

State Consultation Event on Citywide Inclusive Sanitation (CWIS) Uttarakhand

Proceedings of the Event held in Fairfield by Marriot, Dehradun
19th October 2022



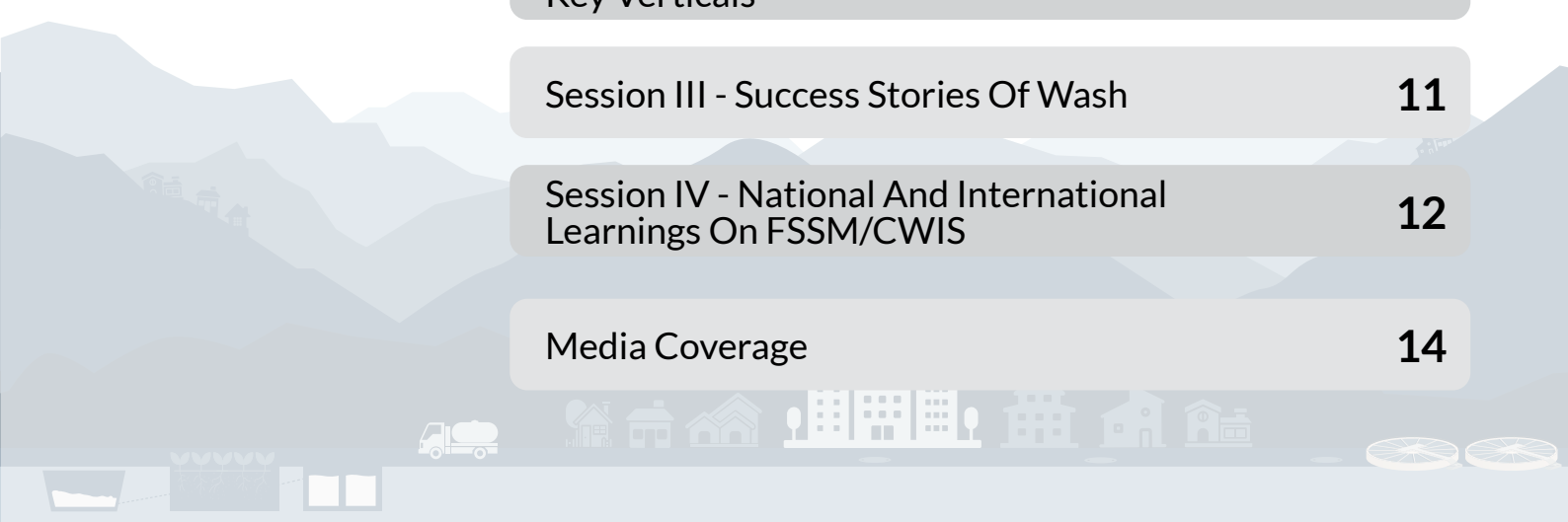
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ACKNOWLEDGEMENT



National Institute of Urban Affairs (NIUA) duly acknowledges the support provided by the Bill and Melinda Gates Foundation (BMGF) in the endeavor on mainstreaming Faecal Sludge and Septage Management (FSSM) in the State of Uttarakhand.

We extend our gratitude to the Urban Development Directorate (UDD), Government of Uttarakhand for supporting in hosting of the State Level Event on Citywide Inclusive Sanitation (CWIS) in Dehradun on 19th October 2022 and thus, mainstreaming citywide sanitation at scale by focussing on Faecal Sludge and Septage Management (FSSM) in Uttarakhand.

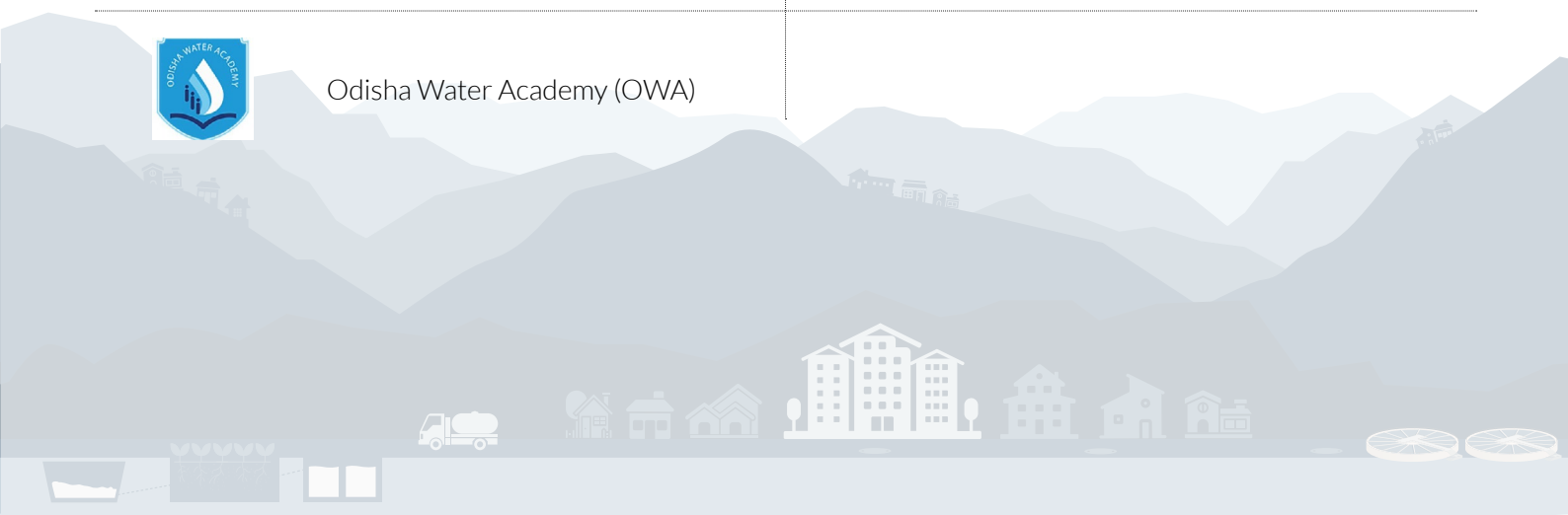
The deliberations and overall event were led by Dr. Mahreen Matto, Team Lead - Sanitation and Capacity Building Platform, NIUA and Shri Navneet Pande IAS, Addl. Secretary, UDD. The collaterals were designed and prepared under the guidance of Mr. Deep Pahwa, Creative Lead, NIUA and his team.



ORGANIZATIONS



 <p>Asian Development Bank (ADB)</p>	 <p>PAN Himalayan Grassroots</p>
 <p>Athena Infonomics</p>	 <p>People's Science Institute (PSI)</p>
 <p>Central Himalayan Rural Action Group (CHIRAG)</p>	 <p>Sanitation Capacity Building Platform (SCBP)</p>
 <p>Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)</p>	 <p>Social Development for Communities (SDC) Foundation</p>
 <p>DRST Uttarakhand Academy of Administration (UAoA)</p>	 <p>Urban Development Directorate Uttarakhand (UDD)</p>
 <p>HaritaDhara Research Development and Education Foundation (HRDEF)</p>	 <p>University of Petroleum & Energy Studies (UPES)</p>
 <p>Himmothan</p>	 <p>Urban Management Centre (UMC)</p>
 <p>Indian Institute of Technology, Roorkee (IIT)</p>	 <p>Uttarakhand Peyjal Nigam</p>
 <p>International Water Association (IWA)</p>	 <p>Uttarakhand Jal Sansthan</p>
 <p>National Institute of Urban Affairs (NIUA)</p>	 <p>Uttarakhand Urban Sector Development Agency (UUSDA)</p>
 <p>Odisha Water Academy (OWA)</p>	



ABOUT THE EVENT



In recent years, sanitation has been at the forefront of India's development agenda. The Government of India has launched Phase II of Swachh Bharat Mission-Urban (SBM-U) 2.0 and Atal Mission For Rejuvenation And Urban Transformation (AMRUT) 2.0, in the year 2021. With SBM-U 2.0, the focus is on sustainable sanitation and treatment of used water while a key component of AMRUT 2.0 is sewerage and septage management. Therefore, it is incumbent upon states to take this up as a priority.

National Institute of Urban Affairs (NIUA) has been engaged with the Urban Development Directorate (UDD) of the state of Uttarakhand for scaling the agenda of Faecal Sludge and Septage Management (FSSM) across the state through an MoU since 2019 and provides assistance on three fronts – technical support, capacity building and policy advisory. In addition, NIUA is also supporting other relevant state departments and agencies of the state namely, Uttarakhand Pwaj Nigam, Uttarakhand Jal Sansthan, Uttarakhand Urban Sector Development Agency (UUSDA) etc. for addressing the septage management challenges.

Uttarakhand, a hilly state comprising 103 Urban Local Bodies (ULBs), is majorly dependent on Onsite Sanitation systems (approximately 70%). Currently, there are 66 operational Sewage Treatment Plants in the state, with overall treatment capacity of 397 MLD out of which 244 MLD (60%) is utilized, as only 30% of the state is served by sewerage. As per the current estimates (2018 population), the population dependent on OSS in Uttarakhand generates approx. 957 KLD of Septage (based on sludge production method) and only 30% is being safely managed by discharging it in the operational STPs of the state. Uttarakhand is one of the priority states under National Mission for Clean Ganga (NMCG), NMCG along with the state government has directed to implement co-treatment in all existing and upcoming Sewage Treatment Plants (STPs) in the state. Moreover, the existing potential for co-treatment of septage can be managed initially by utilizing 40% underutilized treatment capacity of operational STPs, which can further be extended to nearby cities that are without any treatment facilities through cluster approach. Additionally, establishing Faecal Sludge Treatment Plants and other septage management approaches such as, interim measures of having scientific land application, would meet the needs of the overall septage management in the state. Adopting this inclusive approach of utilizing the STPs for co-treatment, along with the other approaches of addressing septage management, will help in achieving Citywide Inclusive Sanitation (CWIS). Increasing the scope of FSS treatment with current sewage treatment, will benefit all stakeholders, including poor and marginalized and thus have an integrated approach of treatment, encompassing both, on and off site sanitation in order to provide sanitation to all.

Over the past two years, Uttarakhand state has significantly progressed towards managing safe disposal of septage via various interventions like capacity building of the stakeholders, developing policy and advisory documents and technical guidelines at state level as well as through hand-holding support to select cities.

This event will showcase the detailed approach to CWIS and successful case studies at Uttarakhand state, national and international levels. Also, to highlight the status and progress of wastewater and septage management situations in Uttarakhand and key initiatives taken at different levels of administration, i.e. at the state and city level. The event will also seek to envisage the way forward for the state with respect to CWIS in the discourse of inclusivity and climate change.

State Consultation Event on Citywide Inclusive Sanitation (CWIS) in Uttarakhand

Registration	09:30 – 10:00
Introduction and Context Setting: Dr. Mahreen Matto, Team Lead, NIUA Welcome Address: Shri Hitesh Vaidya, Director, NIUA Keynote Address: Shri Rajiv Ranjan Mishra IAS (Retd.), Advisor, NIUA (Former Director General, National Mission for Clean Ganga) Keynote Address: Shri Deependra Kumar Chaudhari IAS, Secretary, Uttarakhand Development Department Keynote Address: Shri Nitesh Kumar Jha IAS, Secretary, Uttarakhand Peyjal Keynote Address: Shri Anand Bardhan IAS, Addl. Chief Secretary, Govt. of Uttarakhand Inaugural Address: Shri Premchand Aggarwal, Minister of Urban Development & Housing, Govt. of Uttarakhand	10:00 – 11:15
Launch of Documents and Felicitation Ceremony Cities to be Awarded: Haridwar, Rishikesh, Rudrapur, Ramnagar, Haldwani, Roorkee - ODF++, Chamba - ODF++, Dehradun - ODF++, Muni ki Reti - ODF++	11:15 – 11:45
High Tea	11:45 – 12:00
Sanitation Journey in Uttarakhand in the discourse of CWIS and Climate Change Speaker: NIUA Session I: Policy and Advisory for Uttarakhand Speaker: NIUA State advisory note co-treatment of FSS with sewage in STPs State Strategy and Investment Plan: FSSM in Uttarakhand Advisory note for ULBs for Operationalizing State Septage Management Protocol	12:00 – 12:50
Session II: State-wide perspective on key Verticals State Policy and Advisory interventions and opportunities: Speaker: Shri Ravi Pandey, Superintending Engineer, Urban Development Directorate Co-treatment of septage with sewage in Ganga towns: Speaker: Shri Deepak Malik, General Manager (Ganga), Uttarakhand Peyjal Nigam ADB's engagement with Uttarakhand Govt. and CWIS in Dehradun: Speaker: Ms. Jane Olley, Senior Expert, Asian Development Bank Speaker: Shri Dhawal Patil, Sanitation Specialist- National Expert, Asian Development Bank Capacity Building in Uttarakhand: Speaker: Shri Manoj Pande, Incharge CGG, DRST Uttarakhand Academy of Administration	12:50 – 14:00 20 mins 15 mins 20 mins 15 mins
Lunch	14:00 – 15:00
Session III: Success stories of WASH: Rudrapur Nagar Nigam Speaker: Shri Shivam Dwivedi, Executive Engineer, PIU AMRUT, Uttarakhand Peyjal Nigam Kashipur Rishikesh Nagar Nigam Speaker: Shri Merazuddin Ahmed, State Technical Advisor, GIZ	15:00 – 15:20 10 mins 10 mins
Session IV: National and International learnings on FSSM/CWIS State wide FSSM journey of Odisha: Speaker: Shri Sandipan Sarangi, Team Leader, FSSM-TSU, H&UDD Dept, Odisha Learnings from Urban Inclusive Sanitation Initiatives Speaker: Dr. Suresh Kumar Rohilla, Programme Lead, International Water Association Inclusion of sanitation worker's safety and SHG conversions across sanitation value chain Speaker: Ms. Prerna Somani and Rashmita Patel, Urban Management Centre	15:20 – 16:20 20 mins 20 mins 20 mins
Way Forward for streamlining CWIS in Uttarakhand and Closing Address: Speaker: Shri Uday Raj Singh IAS, Addl. Secretary, Uttarakhand Peyjal (Namami Gange) Speaker: Shri Navneet Pande IAS, Addl. Secretary, Urban Development	16:20 – 16:40 10 mins 10 mins
Closure/Vote of Thanks: NIUA	16:40 – 16:50
Tea	16:50 onwards

INAUGURAL SESSION



Dr. Mahreen Matto
Team Lead, SCBP-NIUA

Introduction and Context Setting

This event on CWIS in Uttarakhand has been led by the partnership of NIUA, a national think tank of the Government of India, under the Ministry of Housing and Urban Affairs (MoHUA), and the Urban Development Directorate (UDD) of Uttarakhand. An immense salutation to the dignitaries present from various departments, which includes, Peyjal Nigam, Jal Sansthan Uttarakhand, Uttarakhand Urban Sector Development Agency, and other organisations and parastatal agencies prominent in development of Uttarakhand. Keeping in mind the strides taken by Uttarakhand towards sustainable sanitation systems as a whole through capacity building of various stakeholders, providing advisories, and many such initiatives, this event focuses on the future of discourse and the way forward for the state of Uttarakhand. With the focus on the current drives and advances towards adapting Faecal Sludge and Septage Management (FSSM) and the decentralized solutions for sanitation, it is crucial that this drive shall now be amalgamated with the aim of ensuring that everyone possesses equitable access to sanitation. The event pushes the metamorphosis from infrastructural provision to service provision, with equity at its heart, along with the transition towards decentralized solution and co-treatment. Such initiatives have the capacity to open the gambit towards sustainable and equitable solutions for Uttarakhand, having an impact on both health and the environment.



Shri Rajiv Ranjan Mishra
IAS (Retd.)
Advisor, NIUA (Former
Director General, NMCG)

Keynote Address

The central role of CWIS in providing equity is matched with its role in evolution from a centralized approach and infrastructural provision, towards a blend of centralized and decentralized approaches and service provision to the general public. Emphasizing the significance of the practitioners present at the event and that their knowledge support plays a key role in implementing innovative sanitation solutions, such as CWIS. Uttarakhand, engulfing the origin of river Ganga, which serves the water requirements of a huge population, demands a special focus. A dire need to assess and gauge the geographical conditions, to understand its limitations and potential feasibility, shall be made in order to encompass a more permanent and sustainable sanitation solution. In the terrains of Uttarakhand, hill city resilient plans shall be acknowledged in order to provide solutions with respect to the topographical condition. An essential requirement to consider various innovative technological solutions and not only contemplating the capital cost, but also operational and maintenance costs could prove to be an efficient method in evaluating the viability of a particular project. The prevalence of 'one water one solution' was envisaged which focused upon the need for solutions catering to the ever-growing urban population. On the back of urbanization, the cities are increasing their boundaries and encompassing a greater population. Hence, development planning and strategies to serve such a population shall be sustainable and considerate of the water management concept. The by-products of water management not only pertain to health and sanitation benefits but also help the environment to heal and end up having a positive impact on climate change. Lastly, the planning shall be a practice with specified, pre-defined, but flexible road maps.



Shri Deependra Kumar Chaudhari IAS
Secretary, Uttarakhand Development Department,
Govt. of Uttarakhand

Keynote Address

A focus on the technical and conceptual aspects should be corresponded by the basic conjunctures of urban development. The diversity of land occupation, and its division, in the state of Uttarakhand, should not be neglected. The demographic understanding will help to widen the scope of service provision to peri-urban areas. Proper cohesion of the work done with the prescribed guidelines is required by the Urban Local bodies. Data transparency on the amount of collected and treated waste, plant capacity, etc. This tends to increase the accountability and proactiveness in the functioning of installed plants. Along with that, sharing data can lead to the participation of whosoever is facing the problem. Assistance and coordination between problems and desired authority, for solutions should be done in order to achieve the output in an effective and efficient way.



Shri Nitish Kumar Jha IAS
Secretary, Uttarakhand Nigam,
Govt. of Uttarakhand

Keynote Address

An artificial boundary created for better administration shall not be assumed to be adhered by nature as well. Needless to say, the natural assets and forces can not be contained by the scope of administrative boundaries. Therefore urban planning, policies, programmes, and initiative must not be limited to the circumference of cities, rather they should also encompass the peri-urban surroundings of the cities. This exercise helps minimize the impact on urban areas when such peri-urban clusters are merged with them. An integrated approach, with regard to expanding the boundary from urban to peri-urban areas, is the need of the hour. Hereby an initiative was taken by Peyjal, in collaboration with the world bank, to identify the peri-urban clusters and later match the water quality standards with urban sectors, i.e., supplying water as per the urban standards. The problem of lack of coordination, among different government agencies of varied jurisdictions, caused a challenge to adhere to the administrative boundary. The accomplishments of Jal Jeevan Mission (JJM) and NAMAMI Gange, need to be combined with gray water management as well in order to capitalize on the operations of such missions. Under the current context, the triumph of achieving ODF+ status in 30% of villages becomes more plausible. Finally, a practically apt approach with appropriate technology and required technical knowledge will assist in setting up the platform for higher success and carving the way toward a sustainable environment.



Shri Navneet Pandey IAS
Addl. Secretary, Uttarakhand
Development Department,
Govt. of Uttarakhand

Keynote Address

Urbanization in India has been rapidly gaining pace. Being at the juncture of witnessing an exponential curve of urbanization, where the urban population in Uttarakhand is expected to skyrocket from 30% to 60%. The forthcoming population force has been dissected into two fragments; one is the population coming from the hilly region to the plains, and the other is the floating population where Uttarakhand is witnessing unprecedented footfall in the form of tourism. From initiating the City Sanitation Plan, with the help of GIZ, to being one of the leading states in notifying septage protocol, the state has taken incremental strides towards providing cost-effective sanitation solutions. The FSTP of Rudrapur, now on the verge of operationalizing, was a massive success narrative of AMRUT 1. With such achievements on its back, the state is now at the planning stage of AMRUT 2.0, SBM 2.0, and a second phase project with Asian Development Bank (ADB); along with that state is also on its way to setting up a State Institute for Urban Development. Such planning, complemented with adequate technological advancements and innovative approaches, can yield prosperous results and provide assistance to commence from planning to practice. Out of the many challenges faced, the procurement issue stands to be extremely prevalent. Here the handholding support of organizations like NIUA can assist in linking, not only to advance technological solutions, but also to apt partners which eases the path for implementation. The aim is to implement integrated, diverse, and sustainable solutions, in collaboration with NIUA, with the end goal of increasing the quality of life and environment.



Shri Uday Raj Singh IAS
Addl. Secretary, Uttarakhand
Peyjal (Namami Gange),
Govt. of Uttarakhand

Keynote Address

India is making rapid strides in the sanitation sector. The effect of various flagship programmes launched by our Prime Minister marked their footprint across India. Recently, the cities of Uttarakhand state have witnessed tremendous growth and development, however, Peyjal department has played a crucial role in providing clean water and in the mitigation of river pollution through infrastructural development by constructing and installing STPs not only in plains but also in difficult terrains.

Uttarakhand being one of the priority states under NMCG, has been directed and mandated to implement co-treatment of faecal sludge and septage in all existing and upcoming STPs in the state. Moreover, the existing potential for co-treatment of septage can be managed initially by utilizing the under-utilized treatment capacity of operational STPs, which can further be extended to nearby cities without any treatment facilities through cluster approach. Adopting this inclusive approach of utilizing the STPs for co-treatment, along with the other approaches of addressing septage management, will help in achieving City-wide Inclusive Sanitation (CWIS). Thus, the state of Uttarakhand has been proven a torchbearer of this citywide sanitation approach through science and technology in the sector of waste management.

I believe that the National Institute of Urban Affairs along with other state and international institutions can support the state in creating a platform for peer-to-peer knowledge sharing and catalyze sustainable development.



Shri Premchand Aggarwal
Minister of Urban Development &
Housing, Govt. of Uttarakhand

Inaugural address

Under the esteemed guidance and leadership of our Prime Minister Narendra Modi, Uttarakhand, along with the nation, has moved leaps and bounds ahead in the domain of cleanliness and sanitation.

Uttarakhand is a hilly state with 103 Urban Local Bodies. Almost 80% of the state is dependent on OSS systems. This highlights the need for safe septage management across the state. Uttarakhand Govt. issued a Septage Management Protocol in the year 2017 to work in lines of safe septage management. The protocol advises formation of Septage Management Cells and Bye laws along with several other guidelines for safe septage management in individual ULBs. With the engagement of National Institute of Urban Affairs (NIUA) through an MoU to support the state for safe septage management currently, 93 ULBs have formed Septage Management Cells and 34 ULBs have gazette notified their bye-laws.

Uttarakhand, being a priority state under National Mission for Clean Ganga (NMCG) has taken steps to tackle the problem of septage management. NMCG along with the state government has directed to implement co-treatment in all existing and upcoming STPs of the state. Under NMCG co-treatment at STPs of Haridwar, Rishikesh, Srinagar and Devprayag have been approved, this will not only cater to the individual cities but also benefit cities around them. The first FSTP of the state under AMRUT is under-construction at Rudrapur in the Kumaon region. This FSTP will not only cater to the demands of Rudrapur Nagar Nigam but also 9 additional neighboring cities.

Adopting this inclusive approach of utilizing a mixed method treatment approach, of using STPs along with FSTP, is a stepping stone in helping the state to achieve City-wide Inclusive Sanitation (CWIS) by transitioning towards service delivery across the sanitation service chain and involving all the potential stakeholders.

Over the past two years, the state has significantly progressed towards safe septage management with the support of NIUA via various interventions like capacity building of stakeholders, developing advisory documents and technical documents at state as well as handholding support at the ULB level.

LAUNCH OF DOCUMENTS & FELICITATION CEREMONY



Launch of Documents

The event subsumed the launch and endorsement of three key advisory documents:

- 1) State Advisory note on Co-treatment of Faecal Sludge and Septage with Sewage at Sewage Treatment plant;
- 2) State Strategy and Investment Plan for Faecal Sludge and Septage Management in Uttarakhand; and
- 3) Advisory note for ULBs for Operationalizing the State Septage Management Protocol.

Felicitation Ceremony

Nine cities were acknowledged as 'Front Runner Cities' of Uttarakhand and were awarded a certificate by Hon'ble Minister of Urban Development & Housing, Govt. of Uttarakhand, Shri Premchand Aggarwal for achieving ODF++ status and for being proactive in conducting septage management activities like notification of septage management bylaws, household survey, safe disposal of septage, registration and monitoring of private desludgers, etc.

Roorkee, Chamba, Dehradun and Muni ki Reti were awarded for achieving ODF++ status. Haridwar, Rishikesh, Rudrapur, Ramnagar and Haldwani were awarded for being proactive towards septage management activities.



NIUA-UDD MoU signing under National Urban Digital Mission (NUDM)

The National Urban Digital Mission is a flagship mission of the Ministry of Housing and Urban Affairs to digitize urban citizen services using shared digital infrastructure. It intends to enhance the ease of living for urban citizens by enabling accessibility of municipal services on digital platforms.

Launch of the documents was followed by signing of MoU between National Institute of Urban Affairs and Urban Development Directorate for National Urban Digital Mission. With an aim to provide citizen-centric governance, Uttarakhand becomes the 21st State/UT to sign the tripartite MoU between Ministry of Housing and Urban Affairs & National Institute of Urban Affairs (NIUA) for implementation of Urban Platform for delivery of Online Governance (UPYOG) to provide online delivery of common urban services to the citizens.



SESSION I - POLICY & ADVISORY

FOR UTTARAKHAND



Dr. Mahreen Matto
Team Lead, SCBP-NIUA

Formation of Hill Forum in the disclosure of CWIS and Climate Change

Increasing Urbanization, especially in the South Asian region, has been pestering the discourse for urban development and hindering the environment. The issue of rising urbanization is magnified and turns up as a glaring concern when huge tracts of people are moving in and around hills. The North and North-Eastern belt of the country constitutes some of the fastest-growing cities of the country. It poses an immense challenge for the parastatal development authorities to cater to an ever-rising population under harsh geographical conditions. In order to deal with rising urbanization in high altitude and remote places, an initiative, 'Hill Forum', has been ideated by NIUA, under the assistance of MoHUA and is due to be launched in March 2023. Aim of the forum is to create a platform and engross cities and their respective development authorities, of 12 states of the Hindu-kush region in Phase I, to engage actively with State Government and Central Government for sanitation solutions. Such a platform looks to provide handholding support which will assist the state in planning, developing, and implementing solutions that are considerate towards the challenges and circumstances in hand. The wide range of solutions provided, from finance and policy formation, to governance and technical know-how, can devour the state towards channelising resources to a sustainable and equitable sanitation solution. To confront the obstacles of inter-region communication, geographical challenges forecasted by terrain, and the heavy yet scattered population, the forum formalizes itself under three pillars, namely; Knowledge sharing, Capacity Building, and Advisory Support. Each pillar seeks to facilitate cities in opting for favorable sanitation solutions.



Mr. Doab Singh
Programme Officer,
SCBP- NIUA

Sanitation Journey in Uttarakhand in the disclosure of CWIS

NIUA initiated its support to Uttarakhand in December 2018. In order to develop a state's perspective on Faecal sludge & septage and wastewater management in the state. NIUA conducted a situational assessment study in 5 towns of Uttarakhand (Jaspur, Rudrapur, Tehri, Chinyalisaur and Pitthoragarh) with different geographical conditions and existing treatment infrastructure. NIUA formalized its engagement with Uttarakhand state in February 2019 through an MoU with UDD with key focus on 3 verticals: Capacity building, Advocacy and Technical support. Moreover, to develop a state-wide scale up plan for streamlining the decentralized sanitation solutions. To onboard all the key departments of the state, a State Septage Management Committee (SSMC) was constituted under NIUA-UDD engagement under chairmanship of Secretary UDD and Secretary Uttarakhand Peyjal and other senior officials from UDD, UPJN and UJS for periodical monitoring and discussion on the state's status of FSSM.

The 3 key verticals under the state support were also elaborated during the presentation. Three levels of capacity building framework including different levels of training content and target audiences. Eight sets of training modules targeting eight sets of target audience were developed by NIUA. As a state-wide capacity building strategy for rolling out training in Uttarakhand, NIUA formally engaged with Uttarakhand Academy of Administration (UAoA, Nainital) in 2020.

NIUA, since 2019 has supported UDD, UPJN, UJS and UUSDA through developing ULB/State level advisories and guidelines on septage management bye-laws, FSSM state strategy and investment plan, DRE and state septage management protocol. Moreover, NIUA also provided technical support through DPR preparation and design recommendations for septage co-treatment in various STPs and septage treatment in FSTP sanctioned under various national schemes like AMRUT, NMCG, ADB funds etc.

Overall, NIUA has reached out and supported over 85 ULBs across Uttarakhand to support capacity building, technical, advisory/bye-laws formation support.



Mr. Shantanu Kumar Padhi
Senior Programme Officer,
SCBP- NIUA

State advisory note on co-treatment of FSS with sewage in STPs

NIUA has been engaged with Uttarakhand state for scaling the agenda of co-treatment of faecal sludge and septage with sewage at sewage treatment plant at state-wide with technical support on FSSM as one of the key verticals under its state support. With the support of NIUA, Uttarakhand Pey Jal Nigam, Govt. of Uttarakhand has recently released an Advisory Note on Co-treatment of Faecal Sludge and Septage with sewage at STP in Uttarakhand. The advisory is prepared for engineers and operators of STP for implementing co-treatment facilities and operationalising the same.

The state advisory note has been recognized and endorsed by the Hon'ble Minister Shri Hardeep Singh Puri and other senior dignitaries of the Ministry of Housing and Urban Affairs (MoHUA) on the occasion of World Habitat day on 3rd October 2022.

Uttarakhand being one of the priority states under National Mission for Clean Ganga, has directed to implement co-treatment in all existing and upcoming STPs in the state. Moreover, the existing potential for co-treatment of septage can be managed initially by utilizing the under-utilised treatment capacity of operational STPs, which can further be extended to nearby cities without any treatment facilities through cluster approach. Adopting this inclusive approach of utilizing the STPs for co-treatment, along with the other approaches of addressing septage management, will help in achieving City-wide Inclusive Sanitation (CWIS).



Ms. Laila Khan Khongthaw
Programme Officer,
SCBP- NIUA

State Strategy and Investment Plan : FSSM in Uttarakhand

The presentation explained the FSSM Strategy and Investment Plan, which was unveiled at the event. Uttarakhand, primarily a hilly state, is divided into five geographical zones: the Terai, the Doons, the Lesser Himalayas, the Greater Himalayas, and the Trans Himalayas. Because most of the roads in the state are steep and narrow, accessibility is a major concern. The state is divided administratively into two regions: Garhwal and Kumaon, and it has 103 Urban Local Bodies. Because of religious towns like Haridwar and Badrinath, as well as tourist attractions like Rishikesh and Mussorrie, the state has a large floating population.

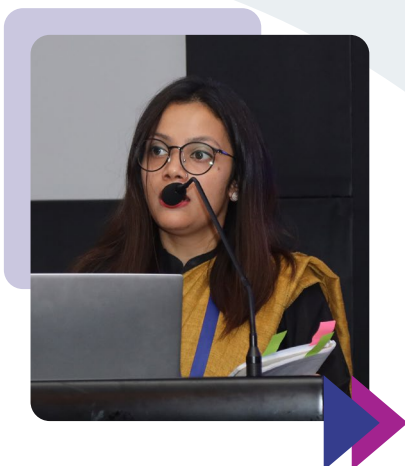
The aim of this strategy document is to achieve CWIS, an approach that promotes planning and implementation of urban sanitation systems in order to achieve SDG 6 outcomes. In addition, the document aims to develop a strategy for 100% safe management of faecal sludge and septage (FSS) across all 103 ULBs in Uttarakhand in accordance with new missions and guidelines. One of the main goals is to make the best use of available resources while also ensuring that funds are available for the same.

The strategy calls for implementing the plan in three phases using a cluster approach to ensure optimal resource utilization. The criteria considered for implementation are; co-treatment of FSS in STPs as priority, to cover major urban agglomerations with high OSS dependence on priority, FSTPs are proposed for cities where there are no existing STPs or the existing STPs lack capacity to treat FSS, road distance of 25 kms is considered for cluster formation as per the guidelines mentioned in the Septage Management Protocol of the state and small cities are to explore land application as temporary disposal facility.

The presentation explained the three phases of the strategy document. The first phase is a proof-of-concept phase that includes cities where FSS treatment proposals were initiated as of January 2022. This phase includes 33 cities: 8 host cities and 25 cluster cities. In Phase-I, 07 FSS co-treatment and 01 FSTP are proposed for implementation. The facility for FSS treatment is expected to be operational within 1-2 years. Second phase is considered as the upscaling phase; it includes cities where STPs are either operational, under-construction or at proposal stage and the focus is to include co-treatment of FSS co-treatment in the STPs. This phase takes into account major urban agglomerations that rely heavily on OSS systems, as well as important cities in terms of tourism or administration that lack treatment facilities. This phase includes 46 cities: 24 host cities and 22 cluster cities. In Phase II, FSS co-treatment and 10 FSTP are proposed for implementation. The facility for FSS treatment is expected to be operational in 2-3 years. The strategy's third and final phase is the closure phase, which proposes that septage generated by ULBs be treated at ULBs without an existing/proposed treatment facility. This phase includes 24 cities: 16 host cities and 8 cluster cities. In this phase, 16 FSTPs are proposed for implementation. The facility for FSS treatment is expected to be operational in 3-4 years. Cities can investigate alternative treatment options, such as land application, during this phase.

The strategy intends to cover 21 cities with co-treatment and an additional 27 cities with clustering around co-treatment facilities. Furthermore, 27 cities can be served by FSTPs, and an additional 28 cities can be served by clustering around these FSTPs.

The presentation concluded with a discussion of the activities required for implementing the FSSM strategy, which included establishing a co-treatment facility/FSTP, initiating clustering of ULBs within the cluster, and developing bye-laws for cluster level treatment.



Ms. Gauri Srivastava
Programme Officer,
SCBP- NIUA

Advisory note for ULBs for Operationalising State Septage Management Protocol

The presentation explained the genesis and journey of the advisory document prepared by NIUA in 2020 for all the urban local bodies of Uttarakhand to successfully operationalize the Septage Management Protocol which was issued by the Urban Development Department in 2017.

Beginning with the components and coverage of the protocol in detail including its purpose, scope and elements; the presentation discussed the need and purpose of the advisory document. It also explained how ULBs with different character and available resources can plan for septage management and select a treatment option to suit their needs.

Moving forward, the main focus of the presentation was on how the different key departments at state, district and ULB level can take up different activities as suggested in the protocol covering all the components of the sanitation service chain and within a set timeline.

All the six major activities listed in the protocol including instituting effective septage management; identification of types of containments; infrastructure creation for collection; transportation and treatment of septage; disposal; monitoring and IEC & capacity building were discussed in detail. The presentation also briefed that as per the advisory document which department (Collectorate, Urban Development Directorate, Peyjal Nigam, Jal Sansthan, Urban Local Bodies, Monitoring Committees) should be responsible to take up various sub tasks under each activity in order to ensure proper implementation of protocol guidelines. Another important point covered during the presentation was the timeline for each activity given in the advisory document i.e. which activity can be taken up immediately by concerned departments, which activity can be taken up as a short term (1 year to 5 years) goal and which activity should be the long term (beyond 5 years) goal for ULBs depending upon their existing situation.

Towards the end, it was reiterated during the presentation that effective septage management is never a one man's or one department's responsibility. All the stake stakeholders will have to act together as a team in order to not only successfully operationalize the septage management protocol but to ultimately achieve the state's bigger goal of 100% safe, inclusive, equitable and sustainable sanitation.

SESSION II - STATE-WIDE PERSPECTIVE ON KEY VERTICALS



Shri Ravi Pandey
Superintending Engineer,
Urban Development Directorate,
Govt. of Uttarakhand

State Policy and Advisory interventions and opportunities: Wastewater and Septage Management

The key address to the presentation initiated with the highlight on challenges faced by Uttarakhand to maintain, or even opt for, a sustainable sanitation solution. These challenges were: limited sewer network; majority of population adhering to OSS, with improper containments; emptying & transportation; topographical and geographical challenges in desludging and treatment & disposal, with lack of treatment units; there is also a universal problem with unscientific disposal of waste.

The discussion on National initiatives, State initiatives, and laws & framework with a primary focus on; SBM 2014 & SBM 2.0 2021, National FSSM Policy, 2017, AMRUT 2015 & AMRUT 2.0 2021, and State Septage Management Protocol, 2017 have assisted in understanding the role of central & state government in instigating the endeavors towards sustainable non-sewered sanitation solutions.

On similar lines, funding opportunities by the state were focused upon. Where the significance of grants from; World Bank, SBM 2.0, AMRUT 2.0 were presented upon. Such incentives are the much-needed push towards FSTP & Co-Treatment.

Different techniques and technologies in order to increase accessibility, viability, and environmental sustainability were called attention to. These primarily pertained; Mobile Septage Treatment Unit; for door-to-door service, and Johkasou; a Japanese unique advanced wastewater treatment unit, have been talked about. With that a specific emphasis was given on reuse of used water.



Shri Deepak Malik
General Manager Ganga,
Uttarakhand Peyjal Nigam,
Govt. of Uttarakhand

Co-treatment of Septage with Sewage in Ganga Towns

Mr. Deepak Malik, introduced Peyjal Nigam, about the institution and its vision and the ongoing projects. Mr. Malik apprised that the department is modernizing and pacing up with new technologies. The department has developed an in-house GIS based application to map all the Sewage Treatment Plants (STPs) developed under National Mission for Clean Ganga (NMCG) including existing as well as upcoming STPs. The application is robust and can be updated with newly developing infrastructure as well. The STPs are marked in the system with all the necessary details i.e (city/town, coordinates, year of construction, programme constructed under, installed capacity, real time physical biological and chemical characteristics of the influent and effluent, O&M agency, contractor and contact details). It is envisaged that within two years 90 STPs will be built and included in the GIS applications.

Under the currently developed GIS applications, applications are developed for sewerage infrastructure in the Garhwal zone; sewerage infrastructure tree view with meeting points etc. to display flow; public amenities on Char Dham Route and Drinking water infrastructure in Uttarakhand.

Mr Malik apprised that the application can be instrumental in planning for state level co-treatment infrastructure development at a state wide scale. Namami Gange programme is not restricted to only Ganga mainstream but it also covers its tributaries as well. Mr Malik apprised that the department has sufficient funds to carry out infrastructure projects related to septage management. He requested UDD to share the data with Pey Jal Vibhag and vice versa so that both the institutions can plan and implement comprehensive FSSM management at 45 STPs.



Ms Jane Olley
Senior Expert, ADB

ADB's engagement with Uttarakhand Govt. and CWIS in Dehradun

The presentation broadly focused on the Citywide Inclusive Sanitation (CWIS) approach and its broad comparison with the traditional planning system. It also brought emphasis on the work undertaken under ADB in Uttarakhand with regard to CWIS and its potential. The first part of the presentation showcased the case study of Lilongwe city, Malawi where the sanitation systems were laid in colonial times with traditional solutions and the city lacked the treatment of faecal sludge and septage. The plan gathered focus on the intangible aspects of planning like population, sanitation and customer profiling. The overall idea of the plan was an integrated inclusive approach for the entire city which also states that utility shouldn't only be provided in a single part of the city in isolation, rather multiple utilities can be planted in various parts of the city.

Other important parameters of the devised planning approach are affordability & pricing; service improvements and customer awareness. The plan got in place when a faecal sludge management unit got established in the city; important stakeholders were identified; service improvement strategy was drafted; strategic allotment of resources was taken up; and the provision of the utility was made sure. It was realized that in the initial stage, the project doesn't fall under a revenue generation strategy till the first few years and the government must aid for the project.



Mr. Dhawal Patil
Sanitation Specialist,
National expert, ADB

The second half of the presentation gathered attention on the CWIS project in Uttarakhand in the cities of Dehradun and Haldwani, which focuses on integrated CWIS meaning plugging in septage management in the sewerage scenario. It talks about the inception phase which listed active and proposed projects in the respective cities, and therefore laid out a framework. Second phase encompasses the sanitation service delivery assessment, preparing a comprehensive FSSM plan which would help existing projects to plug in the FSSM part in the same. For the profiling of cities under inclusive CWIS approach, effective survey methodology was expanded to include household surveys, institutional surveys, and focused group discussion with key stakeholders. Based on the data collection, a statistical analysis was undertaken. The major findings comprised that the city doesn't have standard size of septic tanks; people are not willing to take up sewerage connections due to perceived undue expenditure; informal desludging operators provide desludging services in the cities; varying demand of desludging; decanting cost levied due to distances from the existing STP; unscientific way of treating septage in the STP; and limited market for bio solids in Uttarakhand even though there is an efficient agroforestry in place.

It is realized that the key aspects for CWIS planning is to consider the population density, affordability of the households; understanding demand of the households are important for efficient implementation of infrastructure; byelaws and regulations should be in parity; and capacity building of members of Septage Management Cell (SMC) is crucial. It is apprehended that the incremental improvement is crucial for an effective CWIS plan.



Shri Manoj Pande
In-charge CGG, DRST Uttarakhand
Academy of Administration,
Nainital Uttarakhand

Capacity Building in Uttarakhand

The presentation focused on the Capacity Building activities towards addressing the sewage and septage management in the state of Uttarakhand. Beginning with the initial steps taken for inclusion of decentralized sanitation solutions and FSSM in Training Programmes; it described how sessions were included in SBM and Solid Waste Management programmes sponsored by DoPT, where FSSM was discussed as a solution for tackling sanitation problems. It mentioned how UDD got engaged with NIUA to scale up the agenda, by signing MoU with SCBP for organizing training programmes for elevating the institutional and individual capacities of the ULBs and parastatal organizations of Uttarakhand; under which training modules were contextualized by NIUA and translated in hindi by Dr. R. S. Tolia Uttarakhand Academy of Administration (ATI). It also mentioned briefly about the FSSM orientation training and the advanced training covered till date, expanding the knowledge of the participants.

Moving forward to determine the action points, the presentation discussed the requirement for developing sanitation solutions specific to hilly areas, for which the Academy is already in process of partnering with NIUA in their Forum for Inclusive and Resilient Sanitation in Hilly Cities. It also discussed the need for Urban-Rural Convergence of sanitation services at the district level so that effective utilization of sanitation infrastructure can be done. It apprised that the Urban Directorate would play a major role in finalizing the training calendar, identifying the thematic areas of training such that they complement the state priorities and Research and Development activities.

SESSION III - SUCCESS STORIES OF WASH



Shri Shivam Dwivedi

Executive Engineer, PIU AMRUT,
Uttarakhand Peyjal Nigam Kashipur

Rudrapur Nagar Nigam

The presentation provided an overview of the sanitation scenario in urban India, including the need for faecal sludge and septage management, as well as the shortcomings of the existing systems. Key elements for FSSM were thoroughly discussed, including FSTP/STP for co-treatment, desludging vehicles and their frequency, sustainable O&M models, sludge reuse, and so on. The speaker also explained technical aspects of FSTP, such as capacity estimation, and went on to discuss some of India's and other African and South East Asian countries' best practices for septage management.

The presentation then moved on to the city of Rudrapur in Uttarakhand. Because the city lacks a sewer network, it is entirely reliant on OSS systems. Due to the city's lack of sewage/septage treatment facilities, septage from containment systems is disposed of directly in drains and rivers. As a result, a 125 KLD FSTP in 4500 sq m is being built in the city under the AMRUT scheme to address the issue of septage management. The project's various aspects, including data, finance, proposed work, O&M details, and so on, were thoroughly discussed, as was the Rudrapur FSTP's journey from conception. The presentation concluded by discussing the project's challenges, such as land issues, among others.



Shri Merazuddin Ahmed

State Technical Advisor, GIZ

Rishikesh Nagar Nigam

The presentation focused on integrated sanitation approaches in Uttarakhand, with more focus on Rishikesh, a priority ULB under GIZ. Significant progress in septage management has been made in Uttarakhand since the notification of the Septage Management Protocol. In 2019, GIZ-SGR developed model bye-laws on septage management, which were approved by the Urban Development Department for implementation in respective Ganga towns. SPMG conducted a co-treatment assessment of STPs in collaboration with GIZ via IIT Roorkee to assess the potential for co-treatment of collected septage in existing STPs (2019).

The presentation discusses the major focus areas of septage management which included; household survey, collection & transportation of septage, creation of infrastructure for treatment of septage/co-treatment of septage in existing STPs, disposal of septage/reuse options, safety measures, IEC and capacity building.

Mr. Ahmed then went into detail about Rishikesh, the interventions GIZ has made in the city such as household surveys, geotagging, the preparation of SFD for a better understanding of the sanitation scenario, assisting in the preparation of DPR for co-treatment in Rishikesh's existing STP, and so on. He also discussed on-the-ground issues such as unscientific containment systems, irregular desludging, suction issues, unscientific disposal, and so on.

Talking about the way forward, the speaker emphasized that integrated wastewater and septage management interventions are required in the state of Uttarakhand and adoption of holistic River Basin Management approach in the state should be a priority. GIZ will also assist NMCG and SPMG with technical assistance for the Ramganga River Basin Management Plan.

SESSION IV - NATIONAL AND INTERNATIONAL LEARNINGS ON FSSM/CWIS



Mr. Sandipan Sarangi

Team leader, FSSM-TSU, H&UDD
Dept, Odisha

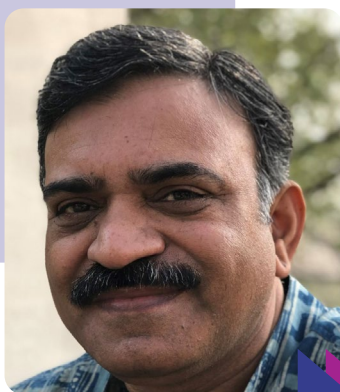
State wide FSSM journey of Odisha

The presentation explained the sanitation situation and demography of the state back in 2015 before bringing in the new strategy and adopting an appropriate sanitation approach for the state. According to the previous sanitation situation, there was 95 % OSS in the state; septage used to be discharged in water bodies and agricultural land; there was lack of treatment facility; and lack of public awareness.

As a solution to the issues listed, the state adopted a nature based non-sewered sanitation approach rather than a conventional approach, focused on complete value chain, and an incremental approach adopted with regard to procuring desludging vehicles.

Traditional contract was replaced with Self-help group involvement, bringing in community in the whole process. The presentation also mentioned the Garima Greh scheme for the involvement of trans-gender individuals in the entire process. The state government is also working with regard to the urban -rural convergence for FSSM.

Therefore, it apprehends that Odisha is a classic example of state wide non-sewered sanitation and FSSM scale up strategy with a focus on inclusivity.



Dr. Suresh Kumar Rohilla

Programme Lead, International
Water Association (IWA),
London, United Kingdom

Learnings from Urban Inclusive Sanitation Initiatives

Dr. Suresh Kumar Rohilla began the presentation by giving a brief introduction about the International Water Association which is a leading global network for water professionals, bridging the gap between research and practice, covering all aspects of the water cycle. The network has 7500+ members from 140+countries. Followed by this, Dr. Rohilla described the key focus areas of the programme they are leading at IWA, which is to amplify inclusive urban sanitation agenda through all IWA channels.

Various strategic programmes and initiatives of the IWA channel were presented in which Inclusive Urban Sanitation lies amongst the others. Thereafter, the definition of CWIS and how it is an imperative method to meet the Sustainable Development Goal was presented. Moving forward, under the Millennium Development Goal and its priority and how it differs from the sustainable development goal and its priorities were discussed. This was further supported by the evolution of sanitation mix in cities starting from open defecation practiced by the households to current integrated approach of faecal sludge and wastewater management. Dr Rohilla provided the insights of the City Sanitation approach along the sanitation value chain. It was apprised that CWIS is being implemented around 40 cities globally, and CWIS differs from the City Sanitation Approach.

Lastly, CWIS framework – core CWIS outcome and functions was presented which focuses on Equity, Safety and Sustainability, and Responsibility, accountability and resource planning and management. The learnings on the CWIS implementation have been curated by the IWA globally. This will not be restricted to documentation but rather will support in creating knowledge material for capacity building and advocacy and peer to peer knowledge.



Ms. Prerna Somani
Urban Management Centre (UMC)

Inclusion of sanitation worker's safety and SHG conversions across sanitation value chain

Presentation broadly pertained to the challenges faced by the sanitation workers, who play an indispensable role in the sanitation value chain and yet are not able to reclaim the desired lawful recognition. Denial in the existence of sanitation workers by the Manual Scavenging Act, 2013, in itself magnifies the severity of injustice. Initiatives taken by the state of Odisha, under the veil of GARIMA scheme, 2022 which seeks to provide safety and dignity to sanitation workers through various benefits, have taken a step towards providing some relief to this vulnerable section. Benefits operates from the degree of providing recognition and identification, to providing apt training & PPE kits for safety. Such evaluation inferred that there is infrastructural fallacy, when compared with the Emergency Response Sanitation Unit (ERSU) advisory given by MoHUA in 2019.

Along with that, National initiatives like NAMASTE, 2022, convergence of SBM-U with DAY-NULM in 2018, have envisaged the working standard of sanitation workers and thereby have been providing sustainable livelihood and enhancing

their occupational safety through capacity building and improved access to safety gear and machines. But it was highlighted that much more is supposed to be done.

Later, the focus was also given to solid waste management and source segregation as a need of the hour. Lastly, specific discussion was done embarking on the need for increasing the capacity of Self-Help Groups (SHGs). A dire need towards inclusion of SHG was showcased. Here the scheme of; Suvidha Sakhi Yojna; aims to provide monetary subsistence on the work done by women of SHGs.



Ms. Rashmita Patel
Urban Management Centre (UMC)



Shri Ashok Pandey PCS
Additional Director Uttarakhand
Urban Directorate,
Govt. of Uttarakhand

Way forward for streamlining CWIS in Uttarakhand and Closing Address

Mr. Pandey thanked NIUA, NMCG, GIZ, and all the other organizations and officials who helped make the event a success. He acknowledged the event's significance and stated that, because it is a relatively new concept, it helps the city or state officials improve their knowledge of the subject.

Furthermore, he pointed out some of the key learnings of the one day consultation meet; how to select a particular technology, how to tackle problems of desludging in the hilly areas of Uttarakhand, etc.

Furthermore, he highlighted some of the key takeaways from the one-day consultation meeting, such as how to choose a specific technology, how to address desludging issues in the hilly areas of Uttarakhand, and so on. He wrapped up the event by thanking all of the speakers.

MEDIA COVERAGE



<https://www.pioneeredge.in/states-first-faecal-sludge-treatment-plant-to-become-operational-soon/>



स्वच्छता: बेहतर प्रदर्शन वाले निकाय सम्मानित

देहरादून, मुख्य संवाददाता। शहरी विकास मंत्री प्रेमचंद अग्रवाल ने बुधवार को सेप्टेज प्रबंधन में बेहतर करने वाले राज्य के नौ निकायों को सम्मानित किया है। उन्होंने कहा है कि शहरों में सेप्टेज प्रबंधन अपने-आप में चुनौतीपूर्ण कार्य है। उत्तराखंड में अभी सिर्फ बीस प्रतिशत शहरी आबादी तक ही सीवरेज की पहुँच है।

बुधवार को राजपुर रोड स्थित एक होटल में शहरी विकास विभाग और नेशनल इंस्टीट्यूट ऑफ अर्बन अफेयर्स की ओर से आयोजित कार्यशाला को संबोधित करते हुए अग्रवाल ने कहा कि छोटा राज्य होने के बावजूद प्रदेश में शहरी निकायों की

संख्या 103 तक पहुँच चुकी है, लेकिन अब तक करीब 80 प्रतिशत परिवार आज भी सीवरेज निस्तारण के लिए सेंटिक टैंक या सोक पिट पर ही निर्भर हैं। इस तरह उत्तराखंड में सेप्टेज प्रबंधन बेहद जरूरी हो गया है। इसके लिए राज्य सरकार सेप्टेज मैनेजमेंट प्रोटोकॉल जारी कर चुकी है, प्रदेश के 93 निकायों में सेप्टेज मैनेजमेंट सेल का गठन किया जा चुका है।

अग्रवाल ने कहा कि नमामी गंगे कार्यक्रम के तहत हरिद्वार, ऋषिकेश, श्रीनगर और देवप्रयाग में को-ट्रीटमेंट सुविधा को मंजूरी प्रदान कर दी गई है। साथ ही रुद्रपुर में राज्य का पहला फीकल स्लज ट्रीटमेंट प्लांट रुद्रपुर में

निर्माणधीन है। इस मौके पर जन सुवाओं को ऑनलाइन तरकी से उपलब्ध कराने के लिए शहरी विकास निदेशालय और नेशनल अर्बन डिजिटल मिशन के साथ एमओयू भी साइन किया गया।

इस मौके पर एनआईयूए के सलाहकार राजीव रंजन मिश्रा, सचिव शहरी विकास दीपेंद्र चौधरी, निदेशक शहरी विकास नवनीत पांडे, मुख्य महाप्रबंधक जल संस्थान नीलिमा गर्ग, रुद्रपुर मेयर रामपाल सिंह प्रमुख रूप से शामिल हुए।

इन्हें किया सम्मानित: कार्यक्रम में सेप्टेज प्रबंधन में बेहतर काम करने वाले निकायों को भी सम्मानित किया

गया। इसमें देहरादून, हरिद्वार, ऋषिकेश, रुद्रपुर, रामनगर, हल्द्वानी, चंबा, रुड़की, मुनि की रैती के नाम शामिल हैं।

सेप्टेज प्रबंधन से कमाई कर रहे निकाय : इस मौके पर नमामि गंगे के पूर्व डीजी राजीव रंजन मिश्रा ने बताया कि सीवरेज ट्रीटमेंट निकायों के सामने बड़ी चुनौती है, लेकिन देश के कई निकाय इस दिशा में बेहतर काम कर रहे हैं। गुजरात के कुछ निकाय शोधित पानी को उद्योगों को बेच कमाई कर रही हैं, मथुरा रिफाइनरी भी शोधित जल खरीद रही है। उत्तराखंड में निकायों को भी इसके लिए बेहतर प्रबंधन अपनाना होगा।

ABOUT NIUA

National Institute of Urban Affairs (NIUA) is India's leading think tank on urban planning and development. NIUA's Sanitation Capacity Building Platform (SCBP) aims to address urban sanitation challenges in India, through capacity development of stakeholders in urban sanitation. This can facilitate improved delivery of sanitation services through implementation of citywide inclusive sanitation approach and adoption of non-sewered sanitation, including Faecal Sludge and Septage Management (FSSM). Through its experience and learnings over the past five years, SCBP has developed a normative framework for states on mainstreaming non-sewered sanitation. To deliver proof of concept of this framework, SCBP is working in Uttarakhand and providing capacity building, technical, and policy & advisory support on Integrated Wastewater and Septage Management (IWSM) at the state and ULB levels.



National Institute of Urban Affairs

National Institute of Urban Affairs

1st Floor, Core 4B, India Habitat Centre, Lodhi Road, New Delhi - 110003, INDIA
Phone: 011-24617517, 24617543, 24617595 • niua.in • scbp.niua.org

For project information contact: [Dr. Mahreen Matto \(Team Lead, SCBP\) - mahreen@niua.org](mailto:mahreen@niua.org)