

Consultation Meet

FORUM FOR INCLUSIVE AND RESILIENT SANITATION IN HILL CITIES



July 14-15, 2022



The Grand Dragon, Ladakh, Leh



 <p>Directorate of Urban Local Bodies, UT Ladakh</p>	 <p>National Institute of Urban Affairs (NIUA)</p>
 <p>Sanitation Capacity Building Platform</p> <p>Sanitation Capacity Building Platform (SCBP)</p>	 <p>BORDA SOUTH ASIA</p> <p>Bremen Overseas Research and Development Association (BORDA)</p>
 <p>LEDeG</p> <p>Ladakh Ecological Development Group (LEDeG)</p>	 <p>ACWADAM</p> <p>Advanced Center for Water Resources Development and Management (ACWADAM)</p>
 <p>ATHENA INFONOMICS</p> <p>Athena Infonomics</p>	 <p>Care North East Foundation</p>
 <p>Consortium for Dissemination Society</p> <p>Consortium for DEWATS Dissemination Society (CDD)</p>	 <p>CHIRAG</p> <p>Central Himalayan Rural Action Group (CHIRAG)</p>
 <p>ECOSAN SERVICES FOUNDATION</p> <p>Ecosan Services Foundation (ESF)</p>	 <p>IDEAL</p> <p>Inclusive Development For Environment and Learning Foundation (IDEAL)</p>
 <p>CEPT UNIVERSITY</p> <p>Centre for Environmental Planning and Technology (CEPT)</p>	 <p>HIMMOTHAN</p> <p>Himmothan</p>
 <p>INDIAN INSTITUTE OF TECHNOLOGY ROORKEE</p> <p>Indian Institute of Technology, Roorkee (IIT-R)</p>	 <p>TISS</p> <p>Tata Institute of Social Sciences (TISS)</p>
 <p>HRDEF</p> <p>HaritaDhara Research Development and Education Foundation (HRDEF)</p>	 <p>JNU</p> <p>Jawaharlal Nehru University (JNU)</p>
 <p>UDD</p> <p>Urban Development Directorate Uttarakhand (UDD)</p>	 <p>Keystone</p> <p>Keystone Foundation</p>
 <p>GRASSROOTS</p> <p>Pan Himalayan Grassroots</p>	 <p>25 TARU</p> <p>Taru Leading Edge</p>
 <p>PSI</p> <p>People's Science Institute (PSI)</p>	 <p>UPES</p> <p>UPES University</p>
 <p>IMI</p> <p>Integrated Mountain Initiative (IMI)</p>	

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AGENDA

DAY 1: JULY 14, 2022

REGISTRATION OF PARTICIPANTS

09.30 hrs - 10.00 hrs

INTRODUCTION AND CONTEXT SETTING

WELCOME AND INTRODUCTION

Dr. Mahreen Matto, Team Lead, SCBP, NIUA

10.00 hrs – 10.25 hrs

INAUGURATION OF THE MEETING

*Mr. Tashi Gyalsen, Chief Executive Councillor,
Ladakh Autonomous Hill Development Council*

10.25 hrs – 10.45 hrs

CONTEXT SETTING: URBAN ISSUES AT SCALE

Mr. Hitesh Vaidya, Director, NIUA

10.45 hrs – 11.15 hrs

URBAN ISSUES IN HILLY AREAS

*Mr. Stanzin Tsephel, Regional Director,
BORDA - South Asia*

11.15 hrs – 11.30 hrs

TEA: 11.30 hrs – 12.00 hrs

UTTARAKHAND STATE EXPERIENCE: SANITATION SCENARIO

*Mr. Ravi Pandey, Superintending Engineer,
UDD, Uttarakhand*

12.00 hrs – 12.30 hrs

ABOUT THE FORUM

Dr. Mahreen Matto, Team Lead, SCBP, NIUA

12.30 hrs – 13.00 hrs

LUNCH: 13.00 hrs – 14.00 hrs

PANEL DISCUSSIONS

PANEL 1: POLICY AND GOVERNANCE GAPS IN HILL STATES WITH RESPECT TO WATER AND SANITATION

*ACWADAM, HIMMOTTHAN, CHIRAG, PSI, IMI,
CARE North East Foundation, Tikender Singh and
Deepak Sanan (Independent Consultants)*

Moderator:

*Dr. Umamaheshwaran Rajasekar, Senior Advisor
and Head, Climate Centre for Cities, NIUA*

14.00 hrs – 15.30 hrs

- Existing Institutional Framework
- Urban-Rural Linkages in Water and sanitation
- Climate change mitigation and adaptation

PANEL 2: STRENGTHENING CITY-LEVEL SERVICE DELIVERY FOR SUSTAINABLE WATER AND SANITATION IN HILL CITIES

*Keystone foundation, ATHENA Infonomics,
JNU, TISS, IDEAL Foundation, CEPT, TARU,
Haritadhara Foundation*

*Moderator: Mr. Stanzin Tsephel,
Regional Director, BORDA - South Asia*

15.30 hrs – 17.00 hrs

- Equitable sanitation
- Planning
- Municipal Finances
- Business model/operational model
- Capacity building

WRAP-UP FOR THE DAY

17.00 hrs – 17.15 hrs

HIGH TEA: 17.15 hrs ONWARDS

DAY 2: JULY 15, 2022

RECAP OF DAY 1

09.30 hrs – 09.45 hrs

Dr. Mahreen Matto, Team Lead, SCBP, NIUA

PANEL 3: TECHNOLOGICAL INTERVENTIONS IN WATER AND SANITATION IN HILLY AND MOUNTAINOUS REGIONS

ESF, IIT-R, UPES, CDD, BORDA, LEDeG, Pan Himalayan Grassroots Development Foundation

Moderator:

Mr. Manas Rath, Advisor, BORDA - South Asia

- *Nature based solutions*
- *Challenges with regard to technologies in Hill areas*
- *Localized technologies*
- *Involvement of private sector*
- *Water sensitive urban designing and planning*

09.45 hrs – 11.15 hrs

TEA: 11.15 hrs – 11.30 hrs

BREAK-OUT SESSION

VALUE PROPOSITION OF THE HILL FORUM

11.30 hrs – 13.30 hrs

LUNCH: 13.30 hrs ONWARDS

CULTURAL NIGHT: 19.00 hrs ONWARDS

DAY 3: JULY 16, 2022

FIELD VISIT

Field Visit to the following sites:

- *Decentralized wastewater treatment systems*
 - *Faecal Sludge Treatment Plant, Leh*
 - *Decentralized solid waste management at Choglamsar*
- *Walkability at Leh Market*
- *All weather public conveniences*
- *Sanitation worker facility*

09:30 hrs – 12:30 hrs

LUNCH: 12:30 hrs - 13:30 hrs

About the consultation meet

The climate crisis has already made its mark visible, and the recent Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report clearly states that the water cycle is being affected, putting further pressure on provision of essential municipal services such as water and sanitation.

Himalaya, representing tectonically alive, densely populated, and one of the most marginalized mountain regions of the world has experienced rapid urban growth during the last three decades. The speedy and unplanned urbanization has perturbed the hydrological regimes of Himalayan watersheds and reduced groundwater recharge, and decreased the availability of water for drinking, sanitation and crop production; depleted forests and biodiversity; increased risks of natural hazards and disasters both in urban areas as well as in their peri-urban zones; and increased vulnerability of mountain inhabitants to water, food, livelihood and health insecurity. Moreover, climate change has stressed urban ecosystems by increasing the frequency, severity and intensity of extreme weather events. As in other parts of the world, urban growth cannot be stopped or reduced in Himalaya, but it can be steered in a more sustainable manner. Thus, it is imperative that urban centers located in these areas learn from each other, and adopt planning practices that are inclusive and resilient with the ability to mitigate and adapt to the climate crisis.

Given the specific challenges in urban sanitation faced in Himalayan region, NIUA proposes the setting up of a '**Forum for Inclusive and Resilient**

Sanitation in Hill Cities'. The purpose of the Forum is to bring together government officials and other stakeholders from states and cities to share their experiences with respect to Citywide Inclusive Sanitation (CWIS) and Integrated Wastewater and Septage Management (IWSM) with other cities of similar physiological and regional conditions and connect with sector experts through multi-disciplinary action research, knowledge & experience sharing and capacity building. The larger aim of the Forum is to facilitate peer-to-peer learning and help in developing solutions catering to the city's specific needs relating to varying geo-climatic factors and other contextual challenges.

As the first step towards the constitution of this forum, a two-day consultation meet is being organized in Leh, Ladakh from 14th to 15th July 2022. The meeting is organised by NIUA in partnership with BORDA South Asia, in association with Directorate of Urban Local Bodies, Union Territory, Ladakh.

The aim of the meeting is to initiate a dialogue among practitioners, think tanks and academia working in the inclusive and climate resilient urban sanitation to:

- Understand the gaps and challenges in different hill regions with respect to sanitation, septage management and climate change
- Identify the roles and responsibilities individual organizations can play within the forum
- Conceptualize and streamline the framework of the forum

Concept note of Hill Forum



Background

India has witnessed rapid urbanisation in recent years, with more than a third of its population living in urban areas. Large tracts of the country's northern and north-eastern states are majorly or completely hilly regions, and some of India's fastest growing cities are situated in these states. Due to the complex geography, infrastructure and development activities face significant challenges. Further, the climate crisis has already made its mark visible, and the recent Intergovernmental Panel on Climate Change report clearly states that the water cycle in the region is being affected,

putting further pressure on provision of essential services such as water and sanitation, on an already stressed Indian municipal system.

It is imperative, therefore, that urban centres located in these states learn from each other, and come together to adopt planning practices that are inclusive, resilient, and keep in mind future needs and risks, while acknowledging that there is no one-size-fits-all approach to development, and learnings and experiences of other cities will have to be contextualised specific to each city.

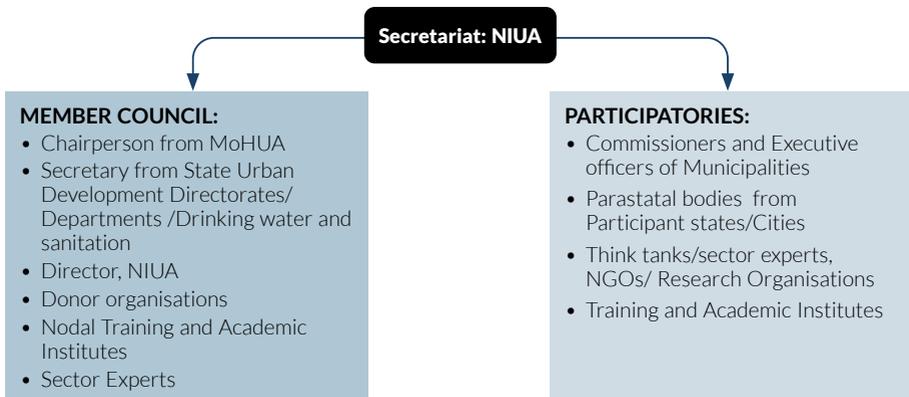
Aim and objectives of the forum

The aim of the Forum is to facilitate peer-to-peer learning and help in developing solutions catering to the city's specific needs relating to varying geo-climatic factors and other contextual challenges. This will be done through the following broad objectives:

- Develop frameworks and supporting guidelines for climate resilient and inclusive sanitation in hilly regions

- Encourage learning and peer-to-peer knowledge sharing
- Technical support to cities and state
- Support innovative pilot projects
- Facilitate research and document best practices
- Capacity building of stakeholders in the member cities/states

Structure of the Forum



Purpose of the forum

Given the specific challenges in urban sanitation faced by hilly regions, NIUA proposes the setting up of a 'Forum for Inclusive and Resilient Sanitation in Hill Cities'. The purpose of the Forum is to bring together government officials and other stakeholders from states and cities to share their experiences with respect to citywide inclusive sanitation, Integrated Wastewater and Septage Management (IWSM) and Faecal Sludge and Septage Management (FSSM) with other cities of similar physiological and regional conditions and connect with sector experts through multi-disciplinary action research,

knowledge & experience sharing, capacity building and peer learning.

Members and Participants

- Officials from Urban Local Bodies
- City's Mayors
- Local NGOs, think tanks, research organizations and expert agencies with experience in working in hilly regions
- National Nodal Training Institutes
- Academic institutes
- Government and non-government agencies from other countries with experience in working in hilly urban context

Operations of the forum

This Forum has been envisaged as a city/state driven platform where the member cities discuss and determine the outline and functions of the forum. Once the forum has been launched and officials on-boarded, the platform can be formalized. This can include entering into a non-financial MoU with the respective states to enable better cooperation and coordination. The platform can further include technical committees and working groups for better functioning. The involvement of the identified cities from all over India will be taken up phase-wise.

- Inaugural consultation meet with MoHUA and other key officials and stakeholders

from hilly states and cities. NIUA to set the context and agenda for the Forum

- Formalization of the Forum and setting out priorities with regards to ensuring 'Safe Sanitation for All' in hilly state context. Constitution of a technical committee with nodal officials from each member state
- Developing an activity calendar in consultation with the states which would include knowledge sharing events, targeted research, training and technical support in priority areas

In the initial phase the focus will be on the Himalayan and North-East States of India.

Key activities

Knowledge Sharing

- National level networking events
- Periodic knowledge sharing workshops
- Panel Discussions
- Periodic Newsletter
- Documenting best practices

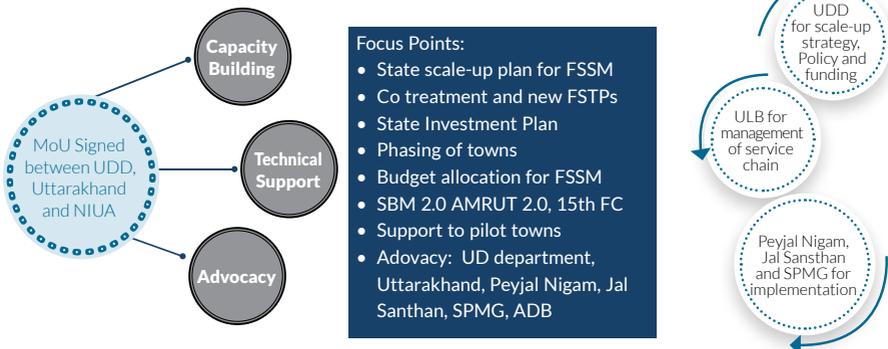
Capacity Building

- Organise certification workshops for dissemination of FSSM & IWSM
- Organise twinning programs
- Organise exposure visits to learn from best practices
- Impact assessment

Advisory Support

- Institutionalising FSSM & IWSM operations in the state
- Draft advisories and guidelines
- Support in pilot projects

NIUA state engagement with Government of Uttarakhand



SPEAKERS AND PANELISTS



Hitesh Vaidya,
Director,
NIUA

Mr. Hitesh Vaidya has more than 20 years of broad-based urban development policy, project formulation, implementation and program management experience on mainly UN, World Bank, U.S. Agency for International Development (USAID) assignments. The areas he has been associated with are urban development, urban governance and urban Infrastructure management. Poverty Alleviation has been an integral component in all the projects. Prior to joining National Institute of Urban Affairs, He was Country Representative of UN-Habitat India. He was intensely involved in providing capacity assistance to India's urban eco-system to roll-out urban flagship missions in India. His strength lies in developing institutional arrangements and project implementation strategies through facilitating effective convergence and coordination with various stakeholders.



Stanzin Tsephel,
Regional Director,
BORDA South Asia

Mr. Stanzin Tsephel is the Regional Director, BORDA South Asia. He has 18 years of work experience in the water and sanitation. He has worked with organization such as Stockholm Environment Institute, International Water Management Institute, Ladakh Ecological Development Group (LEDeG), and Government of Uttarakhand, India. He holds M.B.A and MSc. Degree in Environment change and Management from the University of Oxford, England. His most recent contribution including some pioneering work in the area of faecal sludge management in India and Nepal.



Dr. Umamaheshwaran Rajasekar,
Senior Advisor and Head Climate Centre for Cities, NIUA

Dr. Umamaheshwaran Rajasekar is Senior advisor and Head Climate Centre for Cities at National Institute of Urban Affairs. Through the current position he is also supporting Smart Cities Mission, Ministry of Housing and Urban Affairs, Government in India in implementing urban climate resilience policy and programs. He has over 18 years of experience in developing national policies, risk reduction approaches, climate action planning, engagement strategies for multi-lateral, bi-lateral agencies and development banks. Much of his efforts have been towards bridging the technology and communication gap across stakeholders to enable data informed decision making. He has been the team leader and project manager for some of the pioneering climate resilience efforts in India including his recent efforts towards the establishment of climate center for cities (C-Cube) with the support from Government of India. The center currently works with over 126 cities in assessing their climate performance and has provided training and capacity building to over 2,000 city officials in implementing climate actions which could potentially benefit over 150 Million people.



Uday Bhonde,
Sr. Programme Specialist, Water and Environment, NIUA

Mr. Bhonde has 12+ years of work experience the urban sector. Majority of his assignments remained in the urban WASH sector that required strong collaboration with Government, Academia, NGOs, Pvt. Sector and Communities. A few of his projects included the establishment of WASH forums and Working Groups at the city level as well as interaction with business chambers and industries for the sustainability and water security of communities. He has remained a lead trainer in the tailor-made capacity building programmes on the sustainable urban water and sanitation management for Govt. officials from India as well as abroad. Uday has published research articles in peer reviewed journals. Since past few years he is actively working on developing frameworks, guidelines, toolkits and other resources to mainstream urban river management.

Uday is Doctorate in Geology and has done Post Graduate Diploma in Urban Planning and Development. He works as Sr. Programme Specialist in Water & Environment. Vertical at NIUA.



Ravi Pandey,
Superintending
Engineer, Urban
Development
Directorate (UDD),
Govt. of Uttarakhand

Mr. Ravi Pandey, with over 32 years of experience in various technical fields like Urban, Housing, Real Estate, Heavy Construction and a proven track record in Project Management, he is presently working as Superintending Engineer, UDD and is the Nodal Officer for SWM, PWM, Septage, SBM 2.0 and AMRUT 2.0. He has served as EE - Nagar Nigam, Dehradun for 9 years and as Municipal Engineer, Haldwani – Kathgodam NPP, UP Town and Country Planning Dept, Lucknow. As Deputy Program Director - IPMU , UUSDIP, ADB, he assisted program, supervised the execution of Water Supply and Sewerage related works in Dehradun, Ramnagar, Haldwani-Kathgodam and Nainital. With a wide international exposure infrastructure development and sanitation, he has a significant role in driving the Uttarakhand's journey towards sustainable sanitation.



Manas Rath, Senior
Advisor, BORDA

Mr. Manas, at BORDA has developed business models for PPPs and investments in wastewater treatment and FSM services, collaborated with EAWAG to study costs and policy implications of various small-scale sewage treatment technologies, conducted training programs and worked with city and State governments on strategies to make cities more liveable and sustainable, and overseen management and operations of city-scale sanitation services. He co-founded the Blue Water Company and is an advisor to the WASH-focused Impact Investment Fund, Take-a-Stake, Netherlands. Earlier at Dasra, he ran capacity building and scaling-up programs for social enterprises and Foundations, and at Avendus Capital, helped growth companies to raise equity from global private equity investors and advised on cross-border M&A transactions. He was also COO of a high-end electronics manufacturing and exports firm. Manas is a graduate of MIT and the Sloan School of Management. He is an advisor to social enterprises including Fitternity.com, Shelter Associates, Football Link and the Yunus Corporate Action Tank.



Dr. Mahreen Matto,
Team Lead, SCBP,
NIUA

Dr. Mahreen Matto is the Team Lead for the Sanitation Capacity Building Platform (SCBP) at the National Institute of Urban Affairs. Under the current position, she is undertaking technical support, developing innovative training modules, research & advocacy, and knowledge building on Non-Sewered Sanitation (NSS) at the National level. She is also involved in providing handholding support to the state of Uttarakhand on the scaling of FSSM. She has over 12 years of experience in mainstreaming urban water and sanitation management across human settlements in India, South Asian, and African Countries. Some of her previous work includes research, capacity building, advocacy, and project implementation on decentralized wastewater management, citywide inclusive sanitation, water and sanitation safety planning, and preparation of city sanitation plans.



**Prof. A A Kazmi,
IIT Roorkee**

Dr. Kazmi's areas of research are advanced wastewater treatment, solid waste management and water quality management. He was the principal investigator of more than 13 sponsored research projects mainly sponsored by DST-EU, DBT, DST-NERC (UK), MoEF, MoUD, PCRA, UCOST etc. Some notable projects are based on the sustainable wastewater treatment (anaerobic and aerobic) and reuse technologies for India and municipal solid waste treatment through biological means to recover a nutrient rich fertilizer. He had published more than 80 papers in peer reviewed journals on the above subject. He is member, expert committee of CPHEEO, Ministry of Housing and Urban Poverty Alleviation, Govt. of India.



**Anant Bhaskar
Garg, HaritaDhara**

Mr. Bhaskar is an Engineer, Educator working as Director, HaritaDhara (HRDEF) a non-profit social enterprise providing training, capacity development in areas of 21st Century skills, SDGs, climate action, sustainability in maker way signed a MoU with Uttarakhand State Education dept . He has 26 years of experience in various capacities in academia, industries and presented their work at the UNESCO ESD Conference, UN HLPF, UNESCO MGIEP, organized an Intl. workshop on Best Practices in Waste Management and Climate Change. They are now designing, developing games, hands-on activities for engaging, immersive learning so that learners are able to understand difficult concepts and be a Changemaker.



**Dr. Anil Gautam,
People's Science
Institute**

Dr. Anil Gautam is an Environmental Scientist with a doctorate in environmental science. He has a good blend of experience in working with grass-roots organizations as well as with research institutions for more than 20 years. Dr. Gautam has done pioneer work in water which includes sanitation, groundwater nexus, emerging pollutants, fluorosis mitigation, and groundwater management. He has experience in the field of environment, health, river conservation, development of low-cost methods for environmental quality and its impacts. Currently, he is working as Head of Environmental Quality Monitoring Group at People Science Institute, Dehradun, guiding the different disciplinary research teams of the various environment related programs.



**Ayush Joshi, IDEAL
Foundation**

Mr. Ayush is a spiritual seeker by practice and an Environmental Engineer cum researcher by profession, he is invested since 2008 in bringing environmental justice in the Ganga Himalayan catchment of the Uttarakhand, Hindukush Himalayas. He works in Interdisciplinary fields in the Higher Himalayas and develops an understanding of climate Change in these regions. He is also Indulged in a solution-oriented paradigm shift toward a minimalist lifestyle, innovation towards current waste problems in the Hills, Advocacy towards sustainable development in the migration-led Hilltown, development of rural youth, and working out engineered, solution-driven wholesome development. He is a researcher and a citizen scientist working on various real-life problems for the social betterment of the society in and around Uttarakhand



**Dr. Badrish Mehra,
CHIRAG**

Dr. Badrish Singh Mehra leads Central Himalayan Rural Action Group (CHIRAG), a pioneer organization in developing Participatory Springshed Management methodology for reviving Himalayan springs. This was later accepted and adopted by the NITI Ayog and Ministry of Jal Shakti. Dr. Mehra has over 27 years of work experience with national and international organizations in the environment and development sector. His work through CHIRAG has encouraged transfer of knowledge, building skills and capacity of Government officials, as well of the local communities to find solutions to development problems in a sustainable manner. CHIRAG works in four sectors viz. Natural Resource Management, Health, Education and Livelihood. CHIRAG has been working in the water and sanitation sector since 1986 and was among the first to raise awareness and make provisions to prevent open defecation in the Kumaun hills. Presently it is working in the Himalayan states of Uttarakhand, Himachal Pradesh, Sikkim and Meghalaya.



**Bhitush Luthra,
Athena Infonomics**

Mr. Bhitush Luthra a mechanical engineer turned environmentalist, works as a Principal Consultant - WASH at Athena Infonomics, a data driven global consultancy. As a CWIS MLE partner, Athena has been involved in developing the framework for City Wide Inclusive Sanitation and is closely working with BMGF to customize the framework for Indian towns and cities. Bhitush has closely worked with the governments at city, state and national level of India and African countries to jointly find solutions for achieving sanitation for all. He has authored reports/guides like practitioner's guide on septage management and contributed to development of web-based tools like Shit Flow Diagram and knowledge management platforms like MOUNT- Menu On Un-Networked Technologies. Prior to joining Athena, he was working with Centre for Science & Environment where he was heading technical support units in two small towns of Uttar Pradesh for mainstreaming faecal sludge and septage management to achieve citywide sanitation.



Deepak Sanan,
Independent Expert

Mr. Deepak Sanan is a former member of India's senior civil service, the Indian Administrative Service. He was allocated to the state of Himachal Pradesh. He retired from service in January 2017, and has settled in his state of allotment.

He has also been on the staff of the World Bank as the India Country Team Leader in the Water and Sanitation Program (South Asia) for two years between 2005 and 2007. His engagement with sanitation including SWM has seen involvement with the CLTS Foundation for over a decade. Over the years, he has assisted in the design and delivery of capacity building programmes in the area of collective behaviour change for empowered communities to tackle their sanitation and SWM problems at their own level.



Jay Shah, Taru
Leading Edge

Mr. Jay Shah is an Urban Manager by profession and has been working in the urban development sector for the last 3 years. He has done masters in Urban Management from CEPT University, Ahmedabad. He is working on several climate resilience and WASH projects such as Hydro-Meteorological climate resilient action plan for 6 coastal cities across India, Study on risk identification & estimation for Odisha state w.r.t. Power Sector Resilience, Climate resilient and Low carbon emission Action plan for Ahmedabad City, Impact evaluation of drought resilience in WASH Sector in Nashik District etc. His key research areas are water, sanitation and climate change / disaster resilience systems management. He has worked with various clients such as World Bank, CDRI, HUL, WFP, NDMA, CPR and GIZ. The geography of his works stretches across various states such as Gujarat, Ladakh, Odisha, Rajasthan and Maharashtra



Krishna K,
CDD Society

Mr. Krishna K. works as a Senior Project Manager at CDD Society. He currently anchors the FSM vertical at CDD – focusing on treatment process optimization, hybridization and capacity building. The objective is to find the right solution fit for various contexts. He is also working on multiple projects looking at deploying sustainable WASH solutions like community toilets for population living in space constrained settings like Slums, low income areas.

Also, Krishna has worked as a consultant across India with various Multilaterals, Urban Development Departments, Water, Sanitation; Electricity Utilities advising them on Business Process Reengineering, Strategic ICT, Bid Process Management.



Mohd. Imran Siddique, ACWADAM

Mr. Mohammad Imran Siddique has a Master's degree in Geology from Mumbai University and is working as a Scientist in ACWADAM based out of Pune since August 2016. He is engaged in action research and training in groundwater management in plains and mountains. He possesses practical knowledge and experience in hydrogeological assessment of Aquifers including data collection, collation, analysis and interpretation especially in the Urban and Hilly terrain settings. He is currently working Revival and Rejuvenation of natural springs in the Indo-Nepal-Bhutan region with particular focus on capacity building, field facilitation and handholding of the communities and the nodal/implementing agencies.



Nikhalesh Pant, Himmothan

Mr. Nikhalesh Pant is a geologist with a decade of experience in Mining, Tunneling and Hydrogeology. He is currently with Himmothan, an associate organization of Tata Trusts working with rural mountain communities of Uttarakhand, Himachal Pradesh and Leh. He looks after the groundwater and springshed-related programs, also working with Uttarakhand Forest Department on springshed planning for van panchayats and reserve forests. Before joining the Himmothan in 2016, he has worked with CSIR-CIMFR on various projects such as underground metro and hydro-electric projects.



Dr. Pranjal Deekshit, TISS

Dr. Pranjal Deekshit is Assistant Professor and Chairperson of the Centre for Water Policy and Governance, TISS, Mumbai. He has done masters in Economics from Pune and PhD in water governance from Mumbai. He led the designing of the new curriculum for the Master's Program in Water Policy and Governance at TISS. Dr. Deekshit has worked on issues of delivery and management of water and sanitation services and livelihood issues in tribal communities in India. His research particularly focuses on Public Private Partnerships in urban water. He is currently working on policy aspects of the integrated water and sanitation systems for tier II cities.



Dr. S.M. Tauseef, UPES

Dr. S. M. Tauseef is Professor and Associate Dean (R&D) at the University of Petroleum and Energy Studies (UPES), India (2015–present). He holds an MS in Chemical Engineering from Sharif University of Technology, Iran, and a PhD in Environmental Engineering from Pondicherry University (2011). Prior to joining UPES, he worked as a Pool Officer, CSIR. His main interest is in waste to energy and low-cost wastewater treatment technologies. His research interests also include chemical industry process safety. He has published more than 100 research articles, co-authored 11 books, published seven IPRs and presented papers at 25 international conferences.



Dr. Sanjay K Gupta,
Care North East
Foundation

Dr. Sanjay K Gupta has PhD in Social Sciences and professional background as Environmental & Social Development Specialist with 21 years of experience in Waste Management. He has returned to Assam from Switzerland on the request of the government to contribute to Swachh Bharat Mission in Assam. He is currently actively involved in Tinsukia, Nagaon and Titabar. His other ongoing Projects: Indonesia, Uganda, Bangladesh, India, Ukraine, Colombia, Kenya, Swaziland, Philippines under various international organizations as senior advisor and consultant on water and sanitation. His primary focus now is on SBM 2.0 and advises Municipalities on Integrated Solid Waste Management, Financial Planning for Urban Services, Recycling Value Chain, Co-processing of organic waste and Employment Generation besides advocacy for zero waste systems.



Dr. Saswata
Bandyopadhyay,
CEPT University

Dr. Saswata Bandyopadhyay is an Urban Planning professional with advanced qualifications in Infrastructure Planning and Management. His doctoral research was on Climate resilient urban development in emerging economies. He is presently a Professor at the Faculty of Planning, CEPT University, Ahmedabad.

Dr. Saswat has over 24 years of experience in the Urban Development sector with a focus on City Development Planning and Resilient Urban development framework in South Asia. He has spearheaded several Pan-Asia pilot research initiatives such as Country Enabling Environment (CEE) report for Asia, Localization of SDGs in Asia Pacific and ADB Green Cities Toolkit amongst others. Saswat has also been involved in preparation as well as appraisal of several city and comprehensive development plans across various regions of India, Bhutan, Sri Lanka and China.



Gayathri Lulu,
BORDA South Asia

Ms. Gayathri holds a Master of Science in Sanitation from IHE Delft Institute for Water Education, Netherlands and master's in planning from Centre for Environmental Planning and Technology, Ahmedabad, Gujarat. She has over six years of experience in water, sanitation and waste management. She has worked as a technical expert to develop policies, guidelines and other technical documents as part of strategic advisory to a three-tier government while managing projects under bilateral cooperation and philanthropic initiatives that demand intense liaising with diverse stakeholders.



Saurabh Kale,
ESF

Mr. Saurabh Kale is an Environmental Engineer and Sanipreneur with 9+ years of professional experience primarily focused on project acquisition, planning and implementation, training and capacity-building activities. He is a co-founder-director of a start-up, Saniverse Environmental Solutions LLP and Sr Project Consultant and Lead Trainer in Ecosan Services Foundation (ESF). He has immense experience in the field of Sustainable Sanitation, Liquid and Solid Waste Management, and Faecal Sludge and Septage Management. ESF is a partner organisation in the Sanitation Capacity Building Platform (SCBP) project anchored by NIUA, New Delhi. Currently, he is also working on a CWIS-based pilot inclusive sanitation program in Himachal Pradesh as a Project Coordinator and Sanitation Specialist for Asian Development Bank.



**Prof. Shrawan Kumar
Acharya, JNU**

Prof. Acharya is a Professor of Urban and Regional Planning at the Centre for the Study of Regional Development, Jawaharlal Nehru University, New Delhi. He was also a faculty at CEPT University, Ahmedabad from 1992 to 2014. He is a Fellow of the Institute of Town Planners, India and has been conferred the Senior Fulbright Fellowship, Urban Knowledge Network Asia Fellowship, ASIA Fellowship, the Shastri Indo Canadian Fellowship and the University Grants Commission Fellowship. One of his academic and research interests is understanding the urban and regional planning challenges and marginalization issues in the eastern Himalayan region of Sikkim and Darjeeling.



Snehit Prakash,
BORDA- South Asia

Mr. Snehit Prakash holds a post-graduate diploma in rural management from the Institute of Rural Management, Anand, Gujarat. He has over 6 years of experience spread across grassroots development organisations and funding agencies. He has experience operationalizing multiple assignments including self-help group collectives and social enterprises at the ground level. His professional areas of interest include faecal sludge management systems, circular economy, wastewater reuse, governance models for public systems, and human resource management.



Tikender Panwar,
Independent
Expert

Mr. Tikender Panwar was elected deputy Mayor of Shimla. He has been instrumental in many of the city's development plans such as HVRA, CRI, CMP, CSP, Smart city plan, among others. He is a strong advocate of people's participation, and recognizes the need for keeping people at the heart of any development plan, particularly those of disaster mitigation and adaptation. A model for democratic decentralization was developed by strengthening the ward sabhas and empowering the ward committees of the city. Mr. Panwar was a member of the national task force in the country to review the 74th constitutional amendment on decentralized governance. He has also represented the city and the country at various international events, and has been part of important delegations such as COP 21, UN Habitat III and BRICS, to name a few.



Urjita Sharma, Pan
Himalayan Grassroots
Foundation

Ms. Urjita Sharma is currently supporting PAN Himalayan Grassroots Foundation with their women-led, social enterprise: Umang (an FPC) to strengthen mountain ecosystems & communities of Uttarakhand.

She has also previously worked with organizations like Rajiv Gandhi Foundation, APMC Gujarat, UNESCO, Ministry of Culture. As a practitioner from the field of Development & Design; Ensuring Livelihoods & Propagating Entrepreneurship were always central to each project. Interiors, Installations, Brands or Apps; her work has highlighted design interventions with local community participation & multi-sensorial experiences for the consumer.



Vinitha Murukesan,
Keystone Foundation

Ms. Vinitha Murukesan has been associated with the WATSAN (water & sanitation) team of Keystone Foundation for the past five years. She is at present serving as Programme Coordinator, with focus on the technical aspects of the Tamil Nadu Urban Sanitation Support Programme (TNUSSP). She has been instrumental in construction and operations of the Faecal Sludge Treatment Plant at Coimbatore. An undergrad in B.E. Environmental Engineering from Park College of Technology Coimbatore, she is currently pursuing M.Tech Sanitation technology and management from BITS Pilani

WORKING GROUP



Stanzin Tsephel,
BORDA South Asia



Dr. Umamaheshwaran
Rajasekar, NIUA



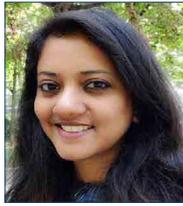
Uday Bhondey,
NIUA



Dr Mahreen Matto,
NIUA



Snehit Prakash,
BORDA South Asia



Gayathri Lalu,
BORDA South Asia



Shantanu Kumar Padhi,
NIUA



Aparna Unni,
NIUA



Gauri Srivastava,
NIUA

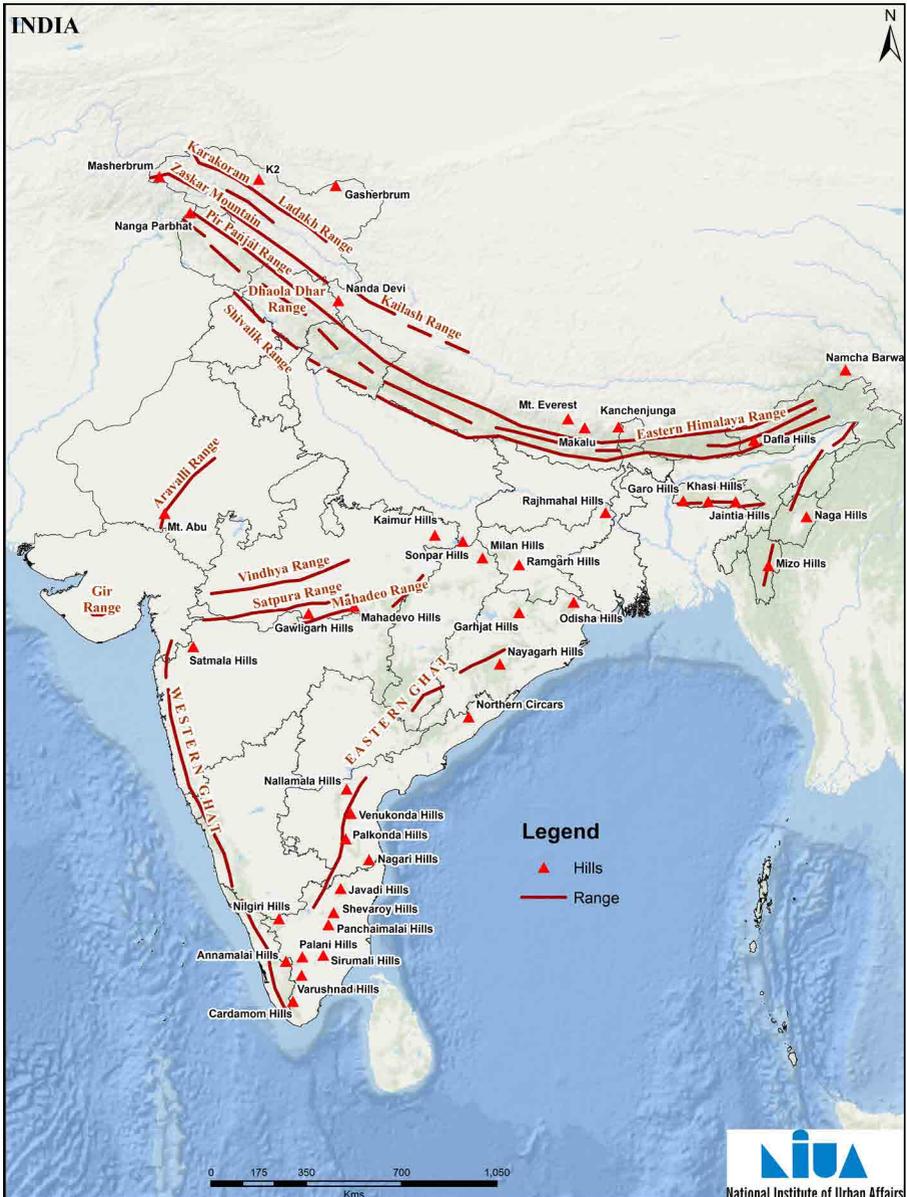


Amita Pathria,
NIUA



Anju Varghese,
BORDA South Asia

HILLS AND MOUNTAIN RANGES



ABOUT PARTNERS

The Directorate of Urban Local Bodies Department, Ladakh facilitates better co-ordination and control on the working of municipalities in the State. The department is also facilitating administrative, technical, and financial assistance to the Municipalities in UT Ladakh which includes Leh and Kargil. The Department was established to give impetus to the 74th Amendment of the Constitution and to lay a solid foundation for the Urban Development in the UT of Ladakh. Over the past years, Ladakh has experienced rapid economic growth. This has led to a rapid rise in their urban population. The 74th Constitutional Amendment Act of India lays the foundation for a sustainable Urban Governance System in the Country. While the national governments pursue the goals of economic development, it is generally left for the local governments to manage the rapidly growing urban areas, and to provide the basic services to the residents. In India, Urban Local Bodies are the constitutionally provided administrative units, who provide basic infrastructure and services in urban areas i.e cities and towns. The DULB along with the Municipal Committee of Leh and Municipal Committee of Kargil strives to improve administration of basic civic amenities like water supply, drainage, public health and sanitation for urban areas in Ladakh and also housing, Urban livelihood and Urban development. The functions include planning, policy formulation, tendering and support in implementation across all urban development matters.

Bremen Overseas Research and Development Association (BORDA) founded in 1977, is a civil society expert organization focused on providing essential public services. BORDA South Asia, headquartered in Bangalore, operates in four countries: India, Bangladesh, Bhutan, and Nepal. In India, we are carrying out projects in Ladakh (Leh and Kargil) and Karnataka (Chintamani and Chikballapura). BORDA-SA partners with organizations to help design and implement integrated water and solid/liquid waste management plans focusing on small and medium towns. We aim to improve the living conditions of socially disadvantaged groups by facilitating access to basic needs services such as sanitation, wastewater management, and water provision while maintaining a safe environment.

Ladakh Ecological Development Group (LEDeG) has been in service of the people of Ladakh since 1983. LEDeG is a grassroots organization that has been working in the fields of sustainability, renewable energy, climate change, and rural livelihood development since its inception. Over the last three years, however, the organization's focus has shifted from rural to sustainable urban development. The boom in tourism over the last couple of decades has come at the cost of environmental degradation; this is especially true of Leh town, Ladakh's largest urban settlement. With this specific urban focus, two of our ongoing projects are dedicated to improving water and sanitation services in Leh and Kargil town.

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

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