

Sanitation is one of India's biggest challenges and the most crucial concern in urban areas. Faecal sludge is different from domestic wastewater as it contains mostly human faecal waste rather than the waste that drains from kitchens, bathroom, housecleaning, etc. Faecal Sludge and Septage Management is the process 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 is the management of the mixture of human waste (solid and liquid) that is not conveyed by a centralized sewerage system.

A typical FSSM system involves mechanized desludging of a septic tank/pit latrine using a suction emptier machine, which then stores the collected waste in a sealed container and transports it to a treatment facility. In some cases, there is a transfer station for temporary storage of sludge/ septage before it is transported to a treatment facility for logistical efficiency. At the treatment facility (either a dedicated FSTP or co- treatment in STP), the faecal sludge/septage 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 multiple 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.

Centralized sewerage systems are technically and financially not feasible in small and medium towns, especially in areas with hilly terrain and dispersed settlements.

Figure 1: Schematic Diagram of FSSM Operation



Thus, it becomes important to augment the existing infrastructure and provide for safe sanitation solutions. Efficient FSSM operation involves streamlining all processes and components along the 'sanitation value chain for on-site sanitation systems' during planning, design, implementation, operation and monitoring. For FSSM operations to be successful, active coordination and participation among relevant stakeholders – ULBs, service providers, operators, residents/community groups, state government, funding agencies, etc. is needed.

1.2 WHY FSSM?

On-Site Sanitation facilities (OSSF) are the primary mode of sanitation system in India. Over 48% of urban Indian households depend on onsite facilities (Census 2011) and this proportion is increasing, especially with the rapid pace of construction of individual and community toilets under SBM (Swachh Bharat Mission). Most of these are based on on-site containments such as pit latrines and septic tanks. On the other hand, only 32.7% of households have access to a piped sewerage system. In terms of treatment of wastewater, as of 2015, only 64% of the listed STPs in India are operational, while 10% are non-operational, 18% under construction and 8% are proposed on paper. The treatment capacity that is available is only for 37% of the total 62,000 MLD (million litres per day) of human waste that is generated in urban India. Moreover, these treatment plants are only enabled for sewage and not septage treatment.

India's urban population is 377 million or 31% of the total population (as on 2011) is expected to increase to 600 million by 2031. The Census 2011 also showed that in 4,041 statutory towns, 7.90 million households (HHs) do not have access to toilets and defecate in the open. Under the SBM, it is envisaged that nearly 80% of these 7.90 million HHs (or nearly 6.3 million HHs) will meet their sanitation needs through newly-built individual household toilet (IHHT) and the remaining 20% (or nearly 1.6 million HHs) will rely on existing or newly-built community toilets. Poor sanitation has significant implications on health and disposal of untreated faecal sludge and septage from cities is the single biggest source of surface and ground water pollution in India. Human waste has clearly been identified as the leading polluter of water sources in India, causing a host of diseases including diarrhea, agricultural contamination and environmental degradation. Much of the problem is due to lack of awareness amongst the administration, public and service providers, and due to lack of any regulations to govern the process of collection, transportation, treatment and disposal of faecal sludge and septage.

Thus, a collective need is felt for managing faecal sludge and septage from these on-site sanitation facilities through efficient, affordable and manageable FSSM services.

1.3 BACKGROUND

As per Census 2011, Jammu & Kashmir is home to an urban population of 3,433,242 (around 27.38% of the total population of J & K), growing at 36.42% from 2001 (more than India's growth rate of 31.8%). Based on current rate of urbanization, the state is expected to maintain a similar growth rate in the upcoming decades. There are a total of 120 urban settlements in J & K, along with 85 ULBs. It is incumbent on these ULBs to implement and manage urban services including safe sanitation, faecal sludge & septage management.

1.4 STATE SANITATION STATUS

Among the four AMRUT cities in J & K, the water supply is 97 lpcd in Jammu, 122 lpcd in Srinagar, 135 lpcd in Anantnag and 70 lpcd in Leh. But apart from these cities, the small and medium towns are facing significant difficulty in terms of water supply, especially the towns in upper Himalayan areas. This has a direct bearing on the sanitation systems in these cities. Centralized Sewerage systems are not technically or financially viable for most small and medium towns, and areas with water supply less than 70 lpcd. As per Census 2011, among the 87.5% households with individual latrine facilities, only 25.3% urban Households in J & K were connected with a piped sewerage network. Almost half of the urban households (47.5%) relied on on-site sanitation systems such as Septic Tanks (37.9%), Pit latrines (4.3%) and other systems (5.3%) for collection of faecal sludge and wastewater. Out of the total urban population of J & K, 5.2% lives in slums and about 12.5% of the urban population does not have access to individual latrines. This clearly indicates that on-site sanitation far supersede piped sewerage system and is the primary sanitation system in J & K.

J & K was ranked third worst in terms of sanitation, after Odisha and Bihar, according to the Baseline Survey 2012 of the Union Ministry of Drinking Water & Sanitation. The state also lagged behind in terms of construction of individual and community toilets against the set target and utilized only 4% of the funds for the year 2014-15 released by the government under the sanitation programme.

It has been observed that the states two capital cities are not far behind as open defecation is widely prevalent in the numerous slums. Even many planned areas in Jammu and Srinagar have defunct public toilets leaving people to defecate in the open. The Srinagar Municipal Corporation (SMC) claims to have 78 functional public

toilets in Srinagar. However, on ground, the picture is dismal with many unusable public toilets that are inaccessible for the masses. Similarly a considerable number of public toilets in Jammu city are in a bad shape.

The Valley of Kashmir, which is entitled as the 'Heaven on Earth', is one of India's most popular tourist destination because of its serene and majestic beauty and climate. Sanitation is one of the basic needs which has to be fulfilled and it is a very magnifying concern that the tourists are provided with clean and safe sanitation facilities. There are waterless or urine- diverting toilets which are being used in Leh Ladakh. Although it is a very smart and nature friendly solution as it eliminates the need to dewater the sludge during treatment and fastens the biological process of decomposition, the tourists do not like the idea of having to urinate separately and use toilets without water.

The community toilets are less than an attraction and stink from almost a quarter of a kilometer away. Also, in extreme cold climate, the faecal sludge and septage tends to freeze inside the containments and the decomposition processes comes to a halt below 0°C temperature. Since the septage will not decompose, the volume inside the tank/ pit will be higher. Therefore, it becomes necessary to desludge the septic tanks in cold areas such as Leh and Kargil where temperature drops as low as -20° C to -40° C in winter nights.

Districts like Leh Ladakh, Kargil, Ramban and Jammu where more than 60% of the households are dependent upon on- site sanitation facilities, need priority interventions. The practice of disposing night soil into open drains without disposal and service latrines having the night soil removed by human or animal should be prohibited and containment systems should be constructed with utmost priority. In order to control the practice of open defecation, more public toilets need to be constructed. Under SBM, J & K has an ambitious target of making the state open defecation free by 2019. But it only addresses the first component of the sanitation value chain. The pertinent issue of proper collection, conveyance, treatment and disposal of the faecal sludge/septage is likely to remain.

As of 2015, there are total 19 sewerage treatment plants in J & K out of which 11 are operational, 7 are either proposed or under construction and 1 is non- operational. Given the limited connection of piped sewer system, poor state of community toilets, high incidence of open defecation, absence of sewage treatment facilities in

most urban areas and prominence of on-site sanitation as the primary sanitation system in urban areas of J & K, Faecal Sludge and Septage Management (FSSM) is expected to assume the central role in providing safe, hygienic and sustainable sanitation services.


This requires a dedicated state wide policy document that addresses specific issues and challenges of FSSM and provides a road map for its implementation at city level. In the spirit of the 'National Policy on Urban Faecal Sludge and Septage Management (FSSM), 2017', this draft document on 'Policy on Faecal Sludge & Septage Management (FSSM), Jammu & Kashmir identifies the issues of safe sanitation in urban areas and provides an outline for establishing and effectively operationalizing FSSM at state and city level in J & K in a holistic manner.

1.5 APPLICABILITY OF THE POLICY

This policy shall be applicable (unless specified otherwise) to all schemes, programs, projects, plans, future policies. It shall be considered as a base for framing up different guidelines of J & K government departments (relevant ministries, departments, agencies, authorities, Special Purpose Vehicles, etc.) and urban local bodies with respect to initiatives such as urban development, urban sanitation services, tourism development, heritage conservation, housing projects, slum development, economic development, livelihood generation, industrial/economic zones, etc. for urban (as defined by census – Statutory towns, Outgrowths and census towns), peri-urban areas and places of pilgrims/ historical/religious importance as notified by relevant state department within J & K.

The provisions shall also be applicable to approved schemes, activities, projects and initiatives by the private sector, including corporates, donor agencies, NGOs, non-profit organisations, etc. as well as multilateral and bilateral organizations, within the state of J & K.

The guidelines of faecal sludge and septage/ sewerage shall also be addressed in a holistic manner, with a strategy that provides for minimum needs and is appropriate and affordable for all areas and population considering the urban situation. The policy would address the enabling provisions in the form of suitable regulation and institutional framework, capacity building, education and awareness among all stakeholders.



It also seeks to address the efficiency of systems in place for onsite sanitation whereof the faecal sludge output needs to be managed in an environmentally safe manner including proper engineering design, construction and maintenance of septic tank systems, pit latrines and such other systems generating faecal sludge.

KEY ISSUES AND CHALLENGES

2

The road ahead for J & K in operationalizing FSSM in urban areas across the state will be a challenging one. Based on broad estimates for urban areas in J & K (using House listing and Housing data in Census, 2011), around 6.25 lakh litres of septage is typically required to be managed daily from septic tanks, public latrines and pit latrines alone, while almost 1.53 lakh litres of human waste is generated from open defecation. A further 2.85 lakh litres of faecal sludge (not including the wastewater) is generated from piped sewer system and service latrines. (***considering 0.4 Liter human waste generation per day**) Much of the fecal sludge and wastewater produced is likely to be collected and disposed in an unsafe manner.

- 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.
- No provisions for secondary effluent disposal units in the form of piped sewer network, leach pits or drain fields, thus directly discharging septic effluent into drains.
- 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, 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 Sewer

Manholes. All these unorganized practices are completely undesirable which would cause major public health hazard.

- The 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.
- There is no dedicated facility for treatment and disposal of septage and faecal sludge in J & K. There are 19 Sewerage Treatment Plants in the state but they are not enabled for co- treatment of fecal sludge/ septage. Also, the desludging operators are not permitted or licensed to dispose the collected waste at the STPs. It is uneconomical for the operators to treat the waste themselves before disposing it. They are also partly unaware of its hazardous consequences.
- The ULBs lack sufficient financial and manpower capacities to monitor these informal operations, while also lacking the expertise (besides resources) for planning and managing a treatment plant or implementing a scheduled desludging service on their own. Thus, issues pertaining to awareness, institutional capacities, design & implementation and institutional framework can be observed across the state.

2.1 LIMITED AWARENESS AND CAPACITIES

- Uniform lack of awareness and capacities for Faecal Sludge and Septage Management in urban areas of J & K, especially among the residents, service providers and the ULBs
- Active participation and organization is 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
- Limited capacities and coordination between ULBs and State government. ULBs often lack capacities to mobilize resources (funds, manpower, expertise, equipment, etc.) on their own to deliver effective services, while the transfer of resources from the state govt. to local body becomes a tedious process.

2.2 LACK OF PROPER PLANNING, DESIGN AND IMPLEMENTATION OF SANITATION INFRASTRUCTURE

- 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, single/twin 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.
- Desludging operators and Service providers are not properly trained and do not use safety equipment during operations.
- As described earlier, there is an insufficient capacity for treatment of all wastewater and faecal sludge/septage generated in J & K. Although 11 STPs are existing and 7 are proposed in many cities and towns, it has been observed that small pockets and peripheral areas are being left out from sewerage coverage. These areas would require dedicated septage and faecal sludge processing/treatment facilities for safe disposal or reuse.
- These STPs are not enabled for co-treatment of faecal sludge and septage. Also, the desludging operators are not permitted or licensed to dispose the collected waste at the STPs. Thus, it is important to augment the existing treatment facility for co- treatment of faecal sludge and regulate the private operators by giving them license to dump the sludge at STPs.

2.3 CLIMATE CONSIDERATIONS AND SUITABLE CONTAINMENTS

- Climate considerations while constructing the containments is lacking. In cold areas such as Kargil and Leh, while constructing septic tanks and laying pipes, insulation needs to be provided in order to prevent the septage from freezing. In flood prone areas such as Srinagar, tanks/ pits can be mounted on a level above the ground to prevent them from overflowing during the flood and mixing with the runoff leading to water contamination and health hazards. But due to lack of awareness and skill, such specifications are not taken into consideration.
- Lack of awareness among people about what should be done to prevent the septage from freezing, how to check if the septage has frozen, what can

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.

2.4 WEAK INSTITUTIONAL FRAMEWORK

- ➔ Ambiguity in delineation of responsibilities and overlapping mandate among various government agencies at state and city level
- ➔ 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.
- ➔ Insufficient funds available for Creating, Operating & Maintaining city wide FSSM infrastructure. They are further unaware of various suitable service delivery mechanisms for financially viable operations.
- ➔ ULBs are not empowered to collect sanitation taxes, services charges, etc. required to maintain a steady revenue stream and sustaining FSSM infrastructure
- ➔ 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.



3 POLICY VISION

“The State where urban population has an enhanced quality of life with smart and sustainable faecal sludge and septage management based on active and inclusive participation of the stakeholders, while also maintaining environmental and cultural integrity”



4 POLICY GOALS

The primary aim of this policy is to establish FSSM as a central component in delivery of safe sanitation service in J & K by creating a favorable environment for its effective implementation across all urban areas in a pragmatic, sustainable and participatory manner. The Policy will strive for:

Ensuring timely and safe collection and transport of faecal sludge and septage: Encouraging a shift towards scheduled desludging of septic tanks, pit latrines, etc. (periodically within 2 – 3 years) in all ULBs, while generating awareness and incentivizing households for the same. The process would ensure complete containment of waste with no direct human contact with the waste under any circumstance.

Complete treatment of all collected waste: All collected Faecal sludge should reach the treatment facility (without arbitrary and illegal disposal) and treated as per standards for safe disposal/reuse. System of incentives and vis-à-vis imposition of penalties could be a tool to monitor desludging operators and to ensure disposal at designated locations. There will be greater use of technologies that consume very less power and use biological processes.

Ensuring resource recovery: The treatment facility would maximize reuse of treated wastewater and compost generated from treatment of sludge for various public and commercial purposes. This will contribute in part towards cost recovery and even profit generation

Create enabling institutional environment and strengthening regulatory framework: The mandate, roles & responsibilities of all government departments

and other stakeholders would be clearly defined and necessary steps taken for augmenting their capacities. Appropriate institutions, management & monitoring systems and standard procedures would be in place at state and city level that incrementally strengthen FSSM operations in urban areas. Necessary steps would be taken to augment capacities at state, city and community level for government officials, service providers, residents, etc. The institutional framework would also enable an environment conducive for greater participation of private sector.

Standardized Infrastructure and Professionalized Operations: Standards and norms documented and adequately disseminated for design, construction and O&M of FSSM infrastructure such as On-Site Sanitation Facilities (Septic Tanks, Soak pits/Soak fields, Lined Pit Latrines, Digestion Tanks, etc.), Suction Emptier trucks & equipment, Treatment technologies (Sludge Drying Beds, DEWATS, FSTPs, Co-Treatment with STPs, etc.) and criteria for end-product disposal/reuse. Moreover, the services provided by various public and private players should be professionalized with standard operating procedures, operating and monitoring guidelines, etc. through appropriate training and capacity building of relevant service providers and regulators.

Innovation in service delivery and management: Improving service delivery, management and monitoring by introducing technological interventions such as I.T. enabled single window system, GIS/GPS aided planning and operations, custom MIS modules, etc. and greater emphasis on private participation in service delivery.

Setting up an Urban Sanitation Fund: This may be a dedicated fund for sanitation and FSSM, which would consolidate resources and funds from multiple sources – various central schemes and programs, state govt. grants, ULB funds, CSR, URIF, Donor fund, Bilateral/multilateral grants & loans; and through innovative instruments such as Social & Development Impact Bonds, Category – I Alternative Investment Funds, etc. which would be managed by the state government (through a designated nodal agency) and provided to ULBs/ service providers/ other relevant stakeholders based on a transparent and flexible criteria, linked to performance and need. Similarly, ULBs with sufficient capacities may set-up city sanitation funds (linked to the state sanitation fund) for implementation of city-level FSSM strategy, plan and projects.

Greater Awareness and Participation: The residents would become active participants in the planning, implementation and monitoring process, while all stakeholders would be sensitized and sufficiently made aware of the processes, procedures, components, etc. of FSSM. Multiple channels (digital, broadcast, print, physical, etc.) for communication, learning and stakeholder engagement would be used. Promoting mechanisms will be employed to bring about and sustain behavioural changes aimed at adoption of healthy sanitation designs and practices, including the responsibility to ensure safe containment and management of faecal sludge and septage by urban households including liquid effluent.

A strong partnership network: Multi-sector partnership of government agencies/ULBs with other public/private organisations, groups and institutions for collaborating on knowledge improvement, funding, improved services, business opportunities, research & innovation, stakeholder engagement, peer learning, etc. Formal and Informal platforms would be established for networking among various ULBs, service providers, associations, etc. for learning, knowledge sharing and partnership building.

4.1 PRIORITY INTERVENTION AREAS FOR FSSM

- Priority intervention areas for FSSM services have been identified based on the dependence of the households upon septic tanks.
 1. Priority I- Leh Ladakh, Kargil, Ramban and Jammu, more than 60% of the households are dependent upon on- site sanitation systems.
 2. Priority II- Kupwara, Ganderbal, Pulwama, Budgam, Baramula, Shupiyan, Punch, Anantnag, Rajouri, Reasi, Udampur, Samba and Kathua, 40-60% of the households are dependent upon on- site sanitation systems.
 3. Priority III- Bandipore, Srinagar, Kishtwar, Kulgam and Doda, less than 40% of the households are dependent upon on- site sanitation systems.
- In towns without a centralized Sewerage Network (existing or proposed), full Scale FSSM would be implemented across the town including a dedicated Faecal Sludge Treatment Plant.
- Towns and Cities that are partially covered by a centralized Sewerage Network – Un-Sewered areas which could not be connected to centralized sewerage system, would be served by FSSM services operations and treatment shall be at dedicated centralized Sewage Treatment Plant.
- Un-Sewered areas within cities where Desludging is not possible, provision for Decentralized Treatment of Wastewater & Faecal Sludge shall be made.

MAP 1: FSSM PRIORITY INTERVENTION DISTRICTS - JAMMU & KASHMIR



Priority Intervention Areas: Urban Local Bodies

Urban Local Bodies that seek priority FSSM interventions have been identified based on the number of households dependent upon the on- site sanitation facilities. Areas with more than 75% of the households dependent upon on- site sanitation facilities are the top- most priority areas followed by areas with 50-75% households, then 25-50% households and further less than 25% of the households dependent upon the on- site sanitation systems. (Refer Annexure III) Proposed approach has been suggested in the table below for each category.

Table 1: Priority Intervention Areas and Proposed approach for ULBs

% of HHs with On-Site Sanitation Facility	No. of Towns	% of Total no. of Towns	Total HHs in these Towns	HHs with OSSF in these Towns	OSSF as % of Total HHs	Major Towns in the Category
More than 75%	11	9.17%	14,396	11,826	82.15%	Kargil, Ramban, Leh Ladakh, Sunderbani, Lakhampur, Chenani
50 - 75 %	45	37.5%	417,827	269,503	64.50%	Srinagar, Jammu, Udhampur, Pulwama, Kathua, Kupwara, Punch, Samba, Ganderbal, Rajauri, Pahalgam, Reasi
25 - 50 %	44	36.67%	104,310	39,165	37.55%	Katra, Akhnoor, Bandipore, Pattan, RamNagar, Pampora, Badgam, Ramgarh, Chadura
0 - 25 %	20	16.67%	24,770	4,970	20.06%	Parole, Sumbal, Arnia, Devsar, Quimoh, Kishtwar, Khore, Purana Daroooh, Ashmuji Khalsa, Beerwah, Gulmarg

Approach		
Small Towns	Medium Towns	Large Towns
(< 1 lakh)	(1-5 lakh)	(>5 lakh)
Dedicated FSTP	Dedicated FSTP	Combined FSM and Sewerage system; Co-Treatment, DEWATS, On-Site, Separate Treatment as per site conditions
Dedicated FSTP	Combined FSM and Sewerage system; Co-Treatment, DEWATS, On-Site, Separate Treatment as per site conditions	Combined FSM and Sewerage system; Co-Treatment, DEWATS, On-Site, Separate Treatment as per site conditions
Dedicated FSTP or Co-Treatment at STP if present	Combined FSM and Sewerage system; Co-Treatment, DEWATS, On-Site, Separate Treatment as per site conditions	Complete Sewerage; FSM only for unserved pockets with Co-Treatment at STP
Combined FSM and Sewerage system; Co-Treatment, DEWATS, On-Site, Separate Treatment as per site conditions	Complete Sewerage; FSM only for unserved pockets with Co-Treatment at STP	Complete Sewerage; FSM only for unserved pockets with Co-Treatment at STP

STRATEGIC POLICY ACTIONS 5

The strategic points on Policy Actions outline the broad provision to address the aforementioned issues and lay out a roadmap for effective implementation of FSSM in urban areas across the state. The provisions of the policy are broad-based and a detailed State FSSM Guidelines shall be formulated that will elaborate upon the provisions of this policy and aid relevant stakeholders in planning, design, implementation, management, monitoring and capacity building of various components under FSSM in urban areas of J & K. The Strategic Policy Actions have been classified under the following categories:

5.1 IEC & STAKEHOLDER PARTICIPATION

A rigorous awareness campaign should be undertaken to educate various stakeholders about Faecal Sludge and Septage Management.

ULBs can be tasked with spreading awareness among residents about govt. schemes, benefits of scheduled desludging, various incentives for the same, good sanitation practices and monitoring of FSSM operations. This would be done with the involvement of ward councilors, community leaders, CBOs, etc.

Special campaigns can be undertaken for making communities and households aware about the importance of scheduled desludging and the incentives to be given for households that participate in scheduled desludging services. Various neighborhood and city level institutions such as schools, colleges, CBOs, etc. would be actively engaged as volunteers in these campaigns

ULBs shall be responsible for information and education dissemination to the desludging operators on the standard procedure for collection and transportation of the faecal sludge and septage, and disposal at the designated transfer or treatment

station. Masons should be educated on the design specifications for construction of the septic tanks/ pits as per the standards laid by ISO and BIS.

Integration of other State and Central government campaigns for IEC and awareness generation for sanitation with related schemes and programs such as SBM, AMRUT, local WASH programs, etc.

State government can identify institutions and agencies to undertake awareness and communication operations at state and ULB level. Multiple channels may be used for the same - such as media (social, print, broadcast, etc.), advertising, flyers/ brochures/ booklets, workshops, road shows, rallies, announcements, meetings, etc. All IEC and awareness material would be in multiple languages, especially local dialects.

5.2 INSTITUTIONAL AND REGULATORY FRAMEWORK

A dedicated FSSM cell & committee may be set-up within Housing and Urban Development Department under the Directorate of Urban Local Bodies to manage FSSM related initiatives such as projects, city FSSM plans, awareness campaigns, single-window systems, etc. along with the State Sanitation Fund. Various external agencies can be engaged for different initiatives and functions.

State-level FSSM rules and guidelines would be formulated that will include Standard operating procedures and training material for ULBs, Manuals for service providers, model drawings for the masons, DPRs, Bid Documents, model Septage Management rules for ULBs, technological options, etc.

The State level Guidelines and Standard Operating Manual shall include -

- Format for City level Strategy and Contents for City FSSM plans
- Advisory on selection of suitable FSSM interventions - Number, Type and Capacity of Desludging Vehicles, Transfer Station, Treatment Options, Disposal/ Reuse option, etc.
- Model Septic Tank design/construction/maintenance,
- Model for desludging vehicles, cleaning machines, equipment and safety Gear
- Options and broad specifications for Treatment technologies - Co-Treatment with STP, DEWATS, FSTP, etc.
- Steps for Capacity building at State and City level for govt. officials,
- Operative manual for desludging and treatment plant operators,
- Model criteria for licensing of desludging operators,
- Steps for implementing scheduled desludging services at city level,

➔ Format for assessing financial requirements for FSSM by ULBs – Capital and O&M

All informal FSSM operations (by masons, desludging operators, cleaners, etc.) would be formalized and professionalized through appropriate channels, such as licensing by ULBs, MIS – based reporting of operations, formal trainings, access to formal finance, etc.

For Licensing of desludging operators and other service providers by the ULBs, a model eligibility criteria shall be framed. It would allow licensed desludging operators to avail various incentives and benefits, and help ensure that the desludging operations are carried out in a professional manner and the sludge is being disposed at the designated transfer or treatment stations. All private desludging operators shall be required to obtain a license from the respective ULB to operate in the city.

Roles of relevant stakeholders including State government departments, ULBs, residents, service providers and private sector partners shall be clearly defined for reducing ambiguities and overlap of functions. The roles and responsibilities have been briefly provided in the subsequent section.

Various steps would be taken by the state government and ULBs to enable greater private sector participation in FSSM service delivery. Greater thrust would be given to PPP projects in FSSM, VGF (Validity Gap Funding) from Central and State government wherever FSSM projects are not completely feasible. Incentives and concessions in various state and ULB taxes/charges for setting up Faecal Sludge treatment plants, setting up guarantee funds to provide financial assistance for purchase of desludging vehicles or capacity building, etc.

5.3 ROLES AND RESPONSIBILITIES OF STAKEHOLDERS

Departments/ Authorities	Roles & Responsibilities
Housing and Urban Development Department, J & K	Scrutiny and approval of all FSSM related initiatives
	Responsible for building partnerships
	Overall supervision and coordination of FSSM operations between various government departments, statutory and autonomous bodies in J & K
	Planning and Statistics Section of the department to collect data on the non- sewer areas, service providers and other such information which may be required for framing State FSSM policy
	Management of Urban Sanitation Fund
Urban Environmental Engineering Department (UEED), J & K	To undertake job of planning, designing and construction of FSSM works in the urban areas of the state.
	Ensure coverage all non-sewer pockets and areas in their project towns through appropriate FSM interventions
	Capacity Building and Awareness of ULBs, Service Providers and other stakeholders for implementation of FSM in their project towns
Directorate of Urban Local Bodies, J & K	Guiding all Urban Local Bodies for implementing city level FSSM strategy, plans and projects during planning, operation and monitoring stages
	Nodal Agency for managing FSSM operations for J & K
	Constitution of an Urban Sanitation Cell and managing the MIS/GIS based State Single Window System (Sanitation Information System)
	Strengthening urban local self-governments, enabling them to discharge their functions effectively in terms of providing quality services to the people.
	Formulating a roadmap for realization of the State FSSM Policy
	Implementation of State level FSSM initiatives
	Responsible for preparation of the State FSSM Guidelines, Standard Operating Procedures, User Manuals, Model FSSM rules for ULBs, drafting state acts and policies related to urban sanitation and FSSM, etc.
Urban Development Authority/ Agency	To promote and secure development of Local Urban Areas
	To execute other infrastructural development works.

Departments/ Authorities	Roles & Responsibilities
Urban Local Bodies	Formulating city-wide FSSM strategy
	Timely preparation of city FSSM plan
	Notification of city wide FSSM rules to regulate all FSSM operations in the city
	Create an enabling environment for private sector participation in city-wide FSSM
	Ensuring overall O&M of FSSM operations in the city – involvement of private sector
	Creation of a FSSM Cell (as part of health and sanitation department) within all ULBs to oversee the FSSM related operations and management at city/ ward level
	Licensing of all private desludging operators based on pre-determined eligibility criteria
	Design an appropriate tariff structure to fund FSSM operations and its timely collection – service charges, sanitation tax, tipping fee from operators, etc.
	Ensuring financially and environmentally sustainable operations – reduce reliance on state and central government grants
	Incorporation of model septic tank design, location, zoning, effluent disposal standards, toilet design, etc. into building byelaws
	Develop training programmes for masons to build requisite skills in construction of quality septic tanks as per ISO norms
	Undertake awareness generation and behavior change campaigns and regular public engagement to ensure active participation by the residents
	Devise a system of appropriate incentives and penalties for residents and service providers to induce desirable behavior
	Ensuring capacity building and training – manpower, financial, equipment, exposure visits, etc.
Overall Monitoring and Evaluation of FSSM operations benchmarking, ensuring compliance, performance monitoring of desludging operators, etc.	

Departments/ Authorities	Roles & Responsibilities
J & K State Pollution Control Board	Provide NOC for Licensing of Desludging trucks and Location of treatment plants
	Enforce compliance of the relevant environmental laws and rules during the collection, transport, treatment and disposal of faecal sludge and septage – through inspections, environmental monitoring, etc.
	Address grievance related to environmental hazards due to FSSM operations
	Assist in formulation of relevant advisories, guidelines, manuals, etc. to ensure environmental compliance for FSSM operations
Department of Social Welfare, Govt. of J & K	Ensuring compliance of provisions under the “The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013”
	Compliance of provisions under “Jammu & Kashmir Employment of Manual Scavengers and construction of dry latrines (Prohibition) Act, 2010”
Other State Government Departments	Sufficiently incorporating the provision of FSSM policy in their projects, schemes, programs, policies, plans, guidelines, activities, etc.
	Provide necessary sectoral inputs towards State FSSM strategy, rules, acts, guidelines, etc.
Ward Councillors	Lead the Ward-level awareness generation and behaviour change campaigns
	Inspection during construction of buildings to ensure compliance with bye-laws
	Encourage households towards scheduled desludging and active participation
	Represent ward-level/community level issues related to sanitation
	Assign a ‘Swachhta Mitra’ in every neighbourhood for community-scale monitoring
Households	Periodic cleaning and desludging of Septic Tanks as per Schedule
	Timely payment of service charge/sanitation tax/ other fees, if any, towards FSSM services
	Regular maintenance and monitoring of septic tanks

Departments/ Authorities	Roles & Responsibilities
Desludging Operators	Timely collection of waste from households as per schedule and disposing waste at designated locations only
	Strict adherence to code of conduct/standard operating procedure as per city/state rules and guidelines
	Regular maintenance of equipment and vehicles
	Maintaining up-to-date logs, manifests and reports
Service Providers – Masons, Designers	Acquire requisite skills through training and capacity building to design and construct quality septic tanks as per ISO norms
	Discourage cost-cutting by employers/house owners from cheap and sub-par construction of toilets, septic tanks, soak pits, etc.
Private Sector	Active participation in service delivery of FSSM at state and city level
Financial Institutions	Providing financial assistance to desludging operators for purchasing new vehicles or upgrading existing equipment
	Extending low-interest loans to households for construction, repair of toilets and septic tanks
	Possible source of finances for creation of community or city level assets – community toilets, treatment plants, transfer stations, etc.
Multilateral, Bilateral and other International Institutions	Integrate provision of FSSM Policy into existing programs, projects and activities
	Design of future projects and programs in accordance with the provisions of the policy
Academic, Research and Civil Society Organisations	Undertake primary research to further safe and sustainable FSSM
	Develop models for safe and sustainable delivery of FSSM services to all
	Support implementation of FSSM activities at ground level
	Raise awareness and sensitization on the importance of FSSM among the general population
	Provide monitoring support to the ULB on any unsafe practices that impact effective FSSM
	Set up regular interactions with the ULB to discuss operational issues and be part of the solution

5.4 PARTNERSHIP BUILDING

A strong network of partners in various sectors and of various backgrounds would be established, including renowned specialists/experts, Corporates, Research/Academic Institutions, Civil Society groups/CBOs/NGOs, private service providers, Donor agencies, Bilateral/Multilateral agencies, etc. for bolstering capacities and knowledge in the sector.

There is an increased need to encourage greater private participation in service delivery and financing of FSSM activities by creating an enabling regulatory environment and creating opportunities.

Backward and Forward linkages shall be established with private players, other government departments, trade and farmer associations, etc. for optimum reuse of treated sludge and wastewater. Possibility shall be explored on whether treated and stabilized sludge can be used as organic fertilizer for farming and gardening, biogas recovered can be locally distributed for cooking or production of electricity, while treated wastewater could be reused by industries/power plants/irrigation, etc. Necessary platforms shall be established such as periodic conferences, workshops, summits, meetings, events, formal groups/associations, and others for regular interaction among various stakeholders and partners for knowledge sharing, peer-learning, progress review, information dissemination, etc.

Housing and Urban Development Department will be the nodal agency for channeling and utilizing funds (loans and grants) from external sources for sanitation and FSSM projects.

An agreement (such as MoUs) could be drawn which may be signed with prominent partners outlining a common agenda for development and provision of FSSM services in J & K. Various agencies can be designated with specific charge for providing their inputs, such as 'Knowledge Partner', 'Sanitation Technology Partner', 'Media Partner', 'Campaign Partner', 'Capacity Building Partner', etc.

5.5 FUNDING AND FINANCING

New and Innovative modalities for financing FSSM would be explored by ULBs and State government, with involvement of knowledge and funding partners, which may include – PPP, CSR funds, Guarantee funds, Crowd funding, Donor grants, Social and Development Impact Bonds, ULB Incentive Fund, UPIF, etc.

A State Sanitation Fund should be set-up that will consolidate funds and resources from these aforementioned sources, in addition to central government schemes and programmes, Finance Commission, state funds, etc. It would be managed by the state government (through a designated nodal agency) and provided to ULBs/ service providers/ other relevant stakeholders based on a transparent and flexible criteria, linked to performance and need.

Preference would be given to FSSM models that ensure maximum cost recovery and even profit generation in the O&M stage, partly through reuse of treated end product (wastewater and sludge) in the form of biogas, electricity, water reuse, fertilizer/manure, compost, etc. especially since O&M costs of FSTPs is usually much lower than conventional STPs for smaller towns (Class III, IV & V towns)

ULBs would be empowered to structure their tariff and revenue models, which may include collection of service charges or sanitation taxes from users, tipping fees from licensed operators, etc. in order to maintain a steady revenue stream for O&M of FSSM assets and services.

Synergy would be ensured between funds and goals of various Central government programs such as AMRUT, SBM, Smart Cities, etc. and state government programmes. The City-level FSSM strategy and plans would duly assess cost requirements during the perspective period, including capital and O&M costs, and accordingly structure their financial model to make the system more feasible and sustainable.

5.6 IMPLEMENTATION AND SERVICE DELIVERY

State government will play a facilitating role in implementing of FSSM at state and city level. Necessary support will be given to ULBs for timely preparation and implementation of city level FSSM plans, strategy and rules.

The State governments may explore possibility to link the ULBs with suitable partners (consulting, public outreach, funding, capacity building, etc.) as per the city's requirement for various FSSM related activities.

A system of incentives and penalties may be devised to encourage greater participation among residents, compliance by service providers (heavy penalties for illegal waste disposal, while monetary incentives for disposal at designated site), and better performance of ULBs.

Desludging and Treatment Plant operators shall use requisite safety gear during operations. There should be absolutely no direct human contact with the waste. For partially seweraged or un-seweraged towns (Class – II, III, IV & V), preference would be given to Co-Treatment of Faecal Sludge/Septage in Wastewater Treatment Plants with adequate capacity if such facility is available or proposed within a specific radius of the town for different class. If not, a dedicated Faecal Sludge/Septage Treatment facility would be set-up or on-site treatment options would be explored. In Jammu, Srinagar, Anantnag and other Class-I cities with water supply (existing or proposed) equal to or more than 135 LPCD, preference would be given to complete coverage by sewerage while Un-seweraged pockets, if any, shall be served by FSSM.

For urban pockets where both sewerage system and desludging services are not possible, such as compact inner city areas and congested slums of cities like Jammu and Srinagar, on-site and decentralized wastewater and faecal sludge treatment solutions such as DEWATS, Bio-digester toilets, etc. would be explored. A more detailed set of techno-economic criteria shall be developed and provided in the State FSSM Guidelines for the same.

In cold areas like Kargil and Leh, decentralized treatment is encouraged as it would be difficult to pump the septage if it is frozen. On site treatment can be done using leach pits and drain fields. Anaerobic treatment is preferred over aerobic systems because exposure to open air in extreme cold climates will lead to freezing of the waste and halt the decomposition process. Heat blowers can be used to increase the temperature inside the system and preventing the frost to set in. The system can be muffled with loose soil of at least 2 feet thickness in order to insulate the system.

Reed Bed technology, which is already established in cold areas of North America, can be adopted in moderately cold climates where instead of conventional drying beds, phragmites (common reed) are planted over the drying bed. The growing rhizomes and movement of the stems in the wind prevents the snow from depositing over the bed, breaks apart the accumulating sludge layer and permit continuous filter drainage, and plant evapo-transpiration increases sludge dewatering.

Bio digester technology developed by Defence Research and Development Organisation (DRDO), India can be explored as a possible option for on-site treatment of faecal sludge and wastewater from toilets, especially for sparsely developed and hilly areas. The cold- active Microbial Inoculum technology for cold and temperate climate zones and High altitude model for other upper Himalayan regions can be used for efficient faecal sludge treatment in J & K.

Residents who get their septic tanks cleaned as per schedule or in a timely manner can be given a rebate in the service charge/municipal taxes, while others would have to pay a higher amount for the same.

Licensed service providers can be eligible for accessing financial assistance (through available instruments) for upgrading capacities, equipment, safety gears, etc. Desludging operators who dispose collected waste at designated locations would be given direct/indirect benefits, while others would be penalized - applying the principle of 'polluter pays'.

To ensure regular supply of faecal sludge to the plant, steady flow of revenue and implementing Scheduled Desludging service, a robust database needs to be constructed (ideally linked with Property Tax database) of household/ community/ ward level sanitation assets and practices by the ULBs (type of toilet system, Number/Capacity of Septic Tanks or pit latrines, wastewater outlets, adjacent road widths, etc.). The database would help in scheduling desludging services, planning FSSM infrastructure, regulate tariff collection, facilitate appropriate incentives or impose penalties on households and operators, maintain up-to-date records and manifests, etc. The database should preferably be digitized on a GIS and MIS based platform.

An MIS and GIS-based single-window system can be operationalized which coordinates and facilitates the FSSM services in J & K, including:

- Call-centre for on-call desludging services,
- Schedule for Periodic desludging by ULBs and Desludging operators
- Forms for NOCs, applications & guidelines for licensing of operators,
- Repository of all registered service providers and licensed desludging operators, along with a platform to connect with suitable partners (knowledge, funding, capacity building, etc.)
- Mobile and e-mail reminders of scheduled desludging to households,
- GPS-monitoring panel for desludging trucks,

- Inventory of all FSSM assets in the city and throughout the state,
- Service level benchmarking of all ULBs,
- Capabilities of producing auto-generated and custom updates/reports/dashboards for various state government departments, residents, ULBs, etc.

5.7 MONITORING AND EVALUATION

The state will evaluate FSSM operations through dedicated service level benchmarks for all ULBs. A Benchmarking system shall be established for state, similar to the San-Benchmark Framework suggested in National FSSM Policy. Each ULB will set a yearly target in their City-level FSSM plan on progress and service improvement with respect to these benchmarks, with the goal of achieving the benchmarks by the end of the perspective period.

A performance-linked system of incentives and penalties may be devised for rewarding high performing ULBs and encouraging ULBs with poor performance to improve, as they will be scored annually as per the service level benchmarks for FSSM. A mechanism on performance evaluation tool shall be framed up by the authority.

Local Communities and local groups would be involved in monitoring and compliance of FSSM operations, with encouragement by the ward councilors and 'Swacchta Mitra'. The communities would be encouraged to be active and vigilant in reporting incidences of mismanagement by desludging operators, unsafe sanitation practices in neighboring households, poor Maintenance at Community Toilets, DEWATS, FSTPs or Transfer Stations, etc.

A comprehensive system of reports and manifests would be designed at the city-level, with record of all desludging activities maintained by all service providers.

A robust Grievance Redressal mechanism would be put in place, to be linked with the single window system, telephone call based system or part of local e-governance platform (MIS-based). Typically complaints by users usually pertain to damages to property or septic tank during desludging, insufficient or poor cleaning by the operator, spillage of septage/sludge during transport, illegal or arbitrary disposal by operator, foul smell from the treatment facility, etc. All user complaints and grievances should be acknowledged swiftly within 3 days, with each complaint given a unique complaint identification number and the complaint should be addressed and answered within two weeks by the ULB.

5.8 CAPACITY BUILDING AND TRAINING

A Capacity assessment should be carried out across state government departments and ULBs (similar to or part of SLIPs), and necessary measures would be taken to fill the gaps on Manpower, expertise, equipment, resources, financial management, etc.

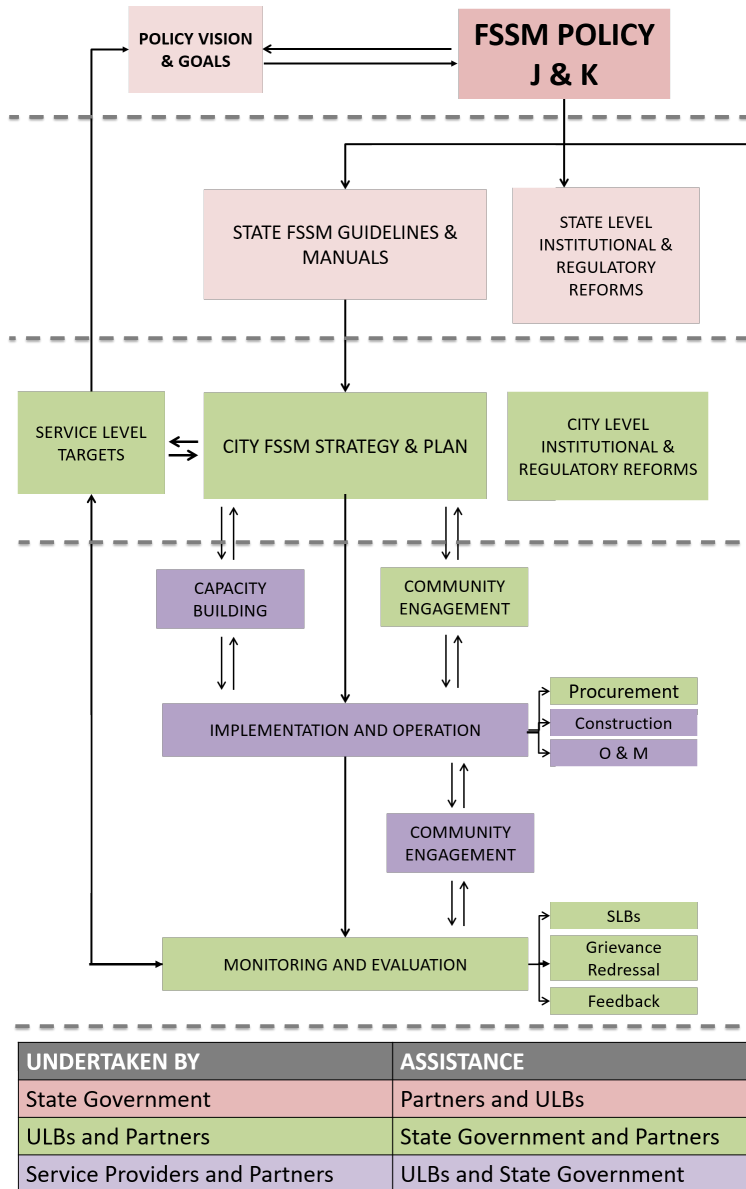
External agencies would be engaged and proper modules would be prepared for training government officials, service providers, ULBs, etc. on relevant FSSM practices, technologies, operating procedures, techniques, financial assessment, etc.

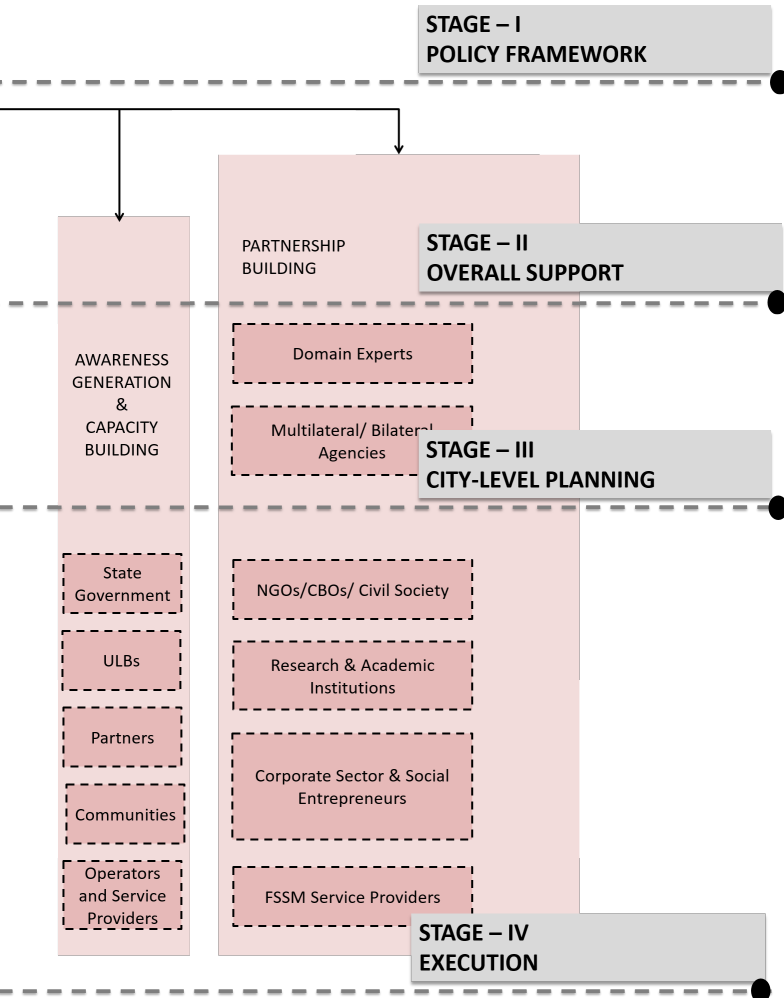
Separate initiation and training Modules shall be prepared for State government officials, ULB representatives, service providers, planners & engineers, prospective partners, etc., each customized for the target audience. Short courses and workshops can be organized on FSSM operations, and successful participants may be given certification at the end of the program/ course. Certified professionals will be given preference for all government works and services related to FSSM.

Educational modules on FSSM can be integrated as part of academic teaching at schools and institutions of higher education, to sensitize the upcoming population on the importance of safe sanitation and role of FSSM in the same. While the state government may assist the ULBs in the short-term for preparation of city-level FSSM plans and strategies, in the long-term, rigorous capacity building initiatives should be taken to ensure the ULBs are self-reliant for implementation of their FSSM plans.

Customized Capacity Building and Training Modules can be designed for ULBs with involvement of various knowledge and capacity building partners based on local site conditions. Since many FSSM concepts such as an FSTP or Scheduled desludging are quite recent, an important component for capacity building of various government officials and service providers will be planned exposure visits to areas with best practices in FSSM, which will help them get a first-hand experience of such operations and alleviate doubts and misconceptions about its efficiency as a long-term solution.

Figure 2: Process Flow Diagram and Phasing of FSM Policy Implementations





REGULATE AND MANAGE	
	State Government
	ULBs and State Government
	ULBs

5.9 EXPECTED OUTCOMES

While the goals set out broad aspirations and intentions of the policy, the expected outcomes are tangible end results if the goals are achieved.

- Enhancement of sanitation coverage - No direct contact with waste – Safe handling and complete containment of Faecal Sludge and Septage during collection, conveyance, treatment and disposal.
- Scheduled Desludging - Greater Progress in transition from reactive on-call service to periodic & scheduled service, along with formalization of service providers (masons, operators, tankers, etc.)
- Environmental improvement - Significant reduction in contamination of soil and water (surface and underground) due to human waste
- Safe waste handling and Better Public Health - Safe handling and complete containment of Faecal Sludge and Septage during collection, conveyance, treatment and disposal. Noticeable improvement in public health indicators including morbidity and mortality rates across urban areas in the state reduced incidences of water-borne diseases is expected as an outcome.
- New opportunities – Avenues in sanitation and FSSM services emerge, based on cost recovery and profit generating business models.
- Greater Institutional Capacities - Augmented capacities across institutions (State and city-level) that could possibly be replicated in other sectors.



6

ANNEXURES

6.1 REGULATORY FRAMEWORK

The existing national and state level framework in terms of legislation, policy, programs, standards, guidelines, etc. has been presented below. This provides a brief background on the current regulatory regime, important considerations and priorities, setting a context for this policy.

Legislation	Brief
Environment (Protection) Act, 1986 and the Water (Prevention and Control of Pollution) Act, 1974	This Act applies in principle to every establishment, agency, or individual discharging any pollutant into the environment. 'Pollutant' includes treated or untreated sewage. It provides a framework for control of effluent, wastewater and septage discharge
74th Constitutional Amendment Act, 1992	Responsibility for the planning and delivery of urban services, including sanitation, lies with urban local bodies under local municipal laws and the 74th Constitutional Amendment Act, 1992.
Municipal Solid Waste (MSW) Rules, 2016	disposal and treatment of faecal sludge and septage, before or after processing, at landfills and for use as compost; and final and safe disposal of post-processed residual faecal sludge and septage to prevent contamination of ground water, surface water and ambient air;
The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993	ban on dry latrines, i.e., latrines with no water-seal or flushing mechanism, and the employment of persons for manually carrying human excreta

Legislation	Brief
Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013	It intends to empower “District level survey committee” & “State level survey committee” towards the complete abolition of manual scavenging without certain obligations. “Hazardous cleaning” in relation to sewers and septic tanks is banned and that manual cleaning of sewers and septic tanks, if necessary, may be carried out only in very controlled situations, with adequate safety precautions, and in accordance with specific rules and protocols for the purpose.
National Urban Sanitation Policy, 2008	It intends to make all Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.
Guidelines for Swachh Bharat Mission (Urban), 2014	It intends to eliminate open defecation, eradication of Manual Scavenging and to effect behavioural change regarding healthy sanitation practices in Urban areas.
National Mission on Sustainable Habitat (NMSH), 2010	National Mission on Sustainable Habitat (MMSH) is a component of the action plan for climate change, focus on waste recycling.
Atal Mission for Rejuvenation and Urban Transformation	Improving basic services (water supply, sewerage & septage, urban transport) in cities through reforms in urban governance, augmentation of basic infrastructure and establishing a sound institutional framework for effective delivery, through an incremental approach
Jammu & Kashmir Municipal Act, 2000	Public health, sanitation, conservancy and solid waste management, including scavenging, removal and disposal of filth, rubbish and other obnoxious matters is one of the obligatory functions of municipalities.
Jammu & Kashmir Municipal Corporation Act, 2000	The Public Health and Sanitation Committee shall perform functions relating to the health, sanitation, water supply, drainage and sewage disposal.
Jammu & Kashmir Employment of Manual Scavengers and construction of dry latrines (Prohibition) Act, 2010	To appoint an Executive Authority to provide for prohibition of manual scavenging, registration and rehabilitation of those who are engaged in it. Regulate conversion of dry latrines into, or construction and maintenance of water-seal latrines

Legislation	Brief
Jammu and Kashmir Water Resources (Regulation and Management) Act, 2010	This act prohibits discharge of sewage into the irrigation waters and provides for preparation of a state water policy or plan which includes treatment of any effluents which have the potential of contaminating the ground water through seepage, leaching to acceptable standards.
Standards, Manuals & Advisories	Brief
National Building Code of India (NBC) 1983 & 2005	Code governs the design, installation and maintenance of toilets, septic tanks, and sewers. It gives an overview of size of drainage, sewerage including design of septic tanks, sewers, toilets, and other sanitation devices. The NBC also suggests that use of septic tanks without follow-up treatment is not permitted
Indian Standard - 2470	Code of Practice for Installation of Septic Tanks
Manual on Sewerage and Sewage Treatment, CPHEEO in collaboration with JICA, 2013	Guidelines for – design, planning and providing advice on the selection of technology options for urban sanitation (for on-site, off-site sanitation and both decentralized & centralized treatment options); Operation and Maintenance of sanitation systems & resource mobilization; management, administration, project delivery, etc.
Advisory on Septage Management in Indian Cities, MoUD, 2013	Outlines the contents and steps of developing a septage management sub-plan (SMP) as a part of the city sanitation plans (CSP) being prepared and implemented by cities which supplement the NUSP. Septage here refers not only faecal sludge from septic tanks but also from pit latrines and onsite toilets.
Primer on Faecal Sludge and Septage Management, MoUD, 2016	Supplementary document to the Advisory on Septage Management in Indian Cities, 2013. Stresses the need for State-wide operative guidelines, City level toolkits, operational manual, management/ financing/ operating FSSM, and FSSM plan for the city.
Draft national Urban Faecal sludge management policy, MoUD, GoI, Feb 2017	The draft document mainly Outlines need of FSM, awareness generation, national declaration, central laws and rules, and implementation approach.

This draft policy document endeavors to build upon the existing legislative, policy and regulatory framework, and amalgamates it into a single cohesive and comprehensive document, that would guide in FSSM implementation in the urban setting of J & K.

6.2 DISTRICT LEVEL SANITATION STATUS

Anantnag- The census 2011 data indicates that the coverage by piped sewer network in the 12 ULBs is very low. Only Anantnag and Bijbehara have more than 20% of the households served by piped sewer network. In towns like Aishmuquam, Duru Verinag, Mattan, Pahalgam Seer Hamdan and Shangus, more than 50% of the households are dependent on the on- site sanitation facilities. In Duru Verinag, Koker Nag and Shangus, more than 10% of the households are served by service latrines where night soil is removed manually or by animals. Mattan and Pahalgam have more than 10% of the households dependent on public latrines for their sanitation needs. Arwani has more than 50% of the households defecating in open and it is more than 20% in Achhabal, Aishmuquam, Koker Nag, Pahalgam, Qazi Gund and Seer Hamdan. About 23% of the night soil from Anantnag and 29% from Bijbehara are disposed into open drains.

Badgam- Out of the 9 ULBs, only Badgam, Beerwah and Magam towns have coverage by piped sewer network to more than 20% of the households. In towns like Chara-i-Sharief and Nagam, sewerage coverage is as low as 1% only. 48% of the night soil from Chadara-i-Sharief is disposed into open drains. Kral pora has the highest coverage i.e. 79%, while all the other ULBs have less than 50% coverage by On- site sanitation facilities. Towns like Beerwah, Ichgam, Khansahib and Magam have more than 20% of the households dependent upon service latrines whereas this number is as high as 52% in Chadura and 56% in Nagam. Percentage of households defecating in open is more than 10% in Beerwah, Chadura, Ichgam and Nagam towns.

Bandipore- There are 3 ULBs out of which only Bandipore has 19% of the households served by piped sewer network. All the 3 ULBs have less than 50% of the households served by on- site sanitation facilities. 21% of the night soil from Bandipore is disposed into open drains. 57% of the households in Sumbal town are served by Service Latrines. Open defecation is less than 10% in all the three ULBs in this district.

Baramula- There are 7 ULBs, out of which only Gulmarg has 50% coverage by piped sewer network. Pattan and Sopore have more than 25% of the households served by piped sewerage network. Gulmarg has zero households dependent

upon On- site sanitation facilities because the remaining 50% households which are not served by piped sewerage network are using service latrines. About 50% households in Baramula and more than 25% of the households in Kunzer, Pattan, Sopore and Uri are dependent upon on- site sanitation facilities. 63% households in Watra Gam and 43% in Kunzer are dependent upon service latrines. Uri town has about 36% of the households defecating in the open.

Doda- In Doda MC, 61% of the households are served by piped sewer network and 28% by on- site sanitation facilities. Bhaderwah has 34% of the households served by piped network and 19% by OSSF. It is important to note that about 38.6% of the night soil in Bhaderwah is disposed into open drains.

Ganderbal- There are 3 ULBs in Ganderbal district, out of which only Safa Pora has more than 25% coverage by piped sewer network. More than 25% of the households in Safa Pora and Wali, and 51% in Ganderbal are dependent upon on- site sanitation facilities. More than 25% of the households in all the three ULBs are using service latrines. Wali has more than 20% of the households defecating in the open.

Jammu- There are 20 ULBs in Jammu district and all of them have less than 25% coverage by piped sewer network even when the terrain is comparatively less undulating and steep. In 7 ULBs namely Akhnoor, Bhalwal, Chak Ratnu, Chhatha, Ghomanhasan, R. S. Pora and Raipur Domana have more than 25% of the households dependent upon OSSF and about 81% in Chak Kalu. Share of service latrines is the least in this district. About 75% of the households in Khore, and more than 50% households in Arnia, Chak Ratnu, Bhalwal, Chhatha and Ghomanhasan are defecating in the open. About 21% of the night soil from Akhnoor is being disposed into open drains.

Kargil- Kargil has 10% of the households served by piped sewerage network, 84% by OSSF, 2.5% by service latrines and 2.5% are defecating in the open.

Kathua- There are 6 ULBs and all of them have less than 10% of the households served by piped sewerage network. More than 75% of the households in Lakanpur, and more than 50% in Basholi, Hiranagar and Kathua are dependent upon OSSF. Parole has 25% and Bilawar has 30% of the households dependent upon OSSF.

Use of service latrines is almost nil in this district. The percentage of people defecating in open in Parole and Bilawar towns is alarmingly high at 72% and 63% respectively. It is more than 25% in Bashohli and Hiranagar.

Kishtwar- In Kishtwar, 47% of the households are served by piped sewer network and 24% by on- site sanitation facilities. 6% of the households are defecating in open. About 22.5% of the night soil is being disposed into open drains directly.

Kulgam- There are 7 ULBs in Kulgam and all of them have less than 25% of the households served by piped sewerage network. Ashmuji Khalsa, Devsar and Quimoh have less than 25% of the households using on- site sanitation systems. Kulgam, Frisal, Mehmood Pora and Yari Pora have more than 25% of the households served by OSSF. Open defecation is practiced by about 24% of the households in Kulgam and Mehmood Pora.

Kupwara- All the 10 ULBs in the district Kupwara have less than 15% of the households served by piped sewerage network. Dara Pora and Handwara have less than 25% of the households served by OSSF. More than 25% of the households in Drug Mulla, Nowangabra, Sool Koot and Trehgam, and more than 50% of the households in Handwara, Kral Pora, Kupwara and Tangdhar are dependent upon on- site sanitation systems. Use of service latrines in Dara Pora is about 72% which is a matter of concern. All the other ULBs have less than 25% of households resorting to service latrines except Drug Mulla where it is 28%. Heri and Nowangabra have about 58% of the households defecating in open. Sool Koot, Tangdhar and Trehgam have more than 25% of the households practicing open defecation. About 19% of the night soil generated in Heri is being disposed directly into open drains.

Leh Ladakh- Coverage by piped sewerage network is less than 10% in the ULB of Leh Ladakh district due to hilly terrain and dispersed settlement. Leh Ladakh MC ad Chuglamsar have more than 80% of the households dependent upon on- site sanitation facilities and 65% in Spituk. About 30% of the households in Spituk are using service latrines. Open defecation is less than 5% in all the three ULBs in Leh Ladakh.

Pulwama- There are 5 ULBs out of which Pampora, Pulwama and Tral have more than 25% of the households served by piped sewerage network. Except Pampora

(41%), all the four ULBs have more than 50% of the households served by on- site sanitation facilities. Use of service latrines is less than 2% in all the ULBs except Khrew where it is 8%. Incidence of open defecation is less than 25% in all the five ULBs of Pulwama district.

Punch- There are 3 ULBs and only Punch city has more than 25% of the households served by piped sewerage network. Punch and Surankote have more than 50% of the households using on- site sanitation systems. About 95% of the households in Naka Majjari and 27% in Surankote are defecating in the open.

Rajouri- The MC of Rajauri has 25.5% of the population served by piped sewerage network. About 78% households in Sunderbani, 44% in Thanamandi and more than 50% households in Nowshehra and Rajauri are served by on- site sanitation facilities. 34% of the households in Thanamandi are defecating in the open. About 10% of the night soil generated in Nowshehra and 14% in Rajauri is being disposed into open drains.

Ramban- All the 3 ULBs in Ramban have less than 25% of the households served by piped sewerage network. 82% of the households in Ramban and more than 60% of the households in Banihal and Batote are served by on- site sanitation facilities. Incidence of open defecation in all the three ULBs is less than 25%.

Reasi- There are 5 ULBs in Reasi district out of which, Katra, Marhi and Reasi have more than 25% of the households served by piped sewerage network. More than 25% of the households in Talwara and Katra, and more than 50% in Reasi are dependent upon on- site sanitation facilities. About 80% of the households in Purana Darooh MC are practicing open defecation and it is more than 25% in Marhi and Talwara.

Samba- All the 6 ULBs in Samba district have less than 12% of the households served by piped sewerage network. More than 25% of the households in Birpur and Ramgarh, and more than 50% of the households in Bari Brahamana, Gorah Salathian, Samba and Vijay Pur are dependent upon on- site sanitation facilities. Usage of service latrines is zero in all the ULBs in this district. More than 25% of the households in Birpur and Gorah Salathian, and more than 50% of the households

in Ramgarh are defecating in the open. About 22% of the night soil generated from the households of Samba MC are being disposed into open drains.

Shupiyan- In Shupiyan, 45.6% of the households are under the coverage of piped sewerage network and 42% are served by on- site sanitation facilities. 3% of the households are disposing their waste directly into open drains and about 4% are using service latrines. Remaining 4.8% are defecating in the open.

Srinagar- There are 4 ULBs in Srinagar District. Badami Bagh Cantonment Board area has about 57% of the households served by piped sewerage network and rest of the three ULBs i.e. Khonmoh, Now Gam and the capital city of Srinagar have less than 25% of the households served by piped sewerage network. Coverage by on- site sanitation facilities is 36% in Badami Bagh, 68% in Srinagar, 82% in Now Gam and 99.5% in Khonmoh town. Use of service latrine and open defecation is less than 5% in all the four ULBs in this district. About 8% of the night soil generated from Srinagar is being disposed directly into the open drains.

Udhampur- All the 6 ULBs in Udhampur district have less than 25% of the households served by piped sewerage network. More than 75% of the households in Chenani, above 50% in Rehambal and Udhampur, and above 25% in Ram Nagar and Rathian are dependent upon on- site sanitation facilities. More than 65% of the households in Kud and Rathian are defecating in the open and it is 38% in Ramnagar and about 20% in Chenani and Rehambal towns of the district.

6.3 FSM PRIORITY INTERVENTION : URBAN LOCAL BODIES

Name of District	Area Name	No. of HHs	OSSF	Priority
Anantnag	Shangus	1208	70	II
Anantnag	Mattan	1384	57.8	II
Anantnag	Aishmuquam	1011	55.6	II
Anantnag	Seer Hamdan	1335	55.1	II
Anantnag	Pahalgam	966	52.7	II
Anantnag	Duru Verinag	3133	50.6	II
Anantnag	Qazi Gund	1363	49.8	III

Name of District	Area Name	No. of HHs	OSSF	Priority
Anantnag	Achhabal	2470	40.8	III
Anantnag	Bijbehara	3098	37.6	III
Anantnag	Anantnag	17611	33.4	III
Anantnag	Arwani	1582	29.8	III
Anantnag	Koker Nag	900	18.6	IV
Badgam	Kral Pora	1442	79	I
Badgam	Magam	807	44.8	III
Badgam	Khansahib	352	42	III
Badgam	Badgam	2258	39.4	III
Badgam	Ichgam	999	38.7	III
Badgam	Chadura	792	32.2	III
Badgam	Nagam	1049	28.9	III
Badgam	Charar-i-Sharief	2098	27.7	III
Badgam	Beerwah	946	7.1	IV
Bandipore	Bandipore	5584	43.7	III
Bandipore	Sumbal	2233	24.8	IV
Bandipore	Hajan	1781	16.9	IV
Baramula	Baramula	11725	50.8	II
Baramula	Uri	970	47.4	III
Baramula	Sopore	11192	41.8	III
Baramula	Kunzer	306	41.6	III
Baramula	Pattan	2087	41.6	III
Baramula	Watra Gam	932	24.4	IV
Baramula	Gulmarg	77	0	IV
Doda	Doda	4597	28.1	III
Doda	Bhaderwah	2122	19.2	IV
Ganderbal	Ganderbal	3989	50.8	II
Ganderbal	Wail	1429	28.8	III
Ganderbal	Safa Pora	1548	25.1	III
Jammu	Chak Kalu	809	81.5	I

Name of District	Area Name	No. of HHs	OSSF	Priority
Jammu	Bhore	1336	74.2	II
Jammu	Maralia	900	73.7	II
Jammu	Rakh Gadi Garh	1612	72.3	II
Jammu	Dhande Kalan	1036	69.2	II
Jammu	Jammu	117479	64.2	II
Jammu	Jammu Cantt.	5680	62.8	II
Jammu	Nihalpur Simbal	795	56.2	II
Jammu	Nagrota	2521	54.2	II
Jammu	Jourian	892	52.4	II
Jammu	Bishna	2153	50.5	II
Jammu	Chak Ratnu	819	49.7	III
Jammu	R.S. Pora	3030	49	III
Jammu	Akhnoor	3393	44.6	III
Jammu	Chhatha	923	42.1	III
Jammu	Ghomanhasan	793	40.5	III
Jammu	Raipur Domana	4254	29.9	III
Jammu	Bhalwal	3104	26.6	III
Jammu	Arnia	1787	24.5	IV
Jammu	Khore	1592	22.7	IV
Kargil	Kargil	2191	84	I
Kathua	Lakhanpur	618	77.2	I
Kathua	Bashohli	1106	62.3	II
Kathua	Kathua	12061	61.3	II
Kathua	Hiranagar	1723	52.6	II
Kathua	Billawar	902	30.6	III
Kathua	Parole	1522	25	III
Kishtwar	Kishtwar	2710	23.9	IV
Kulgam	Yari Pora	2205	56.7	II
Kulgam	Kulgam	2710	43.6	III
Kulgam	Frisal	851	40.2	III

Name of District	Area Name	No. of HHs	OSSF	Priority
Kulgam	Mehmood Pora	1944	27.9	III
Kulgam	Devsar	1394	24.4	IV
Kulgam	Quimoh	2221	24.2	IV
Kulgam	Ashmuji Khalsa	1016	11.9	IV
Kupwara	Kral Pora	569	61	II
Kupwara	Kupwara	1934	58.4	II
Kupwara	Handwara	2011	56.3	II
Kupwara	Tangdhar	1901	50.4	II
Kupwara	Trehgam	1258	48.3	III
Kupwara	Sool Koot	492	45.6	III
Kupwara	Drug Mulla	1458	41.9	III
Kupwara	Nowangabra	1079	31.6	III
Kupwara	Heri	561	12.9	IV
Kupwara	Dara Pora	736	6.8	IV
Leh Ladakh	Chuglamsar	1931	88.4	I
Leh Ladakh	Leh Ladakh	4377	81.2	I
Leh Ladakh	Spituk	696	65.3	II
Pulwama	Khrew	1343	66.3	II
Pulwama	Pulwama	2483	62.3	II
Pulwama	Awantipora	1083	56.8	II
Pulwama	Tral	2356	51.8	II
Pulwama	Pampora	3389	41.2	III
Punch	Punch	4943	60.1	II
Punch	Surankote	1367	58	II
Punch	Naka Majjari	906	3.9	IV
Rajouri	Sunderbani	1138	77.9	I
Rajouri	Nowshehra	1283	53.9	II
Rajouri	Rajauri	4364	51.7	II
Rajouri	Thanamandi	971	44	III

Name of District	Area Name	No. of HHs	OSSF	Priority
Ramban	Ramban	729	82.5	I
Ramban	Banihal	645	67.3	II
Ramban	Batote	788	62.3	II
Reasi	Reasi	1542	54.8	II
Reasi	Talwara	841	49.2	III
Reasi	Katra	1594	45.8	III
Reasi	Marhi	924	19	IV
Reasi	Purana Daroorh	129	14.1	IV
Samba	Bari Brahamana	2890	72.5	II
Samba	Vijay Pur	1688	70.5	II
Samba	Gorah Salathian	948	56.1	II
Samba	Samba	2566	50.7	II
Samba	Birpur	1361	46.4	III
Samba	Ramgarh	1214	36.3	III
Shupiyan	Shupiyan	2553	42.3	III
Srinagar	Khonmoh	216	99.5	I
Srinagar	Now Gam	420	82.9	I
Srinagar	Srinagar	187201	68.29	II
Srinagar	Badami Bagh	3324	36.4	III
Udhampur	Chenani	525	75.8	I
Udhampur	Udhampur	15491	62.9	II
Udhampur	Rehambal	1485	58.8	II
Udhampur	Ram Nagar	1330	41.4	III
Udhampur	Rathian	1241	26.8	III
Udhampur	Kud	281	24.4	IV

Source: Census of India, 2011

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