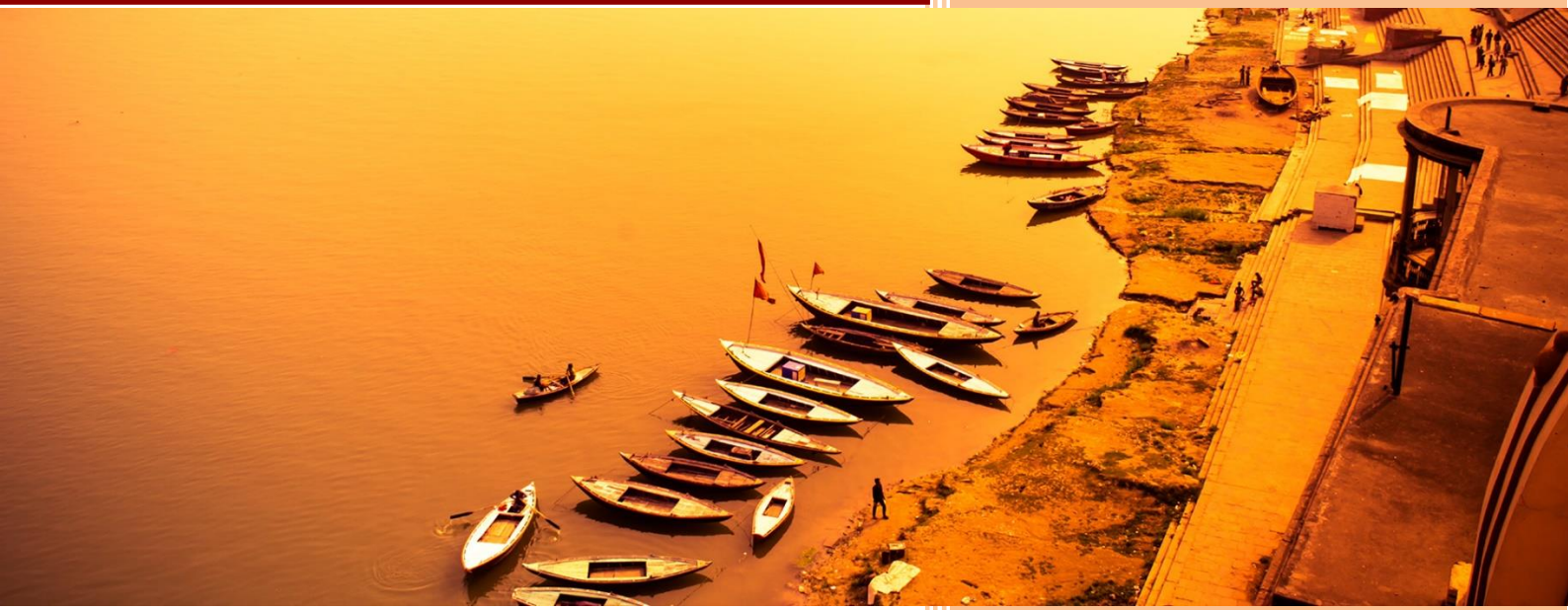
CAPACITY BUILDING INITIATIVE ON

MAKING GANGA BASIN CITIES WATER-SENSITIVE

Summary Report – Year 1



2021-2022

Centre for Science and Environment (CSE), New Delhi, India

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About Centre for Science & Environment (CSE)

Centre for Science and Environment (CSE) is an independent public interest research organisation that aims to promote an informed public opinion in favour of environmental sustainability and sustainable development. The centre was established in 1980 to analyse and study the relationship between environment and development.

CSE's urban water programme is geared to establish policy principles, innovative technologies and implementation strategies for sustainable water and sanitation management in order to help lay the foundations for a water and waste-prudent society. It is clear that current methods of water and sanitation management used by cities are capital- and resource-intensive, and their benefits do not percolate down to the urban poor. Programme interventions are therefore designed to help build institutional and technical capacities of key agencies and practitioners required for mainstreaming sustainable and affordable water and sanitation management; install demonstration projects on alternative technologies that serve as useful models of good practices; and leverage policy and implementation opportunities by working closely with city-level water and sanitation agencies.

Several publications by CSE that laid the reform agenda for water management in the country include - *Dying Wisdom (1997)* documenting the rise, fall and potential of India's traditional water harvesting systems from different ecological contexts; *Making Water Everybody's Business (2001)* followed with connecting the theory and practice of rainwater harvesting (RWH) targeting planners and policy-makers with a toolkit on *Catch Water Where it Falls* and focused research report Yamuna – sewage canal highlighting the need for re-engineering the water and sewage management to address river pollution. CSE was awarded the prestigious **Stockholm Water Prize in 2005** for promoting awareness on sustainable water management and community engagement, the **Prince Albert II of Monaco Foundation Water Award in 2008** and **Indira Gandhi Prize for Peace, Disarmament and Development in 2018**. A documentary titled *Faecal Attraction: Political economy of defecation* has also been produced on the issue of urban sewage management to create awareness about the issue. Both have led to a national debate on the National River Conservation Plan and CSE is actively involved in its revamp.

In order to upscale the training and capacity building activities, CSE has established an **Anil Agarwal Environmental Training Institute (AAETI)** at Tijara Block in the Alwar District of Rajasthan state in India. The institute is functional since December 2017. AAETI aims to strengthen capacities within the government, in the civil society, in the private sector and practitioners and the academia, and is supported by state-of-the-art research, information services and a platform to interact and exchange ideas on best practices. AAETI is conducting short-term and long-term training programmes, tailored for different target groups, on a wide array of environment and development issues and topics. To encourage participation, the courses offered are linked to the training needs of the specific target groups and synergize with certificate and diploma courses offered by mainstream universities, so that there is value addition to the career of the persons taking the courses.

Global Water Programme of CSE

CSE has been an important thought-leader in water management sector. It has already influenced global policies and strategies to focus on the need for technologies to augment water resources in a decentralised manner through rainwater harvesting and to use that water to optimize on benefits.

The centre is recognised by the Government of India as Centre of Excellence (CoE) in the area of sustainable urban water management and an empaneled capacity building agency for Ministry of Housing and Urban Affairs (MoHUA). The partner states are Delhi, Odisha, Andhra Pradesh and Jharkhand. CSE also provides technical support and capacity building partner for National Mission for Clean Ganga (NMCG), Ministry of Water Resources. The team is also assisting the Department of Urban Development, Govt. of Uttar Pradesh in mainstreaming City Sanitation (CSP) including Faecal Sludge and Septage Management (FSSM). The programme aims to share solutions with other countries that are enjoined in a common struggle in the area of water and sanitation. In this connection, team has international partnerships with:

Africa: Rwanda Water and Forestry Authority (RWFA), Ministry of Infrastructure (MINIFRA), Rwanda and WaterAid Rwanda; Kenya Water Institute and Jomo Kenyatta University of Agriculture and Technology, Kenya; Water Resource Commission and University of Kwazulu-Natal, South Africa; Ministry of Sanitation & Water Resources and CSIR-IIR, Ghana; Ardhi University and BRAC, Tanzania.

South Asia: Asian Institute of Technology, Thailand; WaterAid Bangladesh; Lanka Rain Water Harvesting Forum, Sri Lanka; Ministry of Physical Planning & Works and Guthi Nepal.

USA: University of Buffalo and Columbia University.

Europe and UK: Lancaster University, Loughborough University and University of Leeds, UK; Swiss Federal Institute of Aquatic Science and Technology (EAWAG), Switzerland; UNESCOIHE, The Netherlands, World Health Organistaion (WHO), Geneva.

CSE is a member in the Global Faecal Sludge Management E-Learning Alliance.

In the past decade CSE has been extensively working in the area of urban water and sanitation.

The institute has emerged as a nodal centre for research, capacity building, innovation and practice on sustainable, decentralized and affordable water and wastewater management, city wide sanitation, water sensitive urban design & planning and faecal sludge and septage management. CSE has emerged as a **capacity building hub with 10,000+ alumni** (Targeting National and International audience: Working professionals and decision makers from government and non-government institutions, Urban Planners, Architects, Engineers and Consultants, Researchers and Academician, Representatives of Resident Welfare Association, Practitioners from consultancies, community-based organizations, socialwelfare organizations, non-government organizations, officials/trainers from partner NGOs and training entities) in urban water and sanitation who have benefitted from workshops, short training and knowledge conclaves organized by the programme.

Executive Summary

In 2009, CSE designated as Centre of Excellence (CoE) for Central Ministry of Housing and Urban Affairs, Government of India in Sustainable Water Management area for applied research on innovation in policy and practices. This included the following area of work:

Septage Management in India, Roadmap for Rating System for Water Efficient Fixtures – a way to sustainable water management in India, Mainstreaming energy efficiency in urban water and wastewater management in the wake of climate change, and Water Efficiency and Conservation in Urban India

Capacity Building of around 500 municipal functionaries and trainers from other Centre's of Excellence assisting the Ministry was organized through several short-term training programmes and national exposure visits. The thematic areas were:

- *Septage Management*
- *Urban Lake Management*
- *Water Sensitive Urban Design and Planning*
- *Decentralized Wastewater Treatment Systems*

National Seminars/workshops

- *Knowledge sharing workshop on sustainable water solutions for future*
- *Stakeholder-cum-expert group consultation meeting for preparation of policy brief on*
- *water efficiency and conservation*
- *Stakeholder Consultation Meeting for Mainstreaming Energy Efficiency in Urban*
- *Water and Wastewater Management in the Wake of Climate Change*
- *National Seminar(s) Mainstreaming Sustainable Urban Water Management: Issue and*
- *challenges in policy and practice*
- *Sustainable Water Management including Water Audit and Efficiency*
- *Sustainable Sanitation including Reuse and Recycle, Water and Energy efficiency*
- *Water Resources Conservation: Village Ponds and Lakes*

Technical Support to Practitioners

The centre has also set up a help desk to provide technical support to municipal functionaries and other non-state actors for planning, designing and implementing best management practices in the area of sustainable water and wastewater management. Time to time theteam has been involved in implementing some high visibility and high impact model projects that can act as learning case for other who would like to take up similar initiatives. Few such examples are the Rainwater Harvesting structure at the Rashtrapati Bhawan. Decentralized wastewater treatment system implemented at the Head Quarters of Delhi Jal Board (New Delhi), Nehru Garden (Alwar, Rajasthan), Ganga Prem Hospice (Uttarakhand) AK Garg Engineering College (Ghaziabad, Uttar Pradesh).

In 2012, CSE published India's first and most comprehensive study *Excreta Matters* outlining the potential for sustainable water and sewage management for 71 Indian cities. In an effort to promote decentralized and low-cost sewage treatment options, CSE addressed members of Planning Commission and facilitated a meeting with other groups working on wastewater treatment alternatives. As an outcome of this effort a pilot project was initiated at CSE to test the efficacy and feasibility of alternative sewage treatment methods. In 2013, CSE published a do-it-yourself manual on decentralised sewage management for urban cities — titled *Reinvent, Recycle, Reuse: Toolkit on Decentralised Wastewater Management.* that highlights the different technologies, cost economics and case studies from different cities. Accompanying the manual, a documentary named, *Clean your act*, has been produced that provides design solutions for on-site sanitation. For details:
https://www.cseindia.org/topics/water-and-wastewater-management?type=products

CSE collaborated with Deutsche Gesell schaft fur Internationale Zusammenarbeit – GIZ GmbH in the year 2014 on Capacity enhancement on preparation of City Sanitation Plan (CSP) and Septage Management for city officials. The two year partnership (2014-16) was part of the GIZ Sustainable Habitat Programme – Support to National Urban Sanitation Policy (SNUSP) II. The initiative aimed at improving the sanitation situation in 34 small and medium towns in select states of India namely – Andhra Pradesh, Telangana and Kerala.

Since 2014, as a part of consortium of partners (CSE, GIZ, University of Leeds, WEDC Loughborough University, World Bank, EAWAG and BMGF) called Shit Flow Diagram promotion initiative, CSE has been involved in the promotion of Shit Flow Diagrams (SFDs) for improved urban sanitation programming in India and beyond through capacity building and handholding support. An excreta flow diagram (also often described as SFD) is a tool to readily understand and communicate how excreta physically flows through a city or town. As part of the SFD Phase 1 & 2 grants, CSE prepared more than 100 SFDs (65 + in Ganga basin states & the rest for other cities in India). CSE has made a considerable contribution to support the production and review of good-quality SFDs as well as help train practitioners. A demonstrated impact is the uptake of the approach by local, regional and national organizations and governmental agencies – in particular in India, South Africa (WRC with CSE technical support launched a national campaign) and in state / cities in Africa and South Asia, where there is widespread use of SFDs for advocacy and as a tool to map progress across the sanitation value chain.

Since 2015, CSE has been supporting Uttar Pradesh State Government and target urban local bodies with the aim to help states and cities in the Ganga basin in making improvements along the entire sanitation value chain in planning, implementing, monitoring processes for city-wide sanitation and effective faecal sludge & wastewater management.

- *Phase 1 (2015-2018) focused on "**Capacitating urban local bodies and other stakeholders in the Ganga basin on small-scale, on-site wastewater and management systems**" including research-based solutions, establishing a state of art, referral laboratory with capability of developing testing protocols, input-out analysis and method validation support to enforcement and regulatory bodies (state PCBs, PHED/ Jal Nigam etc.) and handholding support to small and medium ULBs in preparation of City Sanitation Plans – with sectoral strategies and recommendations including action plan for effective FSSM that is owned / endorsed by stakeholders – the City Sanitation Task Force set up in each target city.*

- *Phase 2 Ongoing (Mid 2018 – 2021) CSE and Department of Urban Development (DoUD), Government of Uttar Pradesh signed MoU for 'Support for effective Septage Management in Uttar Pradesh'. CSE Programme Support Unit (PSU) office was set up in Lucknow with dedicated team to assist DoUD. CSE is also providing Technical Support for 2 cities in Uttar Pradesh i.e., Bijnor and Chunar, to implement city-wide sanitation and effective FSSM. CSE has signed MoU with Bijnor Nagar Palika Parishad and Chunar Nagar Palika Parishad for Technical Support for the same. A City Sanitation Plan (CSP) was prepared for Bijnor, the Action Plan from the CSP was presented and endorsed by the City Sanitation Task Force. Further a Detailed Project Report (DPR) was prepared for FSTP in Chunar which has been approved and sanctioned for funding by NMCG and is presently in tendering stage. **CSE also signed a MoU with National Mission Clean Ganga (NMCG)** on providing "technical support on planning for urban river from sanitation perspective **for improved river health".** For more details:* https://www.cseindia.org/page/technical-support-for-fssm-in-chunar-uttar-pradesh and https://www.cseindia.org/page/technical-support-for-fssm-in-bijnor-uttarpradesh.

- *In this direction the programme has **partnered with – Department of Urban Development, State Government of Uttar Pradesh (India)** and National Mission Clean Ganga (NMCG) – Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India to provide knowledge support for mainstreaming citywide sanitation including effective faecal sludge and septage management in across river basin in the target town and cities. CSE has organized trainings and exposure visit, national and international, to sensitize state and city officials on best practices related to citywide sanitation with focus on faecal sludge and septage management. This included technical trainings on city sanitation plan, planning and designing from treatment of faecal sludge, exposure visits to Odisha, Malaysia and Bangladesh for FSSM.*
  For more details: https://www.cseindia.org/page/programmesupport-for-fssm-in-uttar-pradesh

Toolkits

CSE has launched two unique web-based tools to help cities and individuals plan their sanitation interventions and manage wastewater.

- *The first of these -- SANi-KiT-- is a web-based portal which offers a comprehensive collection of essential tools to enhance the capability of urban local bodies in India to prepare high quality, city owned City Sanitation Plans (CSP). It takes the users through a step-by-step guide, touching upon issues of convergence, stakeholder involvement and effective planning.*
  For more details visit: https://www.cseindia.org/sanikit/index.html

- *MOUNT – or Menu on Un-networked Technologies – is an aggregator platform to bring together technological interventions and innovations which can treat wastewater and faecal sludge -- cheaply and energy-efficiently used by practitioners. For more details visit:* https://www.cseindia.org/mount/home

Another web-based tool called C-GINS was launched in 2020 to showcase case examples of Green Infrastructure (GI) and Water Sensitive Urban Design and Planning (WSUDP) to simplify how we share, obtain and create knowledge to better manage our urban environment.

- *C-GINS: C-GINS (Compendium of green infrastructure network systems) is the repository for best practices, projects and approaches in support of Green Infrastructure (GI) and Water Sensitive Urban Design and planning (WSUDP) principles. C-GINS is an open platform where the latest thinking on natural capital, ecosystem services and nature-based solutions is brought together. For more details, visit: https://www.cseindia.org/c-gins/home*

Research deliverables

- An analysis of the sanitation chain in 66 cities, through SFDs
- This study is available in two volumes.

***Volume 1:** Managing Septage in Cities of Uttar Pradesh- An analysis of the sanitation chain in 66 cities, through SFDs. For more details visit:* https://www.cseindia.org/managing-septage-in-cities-ofuttar-pradesh-9268

Volume 2: Assessment of faecal sludge management- Factsheets for 66 cities in Uttar Pradesh. For more details visit

https://cdn.cseindia.org/attachments/0.20857500_1550484536_SFD_factsheets_booklet_66_cities.pdf

- *Strategy cum operative guidelines on faecal sludge and septage management in Chunar.* The Guidelines establish the linkage between urban sanitation and river pollution – provide a blueprint that can be followed by other cities in India https://www.cseindia.org/faecal-sludge-and-septage-management-in-chunar-9719

- *Mainstreaming Co-Treatment of Faecal Sludge & Septage (FSS) in STPs in Uttar Pradesh* https://www.cseindia.org/mainstreaming-co-treatment-of-faecal-sludge-septage-fss-in-stps-in-uttar- pradesh-9658

In addition, the centre has been recognized as **one of the key training entities** under the national flagship programme '**Atal Mission for Revitalization and Urban Transformation (AMRUT)** – Capacity Building for Urban Development 2015-2019' for capacitating urban local bodies in – Town Planning, Engineering and Public Health sectors. Under this initiative, CSE has partnered with States of Uttar Pradesh, Odisha, Jharkhand and Andhra Pradesh. For more details: https://www.cseindia.org/cse-as-a-recognized-centre-for-excellence-andtraining-entities-has-signed-mous-with-various-states-for-their-capacity-buildingprogrammes-8268

- Providing capacity building support to elected representatives and municipal functionaries in the area of urban development

The School of Water and Waste (SW&W), AAETI

In 2018, **the School of Water and Waste set up** – a key constituent of CSE's Anil Agarwal Environment Training Institute (AAETI) at Nimli, Rajasthan. As part of bigger agenda to build capacities among practitioners and offers short 1/ 2 week long residential trainings, seminar, workshops, webinar, knowledge conclave bringing together as well as online courses. A crucial component of School is referral laboratory on septage management to develop tools, protocols for faecal sludge testing and characterization) including, efficiency of various small scale wastewater systems. The school aims to establish policy principles, innovative technologies, and implementation strategies for city wide water and sanitation management, which will lay the foundations for a water and waste-prudent society. This experience needs to be leveraged to share solutions with other countries in the developing world—from South America, Africa and Asia. For more details:
https://www.cseindia.org/page/school-waterwaste

Capacity Building:

Since the operation of the SWW till date **33 residential trainings have been conducted for 810+ participants,** along with **36 online courses for 2000+ participants** and several webinars to promote sustainable water management. The trainings at SWW focus on the following themes, these also include trainings in include collaboration with institutions (like WHO, CRCWSC, IWA, SPA-Delhi):

- *Nature based Solutions for Water and Waste Management*
- *Effective Faecal sludge and Septage Management*
- *for Mainstreaming Citywide Sanitation*
- *Tools and Approaches for Citywide Water and Sanitation Management*
- *Water Sensitive Urban Design and Planning (WSUDP) at Building and Neighborhood Scale*

- *Urban Wetlands Management*
- *Sanitation Safety Planning*
- *Water Speaks: Effective communication for advocacy influence and impact*
- *Water Woes: Understanding urban water management and sustainability*
- *Mainstreaming Water-Energy Nexus in Wake of Climate Change*
- *Faecal Sludge and Decentralized Wastewater Management*
- *Citywide Inclusive Sanitation*

Building on the learnings from India the Centre has instituted global tie ups with leading water and sanitation sector players has also influenced global policy strategies focus on affordable solutions to augment water resources and achieving sustainable sanitation for all. In 2010, CSE started the South Asia Water Programme involving three countries viz. Bangladesh, Nepal and Sri Lanka. Important objectives of the programme include awareness generation about environment and development as well as capacity building of societies to understand and deal the environmental issues. The programme is successfully ongoing since then and has diversified to model curriculum development, knowledge support to a regional rain convention and providing technical guidance on the implementation of model projects related to sustainable water management. For details: https://www.cseindia.org/page/global-water

In Bangladesh, the collaboration with WaterAid Bangladesh started since 2010 with conduction of training courses on Rainwater Harvesting and Decentralized wastewater treatment in Bangladesh. Based on demand, the trainings have been taken to the next level by training participants on Water Sensitive Urban Design and Planning (WSUDP) and Septage Management.

Other areas of collaboration include Knowledge support for:

- Prepared manuals on RWH and DWWT in Bangla
- Model projects
- Curricula development
- Rain Centre establishment
- Module development on RWH and DWWTS
- Documentation and dissemination

The partnership has led in the development of a cadre of practitioners (more than 900 participants) in the area of sustainable water/wastewater management who are further disseminating the knowledge by doing capacity building, implementing model projects on the above thematic areas in Bangladesh. Khulna University, University of Information Technology Science (UITS), Independent University Bangladesh (IUB) have incorporated RWH in their curriculum. One of our training alumni has been instrumental in developing SFDs for 9 major cities of Bangladesh. WaterAid along with Bangladesh government is using SFDs for planning and monitoring FSSM interventions.

Since 2015, CSE has been working in Africa. Some focus countries of programme are South Africa,Rwanda and Ghana. CSE with UNESCO IHE Netherlands has launched first four-month online course on ‘Faecal Sludge Management’ as part of six-member global e-learning alliance in 2015.

In Rwanda, the Ministry of Infrastructure (MININFRA) had incorporated CSE recommendations in its draft National Sanitation Services Law, which has been under review for some years by the Rwanda National Law Reform for the cabinet approval. A report on *Potential of Rainwater Harvesting in Rwanda* focusing on urban RWH interventions/case studies at various levels in Kigali was developed. This report has been endorsed by Rwanda Water and Forest Authority (RWFA) and is Its available on their official page

https://waterportal.rwfa.rw/report/potential-rain-water-harvesting-rwanda. Moreover, CSE was instrumental in providing technical support to its Alumni for the construction of rainwater harvesting systems at different scales in Rwanda.

In South Africa, CSE's partnership with the Water Research Commission (WRC) led to a series of trainings for practitioners on water sensitive urban design and planning (WUSDP), the coursework for which has been accredited for continuous professional development through the Engineering Council of South Africa. In addition, CSE has been instrumental in driving the SFD advocacy tool in the country (listed in the SFD initiative above).

In Ghana, SFDs were developed in Accra, Tema and Kumasi to understand the sanitation scenario. CSE has worked with Ministry of sanitation and water resources to build capacity of Ghanaian officials in non-sewered sanitation. CSE is working closely with the Council for Scientific and Industrial Research (CSIR), a key country partner, for mainstreaming and implementing effective faecal sludge management (FSM). An integrated wastewater and faecal sludge management guidelines for the country was also published.

CSE and NMCG Partnership

This initiative is developed under the partnership with NMCG for Capacity building initiatives for making water sensitive cities in Ganga basin aimed at improving river flow/ health under Namami Gange.

The initiative is under the National flagship programme for improving river health and water flows in rivers of the Ganga basin – Namami Gange. This initiative is part of the series of ongoing efforts by NMCG aimed to ensuring convergence of Namami Gange Mission with other national flagship urban missions (AMRUT, Smart Cities, Swachh Bharat Mission, HRIDAY, NULM) and other missions related to water resource management (Atal Bhujal Yojana, Jal Jeevan Mission, Jal Shakti Mission).

Capacity building of ULB's has been one of the important components identified in the integrated Namami Gange programme and World Bank assisted Ganga II programme. This component is critical, considering that it aims at behavioural changes in the ULB officials including representatives for creating an enabling environment and for addressing the challenges in implementation of Namami Gange programme.

The proposal is to sensitize and build capacities of 1300+ functionaries (ULB/ state/ centre including NMCG) including elected representatives and other key actors.

Vision

Making Ganga basin cities water-sensitive for improved river health.

Aim

Capacity building initiatives, action research and developing model projects for making cities in the Ganga basin water-sensitive, **by improving the river flow and health with water-sensitive urban design and planning**.

Objectives

The objectives of the initiative are:

- Sensitize and **build capacities of 1,300+ municipal and state functionaries**, elected representatives and other key actors as well as the National Mission for Clean Ganga (NMCG) team in making cities water-sensitive.
- Help improve **convergence of programmes** like **Jal Jeevan Mission, Atal Bhujal Mission, Jal Shakti Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and Swachh Bharat Mission.**

The Objectives of NMCG is to accomplish the mandate of National Ganga River Basin Authority (NGRBA) of-

1**)** To ensure effective abatement of pollution and rejuvenation of the river Ganga by adopting a river basin approach to promote inter-sectorial co-ordination for comprehensive planning and management and

2) To maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.

Programme Highlights

The objectives under this initiative will be achieved with the help of the following key components:

(A) Research

(i) Secure sustainability in urban water management for improved river flow / health.

(ii) Research study reports, Practitioner's Guides, Water Sensitive Cities index will be developed to achieve the objective of the programme.

(B) Capacity Building

(i) Improved capacities and understanding about issues, decentralised water management, augmenting water supply through rainwater harvesting, decentralised sewage including septage management and reuse/ recycle of wastewater.

(ii) Several Residential/ online training and Knowledge Conclave cum Sensitisation workshops focussed on key thematic areas will be held to meet the objective of the programme.

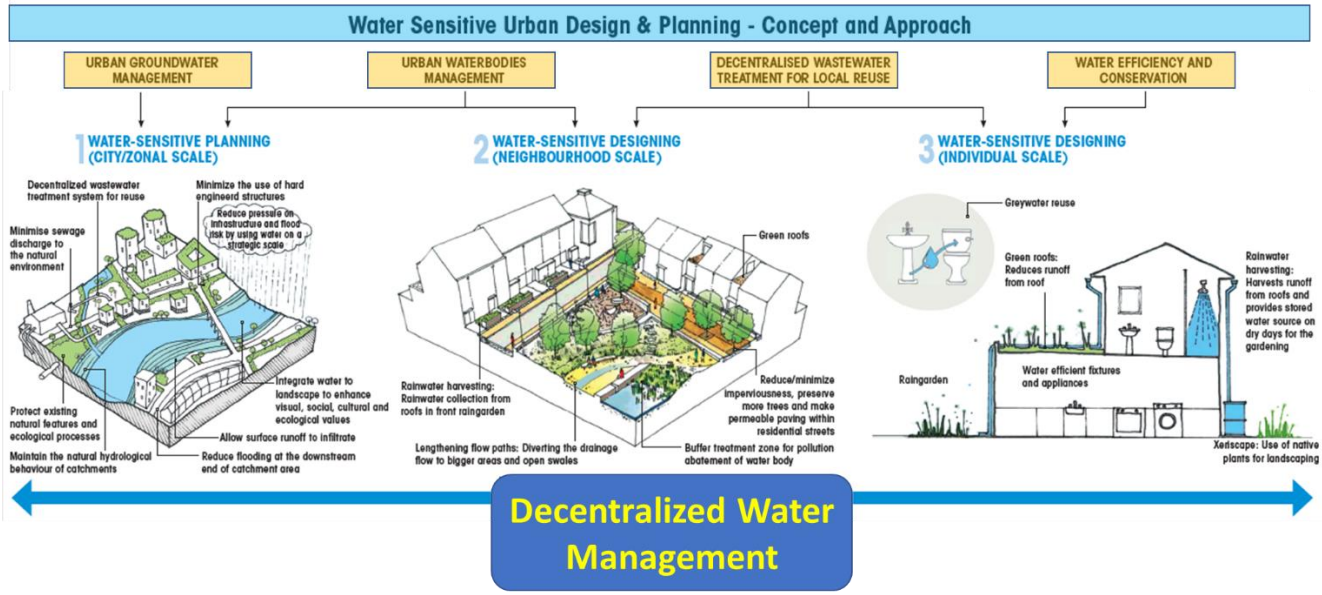
(C) Technical Knowledge Support for Model Projects

(i) Increased knowledge about best practices on sustainable water/ wastewater management, rainwater harvesting and sewage treatment including reuse/ recycle wastewater, water efficiency and conservation including protection and management of urban water bodies

(ii) Technical Advice & Support Centre / Helpline, dissemination through website will be developed to meet this objective of the programme.

Key thematic focus areas

The comprehensive vision of this project is to promote water- sensitivity of cities in the Ganga Basin. The vision is being achieved through five key thematic focus areas.



The activities planned as online trainings and webinars, along with residential trainings focus on the cross-cutting theme of Water sensitive design, Urban Water bodies, urban Groundwater, Decentralised Waste water etc. The following chart lists down the details of the focussed sectors for the capacity building activities-

CSE-NMCG Research and Advocacy Activities planned and completed in 2021-2022

Activity Component	List of Activities proposed	Activity Status	Remarks
Preparatory Phase:	Teaching Learning Material (3 modules for online training) involves travel for data & information collection	**Done**	1st three months travel couldn't happen because of COVID 2nd Wave.
	Research for Practitioner's Guide involves travel for data & information collection	**In Progress**	
	Preparation of AV & power point presentation for moodle - online training as well as residential trainings	**Done**	
Capacity Building:	**Programme Launch Event incl. Training Calendar & Web Portal Launch**	**Done**	Web Portal Didn't Launch
	1st Online Training: Water Sensitive Urban Design & Planning - Issues, Challenges & Potential	**Done**	Target of training 400 No. of officials achieved through 3 Online Trainings
	2nd Online Training: Urban Waterbodies Management: Issues, Challenges & Potential of Making Water Sensitive Cities	**Done**	
	3rd Online Training: Decentralised Wastewater Treatment and Local Reuse - Issues Challenges & Potential	**Done**	
	4th Online Training: Urban Groundwater Management	**Not Done**	
	5th Online Training: Water Efficiency and Conservation	**Not Done**	
	1st Webinar: 'Making Water Sensitive Cities – Water Efficiency, Conservation & Rainwater Water Harvesting'	**Done**	**+1** Additional Webinar/ workshop organised
	2nd Webinar: 'Urban Water Bodies & Lakes Management'	**Done**	
	3rd Webinar: 'Decentralised Water – Wastewater Management incl. Local Reuse'	**Done**	
	1st Residential Training: Water Sensitive Urban Design and Planning (WSUDP) - Rainwater Harvesting at different scales	**Done**	

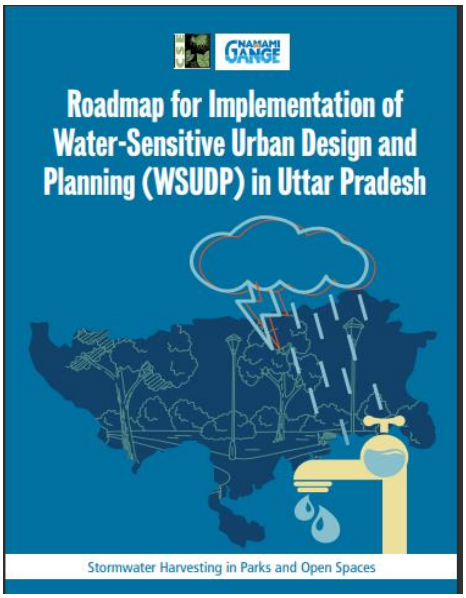
Activity Component	List of Activities proposed proposed	Activity Status	Remarks
Capacity Building:	**2nd Residential Training:** Decentralised Wastewater Management and Local Reuse	**Done**	
	3rd Residential Training: Urban Waterbodies Management and Rejuvenation	**Done**	
	1st Field Exposure Visit	**Not Done**	
	Need assessment for contextual training incl. developing assessment system for before, during & after training assessment.	**Done**	
Action Research:	**Practitioners Guide:** 'Urban Lake Management' completed & to be released at webinar	**In Progress**	**Report: Roadmap Map for WSUDP in Uttar Pradesh, Stormwater Harvesting in Parks Published.** 1st draft for two Practitioner's Guide prepared internally
	Practitioner Guide: 'Urban Groundwater Management' completed & to be released at webinar	**Not Done**	
	Practitioner Guide: 'Decentralised Sewage & Greywater Management' completed & to be released at webinar	**In Progress**	
	Research for Practitioner's Guide involves travel for data & information collection	**In Progress**	
Technical Support:	Launch of **Help Desk** for Technical Support	**In Progress**	Web Portal is ready to be launched
Outreach:	Communication Collateral - Programme / Project brochure & web portal for project, Training Calendar Brochure & web announcement	**Done**	
	Communication Collateral – Residential Training Brochure & web announcement	**Done**	
	First Year Activity Report for NMCG	**Done**	Report to be submitted post review meeting

The table above presents the list of activities for the first year of the CSE-NMCG Capacity Building Initiative. As scheduled, there has been total three webinars and three online trainings which have been completed in addition to three advanced residential trainings.

Action Research

Publication: Roadmap for Implementation of Water-Sensitive Urban Design and Planning (WSUDP) in Uttar Pradesh: Storm water Harvesting in Parks and Open Spaces

This report has been prepared by the Centre for Science and Environment (CSE) as part of its knowledge support for the National Mission for Clean Ganga (NMCG) to develop water sensitive cities in the Ganga basin. This report showcases the potential of run-off infiltration in storm water harvesting systems in parks and green open spaces in five cities—Lucknow, Kanpur, Varanasi, Prayagraj and Moradaba —in Uttar Pradesh, India's largest and most populous state, which falls in the Ganga basin. The report also presents city profiles, pilot case studies of select parks for implementation of storm water harvesting strategies, and templates for data collection and implementation of storm water harvesting. The link to the Report is- https://www.cseindia.org/roadmap-for-implementation-of-water-sensitive-urban-design-and-planning-wsudp-in-uttar-pradesh-stormwater-harvesting-in-parks-and-open-spaces-10976

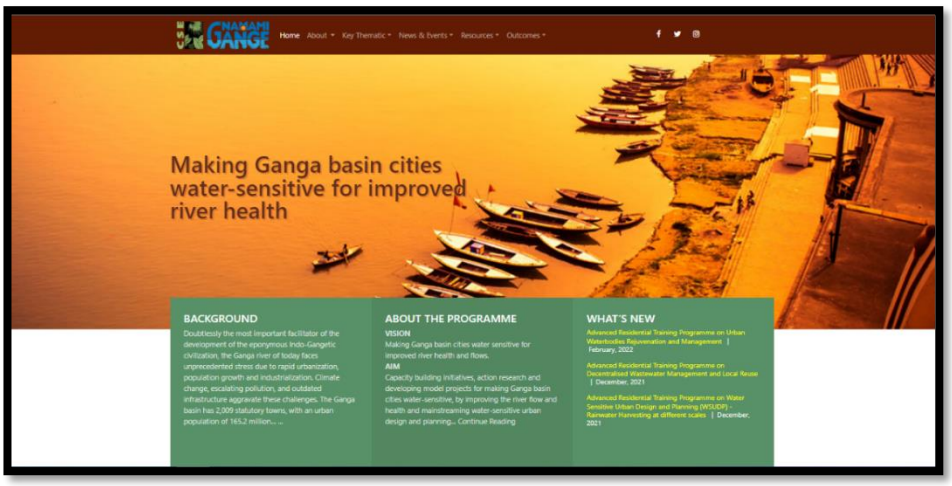


Report on the Roadmap for Implementation of WSUDP in UP

Outreach and Advocacy Activities

Creation of website and helpdesk for the CSE-NMCG Capacity Building Initiative

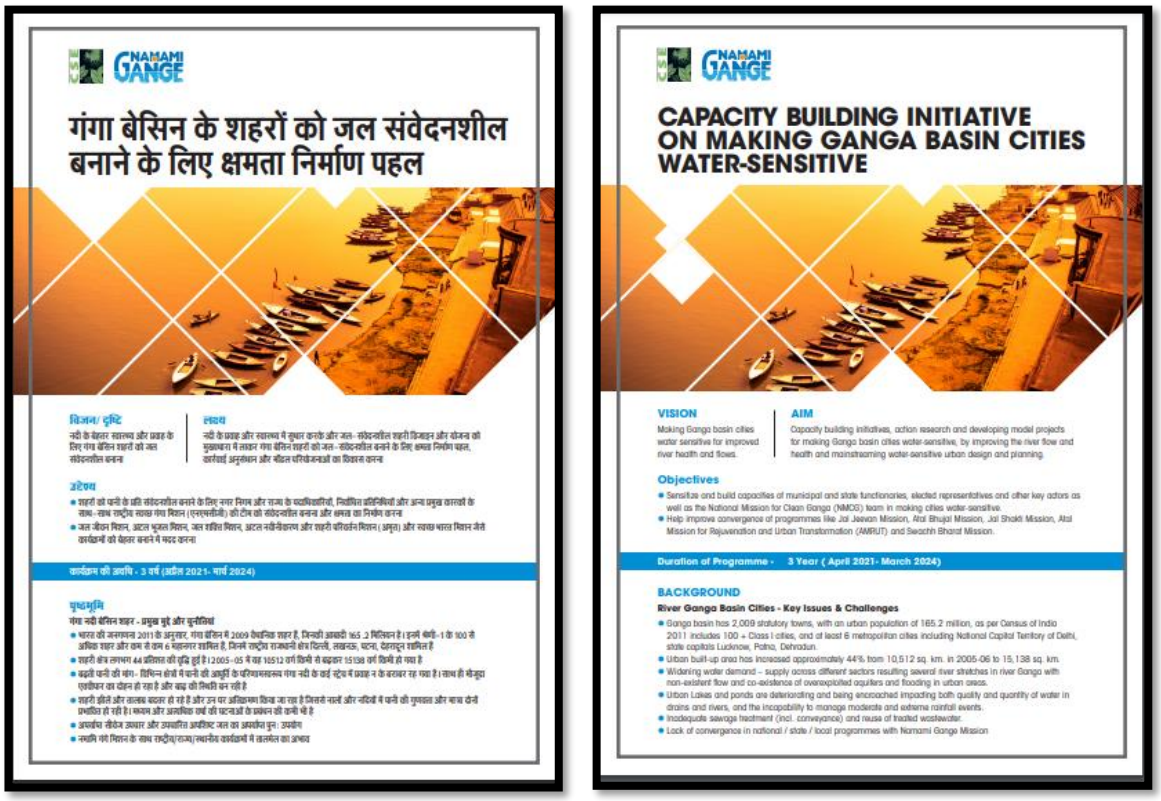
A web based platform has also been designed under the CSE-NMCG Capacity Building Program on Making Ganga basin cities water-sensitive for improved River Health. This webpage showcases exclusively all the activities and relevant information regarding this particular program at https://www.cseindia.org/gsp-wtc/cse_nmcg/home.html .This includes the background information of the program, key thematic areas, relevant resources, outcomes, News & Events, Knowledge Products, and Upcoming Events etc.



CSE-NMCG Capacity Building Initiative Web page

CSE-NMCG Capacity Building Initiative Brochure

A brief Brochure including all the relevant information has also been prepared for dissemination across various stakeholders. This brochure has been prepared in both English and Hindi for a wider outreach among various stakeholders. The brochure includes the brief information about the vision, aim and objectives of the CSE-NMCG capacity building program.

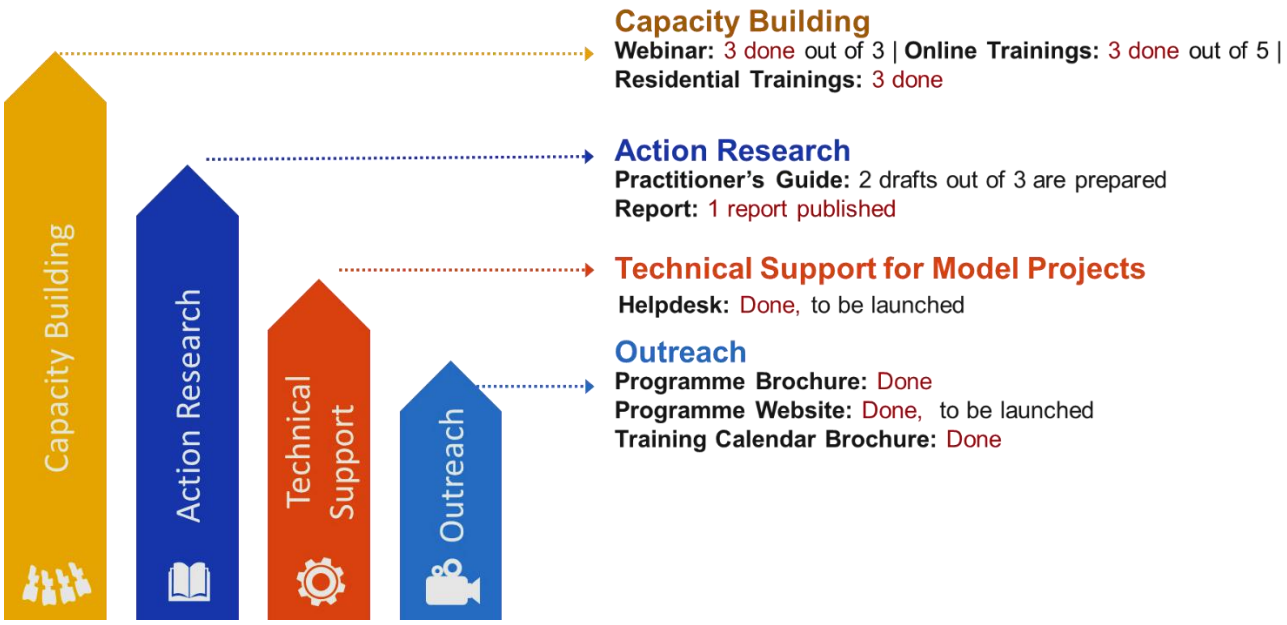


CSE-NMCG Brochure in Hindi and English for Knowledge Dissemination and Advocacy

Activities Planned v/s Activities Done: At a Glance

Total no. of proposed Activities	Done Activities	Not Done Activities	Activities in Progress
25	16	4	5

As is given, all the activities are ongoing as scheduled and most of the activities are completed except a few, which were scheduled but were delayed due to third phase of COVID in January 2022.



CSE-NMCG Launch Event cum Webinar: Making Ganga Basin Cities Water Sensitive

Centre for Science and Environment (CSE) and the National Mission for Clean Ganga (NMCG) under the Ministry of Jal Shakti announced their partnership at a webinar

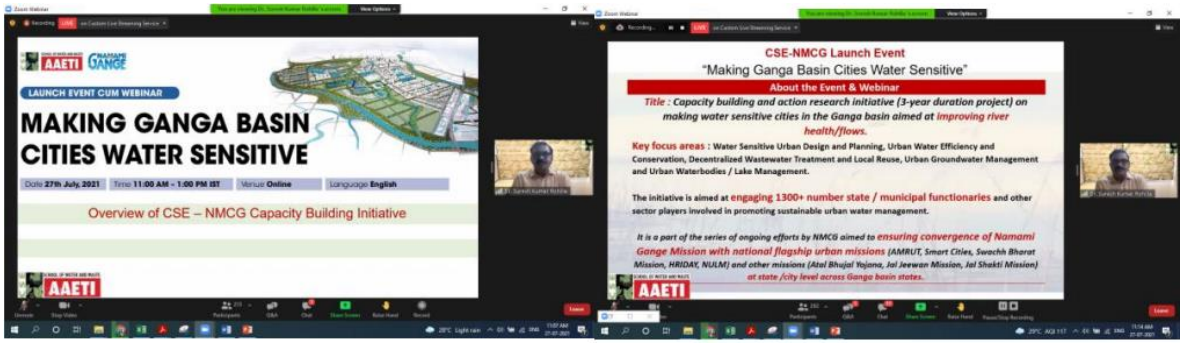
Centre for Science and Environment (CSE) is partnering with the National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti, Government of India for a unique three-year action research and capacity building initiative, 'Making Ganga basin cities water-sensitive'. The initiative is under the national flagship programme for improving river health and water flows in rivers of the Ganga basin – Namami Gange.

CSE and NMCG jointly launched the initiative at a webinar which was addressed by Rajiv Ranjan Mishra, director general, NMCG; Sunita Narain, director general, CSE; G Mathi Vathanan, principal secretary, Housing and Urban Development Department, Government of Odisha; Suresh Rohilla, senior director, Urban Water Programme, CSE; Vandana Menon, independent consultant, New Delhi; and Stanley Samuel, CEO, Ecosoftt Pvt Ltd, Singapore. This initiative is part of the series of ongoing efforts by NMCG aimed at ensuring convergence of Namami Gange Mission with other national flagship urban missions (such as AMRUT, Smart Cities or the Swachh Bharat Mission) and missions related to water resource management (such as Atal Bhujal Yojana, Jal Jeewan Mission, or Jal Shakti Mission).

The launch event followed with a webinar was organized on 27th of July, 2021 aimed at engaging 1300+ number state / municipal functionaries and other sector players involved in promoting sustainable urban water management. The event received an overwhelming response with 990+ registrations from 240 cities across 33 countries worldwide. More than 47.5% of the registrants turned up as attendees with the attendance of 472 as unique viewers, out of which 43% were Government officials. Apart from the attendees, the event was live streamed and approx. 1600+ viewers watched the event through the online social media platforms. The attendees belonged to diverse fields, including engineers, architects, planners, social scientists, etc. They represented private consultancies, govt. departments, academic institutions, NGOs, etc.

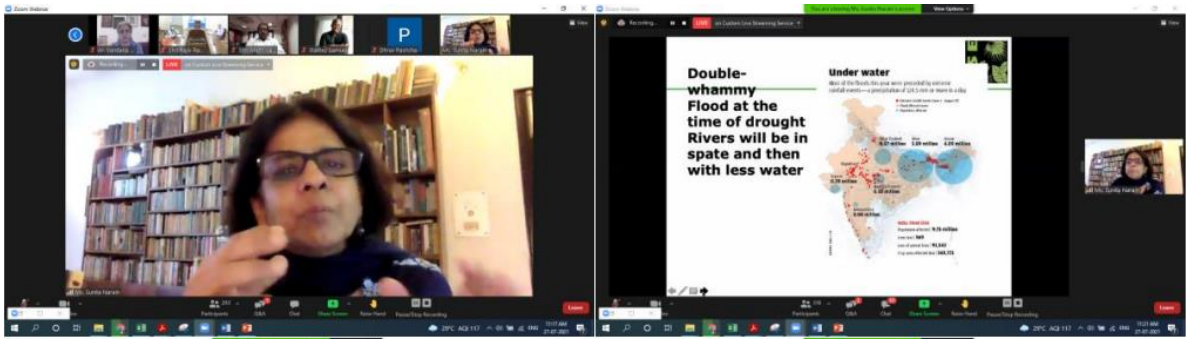
Dr Suresh Kumar Rohilla, CSE kick-started the launch event by providing an overview of the CSENMCG programme, its vision, aim, objectives and upcoming events planned for the 1st year. He introduced CSE- SWW, the water programme and shared CSE's journey towards water sensitive urban design and planning through capacity building, research and technical support. At the CSE-NMCG launch event, Ms Sunita Narain, Director General, CSE stressed that issues like dwindling water supply, pollution abatement, urban flooding, groundwater depletion, etc. cannot be addressed in isolated missions and programmes; and that there is need for a paradigm shift in urban water management to overcame these issues, and strengthen resilience in face of a changing climate. Shri Rajiv Ranjan Mishra, Director General, NMCG shared how the Namami Gange programme aims to move beyond installing STPs for pollution abatement, and focus on water-sensitive cities and communities in order to ensure river health in urban limits. He stressed on strengthening linkages of the river and its floodplains with the larger urban areas and the need to incorporate the river-sensitive approaches in city master plans.

Event



Snapshots from Presentation by Dr Suresh Kumar Rohilla, CSE

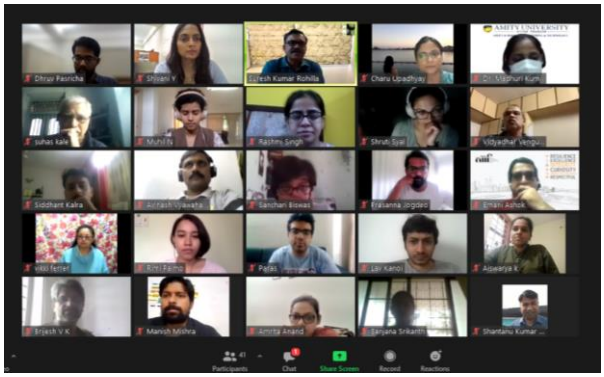
Shri Rajiv Ranjan Mishra, Director General- NMCG delivering Guest of Honour Speech at the CSE-NMCG Launch



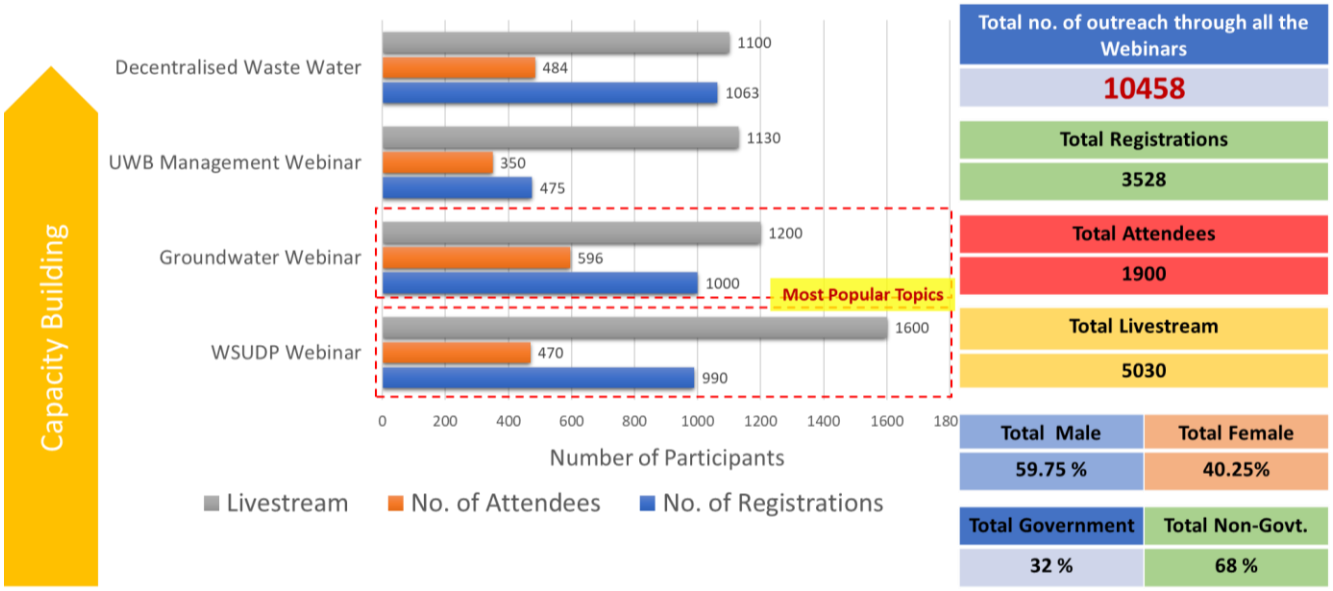
Snapshots of Presentation by Ms Sunita Narain, CSE

CSE-NMCG Capacity Building Initiative: Webinars

During the first year three webinars were scheduled and completed. These webinars were open to all and also part of the online training programmes. These webinars received overwhelming response from the people as well as experts in the sector. The list of Webinars and their details theme wise, are as-



The webinars were attended by large number of participants across the expertise of water resources, planning department, infrastructure department, environmentalists etc. The details of the participants and viewership across various social media platform is given in the figure below-



Viewership and Number of Participation for the CSE-NMCG Webinars Year 1

These webinars were attended by and large by participants across disciplines, but most of them were Researchers and Academicians, Engineers, Planners and Architects, Social Scientists, Economist etc. The depiction of the participants profiles are as follows-

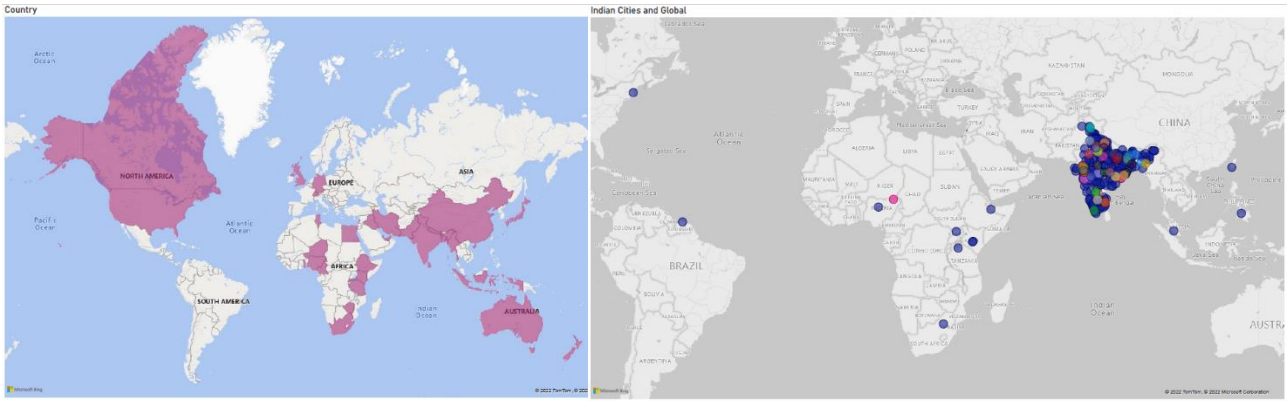
Participant Profiles and Background for CSE-NMCG Webinars 2021

Academicians, Researchers, Ecologist & Geographers	Engineers	Planners & Architects	Social Scientist & Economist	Others
26 %	28.75%	14.5 %	9.75 %	19.5 %

Participant Profile and Background for the CSE-NMCG Webinars

In terms of the local and regional spread, the webinar participants came across from various countries, states and cities of India. The following map represents the participant's location from across the country and outside the country. It is evident that there was significant participation from global south, African countries apart from South-East Asia, North and South America. Within India, there was huge participation from all across the country, with representation from hundreds of cities. Participants from a total of ***356+ Indian cities*** participated in theses webinars, along with participants from **51 countries**, which in itself is an indicator of the massive representation from across all over the country and worldwide.

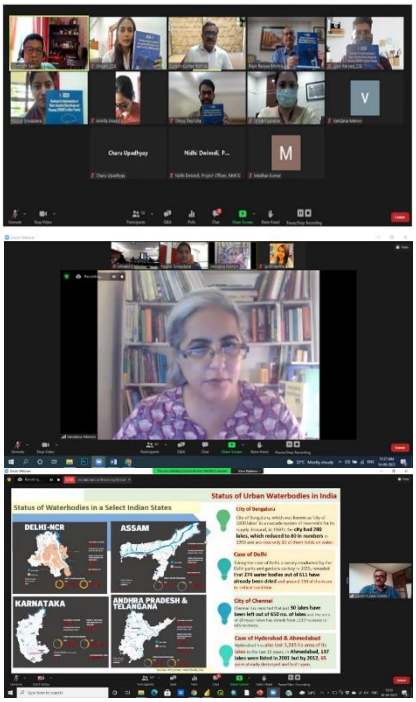
Participants from 356+ Cities across 51 Countries worldwide



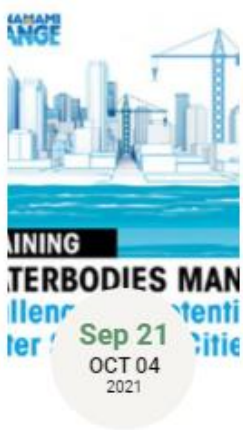
Location of Participants in the CSE-NMCG online Webinars by region, countries and cities.

CSE-NMCG Capacity Building Initiative: Online Trainings

There were five online trainings which were proposed out of which three have been completed and the fourth training on urban ground water will be completed in March/April 2022.



Decentralised Wastewater Treatment and Local Reuse - Issues Challenges & Potential

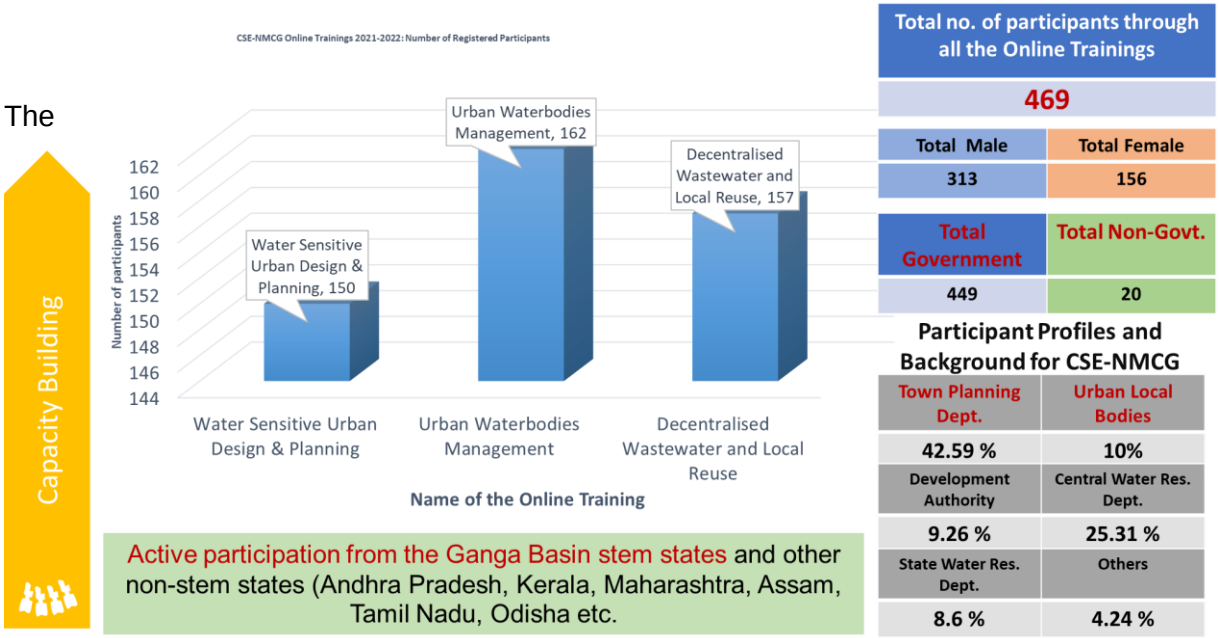


Urban Waterbodies Management: Issues, Challenges & Potential of Making Water Sensitive Cities

Water Sensitive Urban Design & Planning - Issues , Challenges & Potential

There were more than 150 participants in each of the three online trainings, totalling around 500 participants for all the trainings combined. Target of training 400 No. of officials achieved through 3 Online Trainings. The details of the number of participants per training is as below-

The



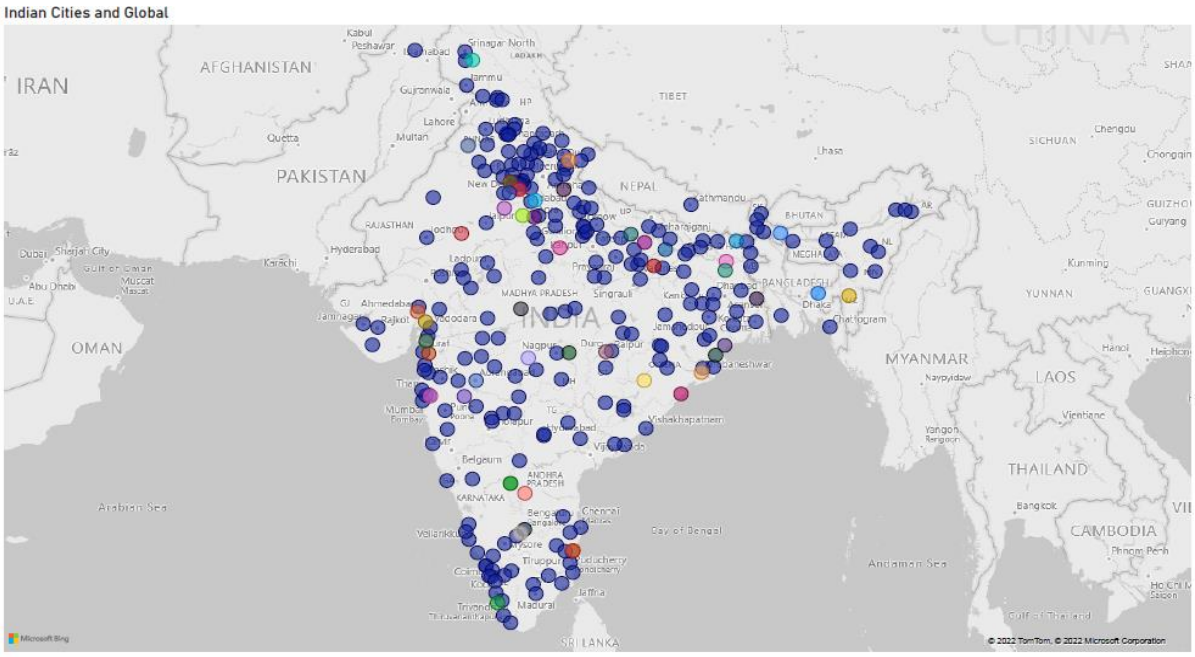
Number of Participation for the CSE-NMCG Online Trainings Year 1

participants were mostly from the background of planning and architecture from the state

planning departments and development authorities. Apart from this, central and state water resources official and officials from local bodies also participated in the online trainings.

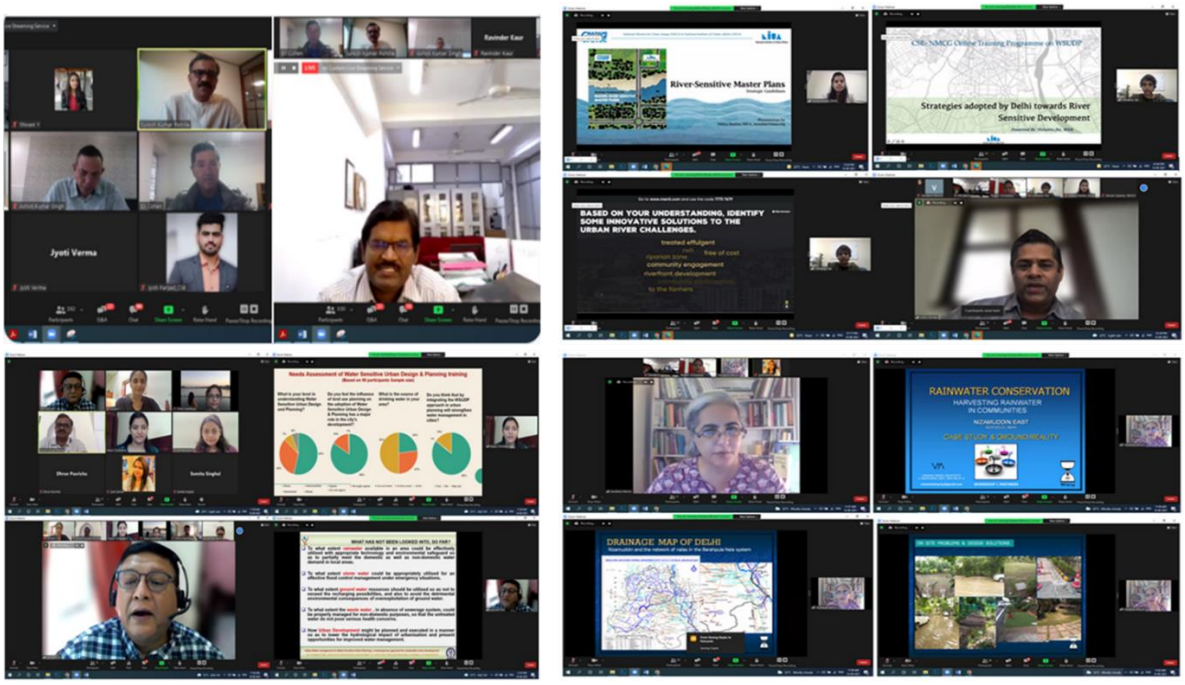
With regards to the location of the online Trainings, it is noticed from the map below that the participants hailed from all the big and small cities equally within the country. There was an enormous participation from the Ganga Basin stem states (Himachal Pradesh, Uttarakhand, Delhi, Uttar Pradesh, Bihar, Jharkhand, West Bengal, Madhya Pradesh, Chhattisgarh, Rajasthan, and Haryana) and other non-stem states (Andhra Pradesh, Kerala, Maharashtra, Assam, Tamil Nadu, Odisha etc.

156+ Indian Cities



Location of Online Training Participants across various cities in India

Few of the glimpses from the online trainings and webinars under the CSE-NMCG Capacity Building Initiative are as-



CSE-NMCG Advanced Residential Trainings

As planned, all the three advanced residential training programs under this initiative, two have been successfully completed. The three trainings were on the themes, namely-

(a) Water Sensitive Urban Design & Planning

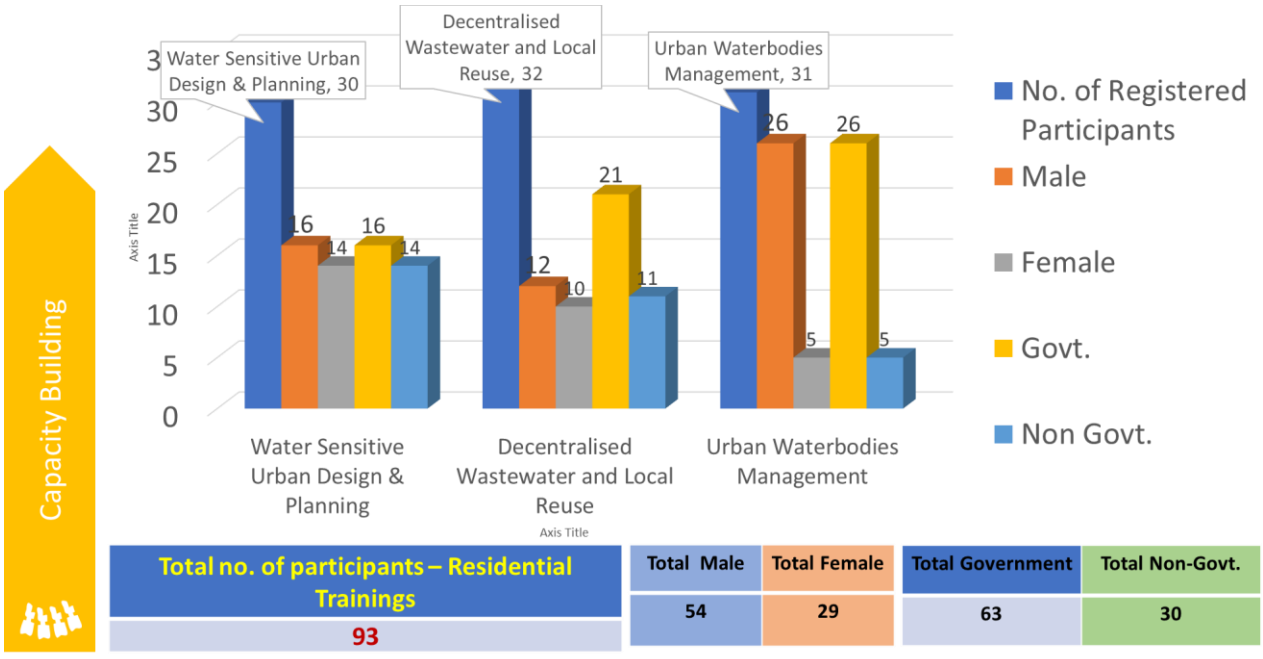
(b) Decentralised Wastewater and Local Reuse and

(c) Urban Waterbodies Management.

All the three training programs comprised of around 30 participants each.

Some Snapshots from the Advanced Residential Training Programmes held at AAETI, Nimli, Rajasthan

There were around 30 participants in each of the three advanced residential trainings, totalling around 90+ participants for all the trainings combined. details of the number of participants per training is as below-



Total no. of participants – Residential Trainings	Total Male	Total Female	Total Government	Total Non-Govt.
93	54	29	63	30

Number of Participation for the CSE-NMCG Advanced Residential Trainings Year 1

Alumni Feedback

A **well-designed program**. The participants of the program were **a good mix of people** from the public, private, and government sectors. This experience will **definitely help me in my future projects**. With the deteriorated condition of urban water bodies in India at present, this **program provides valuable inputs for changing** this scenario. Thanks for the team's efforts. Would love to come again for next training.

Dr. Prasanna Jogdeo Co-Founder Lemnion Green Solutions Pvt. Ltd., Pune

Advanced training program in a place **very close to nature (AAETI).** In this advanced training I got to learn step by step procedure to prepare urban **waterbody management plan** including **stakeholder engagement, community participation, O&M strategies and socio-economic benefits**. It was a fruitful learning for me and it is **going to help me on implementation on ground interventions** related water body with a sustainable approach. I would like to thank our mentors who made their valuable effort to getting us trained.

Ankur Choudhary Project Manager J S Water Energy Life Co. Pvt. Ltd. Gurgaon

A **great course** to upgrade my **learning on water bodies and their rejuvenation strategies**. Doing the course with **government officials** and other participants gave me a view of their way of **working and implementation style**. Looking forward to more learning and **execution opportunities**.

Vikash K Agarwal Consultant (Water and Sanitation related), Entrepreneur RSTPL, Guwahati

It was a **good program, nicely scheduled and organised**. The training has been **really helpful** for me. I will be **sharing the experience and topics covered with people and groups who can make difference** in my place of work and town.

Arjun Kumar Assistant Manager, Bharatiya Reserve Bank Note Mudran (P) Limited, Mysore

Happy to share that I have successfully completed National Mission for Clean Ganga & CSE training programme on "Urban Waterbodies Rejuvenation and Management". I will **surely use the skills imparted** during the **training in my work**!

Raiman Krishna Technical Assistant WaterAid, India

Capacity Building & Action Research: External Trainers

All these trainings and webinars were supported with a range of external trainers having expertise in the sector and particular themes under the initiative. There were a total number of 30 experts from the sector who were invited to support these activities.

WEBINARS & ONLINE TRAININGS

Rajiv Ranjan Mishra
Director General
National Mission for
Clean Ganga (NMCG)
India

G. Mathi Vathanan
Principal Secretary,
HUDD, Odisha

Vandana Menon
Independent
Consultant, New Delhi

Stanley Samuel
CEO Ecosoftt Pvt Ltd,
Singapore

Veena Srinivasan
Senior Fellow
(ATREE), Bangalore

Somnath Sen
Retd. Associate
Professor, IIT
Kharagpur

Mr Manu Bhatnagar
Principal Director,
Natural Heritage Division,
INTACH, New Delhi

Dr Ritesh Kumar
Head,
Wetlands
International,
South Asia

Ashok Kumar Singh, IAS,
Executive Director
(Projects),
NMCG

Dr Ravinder Kaur
Principal Scientist,
WTC,
IARI

Eli Cohen
Founder and CEO,
Ayala Water &
Ecology, Israel

Vijay Kumar Chaurasia
Joint Advisor,
CPHEEO, MoHUA,

Nadeem Khalil
Professor
Aligarh Muslim
University

Dr K.S. Jayachandran
(Delhi Pollution
Control Committee)

RESIDENTIAL TRAININGS

Sanjay Prakash
Managing Director
SHIFT Architects

Abhinav Pandey
Head of Studio
SHIFT Architects

Jigisha Jaiswal
C-WAS CEPT,
Ahmedabad

Victor Rana Shinde
Lead: Water and
Environment
NIUA

Dr Mohit Ray
Environmental Consultant and Activist

Tanmay Kumar
Project Engineer
CH2M HILL

P.Z. Thomas
Managing Director
EEC Pvt. Ltd

Jamie Ewert
Monash University
CRC for Water Sensitive Cities

Sandhya Haribal
Senior Project Manager
CDD Society

S. Vishwanath
Director-Biome Environmental Solutions, Bangalore

Vivek Jangde
Dy. General Manager
ESTPL

Dr Mansee Bal Bhargava
(EDC), Ahmedabad

Ramveer Tanwar
Pondman Environmentalist

Lokendra Thakkar
Officer Incharge, GoMP State Wetland Authority

Additional work done under the initiative

CSE-NMCG Expert Advisory Planning cum Consultation Group: *Technical Support under the CSE-NMCG Capacity Building Initiative*

An advisory committee comprising 18 sector experts to strengthen the efforts of CSE for efficient design and delivery of the proposed capacity building project has been developed. These unconventional experts from sector specific to water and environment have been invited to be an active part of the program to guide, support and provide assistance in the preparation of teaching learning material. The list of experts under specific theme is presented below-

CSE-NMCG Planning cum Consultation Workshop: *Advisory Committee, identifying 18 sector Experts to form Oversight Planning Committee*

With respect to the CSE-NMCG action research and capacity building initiative, the first planning cum consultation workshop was organised by CSE, on 2nd of July 2021 from 11.00 AM to 1.10 PM on the topic of "Making Ganga Basin cities Water Sensitive' aimed at improving river health". Almost 18 sector Experts from various backgrounds in water and wastewater attended the workshop and provided their inputs. This Planning cum Consultation Workshop was an effort to bring cross -sectorial experts and learn about the ongoing research, as well as identify key experts from this cohort or other experts working on the important focus areas of the programme who can be contacted to be part of this initiative, which is aimed at developing a state of art programme.

GROUNDWATER AND URBAN LAKE MANAGEMENT IN URBAN AREAS

S.K. Sharma
Groundwater Expert
Former Member
(Technical), CGWB

Rajiv Sinha
Professor,
Department of Earth
Sciences, IIT Kanpur

Somnath Bandopadhyay
Associate Professor
Nalanda University,
Bihar

Shashank Shekhar
Professor (Geology),
Delhi University

Mohit Ray
Independent
Environmental
Consultant
& Activist

K.J. Anandha Kumar
Scientist
(Hydrogeologist)
(Retd.), CGWB

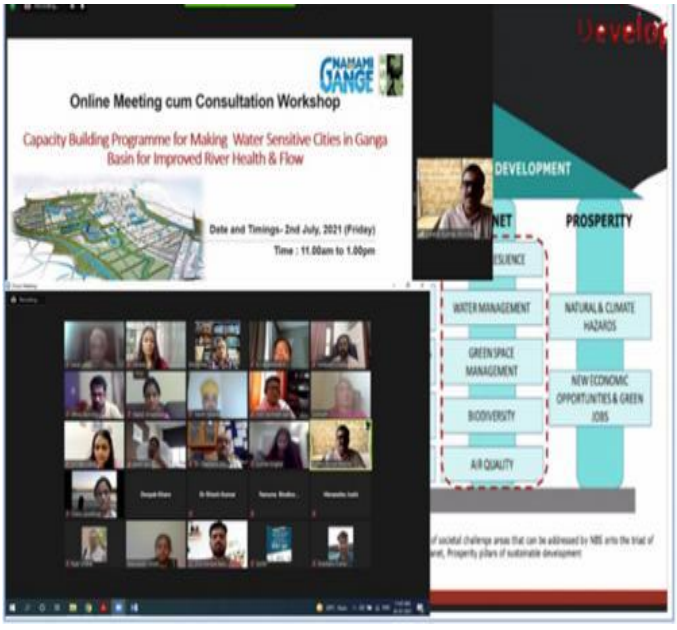
Meenakshi Dhote
HOD, Dept. of
Environment Planning,
SPA, Delhi

Ritesh Kumar
Head, Wetlands
International, South
Asia, WI-SA

Venkatesh Dutta
Professor,
SEES, BB Ambedkar
University, Lucknow

Expert Advisory Committee for the CSE-NMCG Capacity Building Initiative

The workshop was divided into the two themes of Water Sensitive Urban Design and Planning (WSUDP) including rainwater water harvesting, water efficiency and conservation in urban areas as well as decentralized wastewater treatment and local reuse and Groundwater and Lake Management in Urban Areas. The basic objective of this workshop was to explore future collaborations and partnerships with organisations interested to be involved in this program. Overall, the Workshop was a great success and it presented as a great opportunity to connect with sector experts and initiate the potential collaboration with them for this program.



CSE-NMCG Planning cum Consultation Workshop, 2nd July 2021

Some of the experts from the Expert Advisory Group also took part in the online trainings-webinars and residential trainings of this program. These include eminent experts like Prof Somnath Sen from IIT Kharagpur, Dr Mohit Ray, Dr Ritesh Kumar from Wetlands International, Dr Victor Shinde from NIUA, Mr Manu Bhatnagar from INTACH and Mr PZ Thomas from Ecosoft.

River City Alliance: Collaboration with NIUA for joint capacity building for River Centric plans of cities

The Ministry of Jal Shakti, Govt. of India in partnership with the Ministry of Housing and Urban Affairs (MoHUA), Govt. of India launched the River Cities Alliance (RCA) on 25 November, 2021. The Alliance was launched by Union Minister for Jal Shakti, Sh. Gajendra Singh Shekhawat, who stated that the RCA is a platform for member cities to learn from each other's successes and failures as well as connect people with the rivers.

The secretariat of Alliance is set up at NIUA with support from NMCG, Ministry of Jal Shakti. CSE is the lead partner to build capacities of state / municipal functionaries as well as other actors, and support cities prepare action plans to develop and implement Water-Sensitive Urban Design and Planning (WSUDP) across India and in particular the RCA Cities.

Snapshots of Ms Sunita Narain, Director-General, CSE after delivering the key-note address at the launch and Dr Rohilla as discussant for Roundtable Discussion on 'Holistic Urban River Management'

IEC Campaigns: Events on 'Making water & sanitation sensitive cities' for Ganga Utsav 2021 in Uttar Pradesh

CSE has recently partnered with the National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti, Government of India for a unique three-year action research and capacity building initiative, 'Making Ganga basin cities water-sensitive'. Key focus areas of the programme are **Water Sensitive Urban Design and Planning, Urban Water Efficiency and Conservation, Decentralized Wastewater Treatment and Local Reuse, Urban Groundwater Management and Urban Waterbodies / Lake Management**.

Under this newly built partnership, CSE organised series of event during the Ganga Utsav, 2021 in three cities Lucknow, Bijnor (Ganga Priority Town) & Chunar (NMCG Priority Towns). The details of events are as follows -

Chunar: Ganga Yatra / Run, Signature and Yoga / Meditation Camp

Bijnor: Poetry Competition and Signature Campaign

Lucknow: Street Play / Nukkad Natak

It was an intensive IEC campaign to promote awareness among various stakeholders in Chunar municipality on promoting water and sanitation sensitive design and planning in the city, rain water harvesting, protecting the holy Ganga and other water bodies from Malasur & behavior change communication among community for sanitation and hygiene practices for making the Ganga clean.

Events on 'Making water & sanitation sensitive cities' for Ganga Utsav 2021 in Uttar Pradesh

Ganga Utsav 2021, Chunar

Awareness cum orientation programme of Self-Help Groups (SHGs) on 'Making water & sanitation sensitive cities'

Celebration of Ganga Utsav in Bijnor

Key Achievements

In first year achieved significant outreach and capacity building of government officials and others:

Webinar: 10458 *(incl. 5000 live viewers & 1900 attendees)* **|**
Online Trainings: 469 | Residential Trainings: 93 | Total: 11020
1640+ Government Officials Participants

- Active participation from across **356 cities across India and 51 cities** outside India across the globe.
  The participants in these advanced residential trainings were Planners, Architects, Engineers, and Officials from Development Authorities, Planning Departments and Urban Local Bodies.

  (i) Under the capacity building initiative of the program, nearly **10000 participants** (both official and non-officials) attended the online webinars on various themes of- water sensitive urban design and planning (WSUDP), Urban Water bodies and Decentralised Water and Waste water systems. Additionally, **5000 people** watched (live streamed) these webinars across various social media platforms. The regional expanse of the participants also was huge ranging from almost every nook and corner of the country to several cities outside India especially Africa, South-East Asia, North and South America. There was active participation from across **356 cities across India and 51 cities outside India** across the globe. This represents the enormous outreach of the Webinars and Training programs of CSE and the strength of its network all over the world.

  (ii) Further in the capacity building segment, for the online trainings, nearly **500 participants** from government organisations and individual experts undertook the online trainings under the three themes mentioned above. These government officials not only represent the vast expanse of participation from various urban local bodies and development agencies across the length and breadth of the country but also active participation from among almost all the states.

  (iii) Also, nearly **100 participants** were trained at the advanced level in the residential trainings, from among the participants who were trained in the online trainings earlier. The participants in these advanced residential trainings were Planners, Architects, Engineers, and Officials from Development Authorities, Planning Departments and Urban Local Bodies. It also included sector experts and consultants who were working as third party in various government departments.

- A great extent of information dissemination was also done for the general public and **relevant stakeholders**, under this initiative through media **collaterals like brochures and web page**.

- A **Research Report was also published-** "**Roadmap for Implementation of Water-Sensitive Urban Design and Planning (WSUDP) in Uttar Pradesh: Storm water harvesting in Parks and Open Spaces**".
  This report showcases the potential of run-off infiltration in storm water harvesting systems in parks and green open spaces in ***five cities—Lucknow, Kanpur, Varanasi, Prayagraj and Moradabad —in Uttar Pradesh.***

Key issues and challenges

In the first year of the project there were few challenges that were faced. These can be summarised as-

- COVID -19: Travel restriction in first three months.
- Difficulty in securing Nomination: Difficulty in securing nomination as NMCG funding excludes TA & DA
- Last minute drop outs from NMCG and SPMG officials has been noticed for onsite trainings.
- Coordination with NMCG partners, Development Authorities and Urban Local Bodies

Other challenges:

(i) Several online trainings and webinars including residential trainings were held during the first year of the programme. The aim of these training and webinars is broadly to capacitate the government officials- Planners. Architects, Engineers, ULB officials in Water sensitive urban design and planning approach, so that they can implement the learnings and solutions from these programs on the ground level. But there is a major challenge of monitoring and ensuring that these learning will actually be implemented on the ground level or not. Some sort of mechanism is needed which can help ensure that at least few of the learnings and solutions can be implemented locally in an efficient way in these cities at scale.

(ii) Even though this is a funded program and nominations for the trainings are sought from the state planning departments and local bodies, sometimes these authorities are not responsive in sending nominations for these trainings and capacity building activities and timelines are delayed. This poses as a major challenge as it leads to lag in the completion of the activities. A positive and enthusiastic response from the state authorities is expected in order to make these activities successful.

(iii) Also since the government administrative structure is conventional in a certain way, these trainings also challenge the conventional knowledge of the existing governance structure.

Conclusion

The CSE-NMCG capacity building program has completed one year and all the objectives and activities are running according to the programme timeline. This year most of the focus has been on capacity building activities like trainings and webinars, along with research and advocacy. More research and outreach activities will add to the current activities in the second and third year too.

Event Calendar 2021 - 2022

Event Calendar 2021 - 2022

Type of Activity	Name of the Event	Date	Link of Announcement
Residential Training and in Upcoming	Advanced Residential Training Programme on Urban Waterbodies Management and Rejuvenation	February 22 - 24, 2022	https://www.cseindia.org/advanced-residential-training-programme-on-urban-waterbodies-rejuvenation-and-management-11091
Residential Training	Advanced Residential Training Programme on Decentralised Wastewater Management and Local Reuse	December 21-23, 2021	https://www.cseindia.org/advanced-training-on-decentralized-wastewater-management-and-local-reuse-at-aaeti-from-21-23-december-2021-11109
Residential Training	Advanced Residential Training Programme on Water Sensitive Urban Design and Planning (WSUDP) - Rainwater Harvesting at different scales	November 30 – December 02, 2021	https://www.cseindia.org/water-sensitive-urban-design-and-planning-wsudp-11024
Updates	CSE at Launch of River Cities Alliance	November 25, 2021	https://www.cseindia.org/cse-at-launch-of-river-cities-alliance-11075
Webinar	Decentralised Nature Based Wastewater Treatment Solutions for Improved River Health	October 21, 2021	https://www.cseindia.org/webinar-on-decentralised-nature-based-wastewater-treatment-solutions-for-improved-river-health-11003
Online Training	Decentralised Wastewater Treatment and Local Reuse - Issues Challenges & Potential	October 07 – 22, 2021	https://www.cseindia.org/online-training-on-decentralised-wastewater-treatment-and-local-reuse-issues-challenges-potential-10968
Webinar	Managing Urban Water Bodies for Making Cities Water -sensitive and Improving River Health	September 30, 2021	https://www.cseindia.org/managing-urban-waterbodies-for-making-cities-water-sensitive-and-improving-river-health-10996
Online Training	Urban Waterbodies Management: Issues, Challenges & Potential of Making Water Sensitive Cities	September 21 – October 04, 2021	https://www.cseindia.org/urban-waterbodies-management-issues-challenges-potential-of-making-water-sensitive-cities-10972
Online Training	Water Sensitive Urban Design & Planning - Issues, Challenges & Potential	September 07 – 20, 2021	https://www.cseindia.org/online-training-on-water-sensitive-urban-design-planning-approach-challenges-potential-10955
Webinar	Groundwater and Riverine System: Challenges, Opportunities and Solutions for Rapidly Urbanizing Ganga Basin	August 4, 2021	https://www.cseindia.org/webinar-groundwater-and-riverine-system-challenges-opportunities-and-solutions-for-rapidly-urbanizing-ganga-basin-10902

Webinar	**Groundwater and Riverine System: Challenges, Opportunities and Solutions for Rapidly Urbanizing Ganga Basin**	**August 4, 2021**	https://www.cseindia.org/webinar-groundwater-and-riverine-system-challenges-opportunities-and-solutions-for-rapidly-urbanizing-ganga-basin-10902
Webinar	**Launch Event cum Webinar: Making Ganga Basin Cities Water Sensitive**	**July 27, 2021**	https://www.cseindia.org/launch-event-cum-webinar-making-ganga-basin-cities-water-sensitive-10887
Webinar	**Planning cum Consultation Workshop for CSE - NMCG initiative on 'Making Water Sensitive Cities in Ganga Basin'**	**July 02, 2021**	https://www.cseindia.org/planning-cum-consultation-workshop-for-cse-nmcg-initiative-on-making-water-sensitive-cities-in-ganga-basin--10879

Proposed Event Calendar 2022 - 2023

Calendar for CSE-NMCG events under capacity building initiative – Making cities water sensitive in Ganga Basin (2022-23)

Online Trainings			
S. No.	**Subject**	**Dates**	**Coordinator**
1.	Urban Groundwater Management	Jun 21 – Jul 1, 2022	Ms. Charu Upadhyay (charu.upadhyay@cseindia.org)
2.	Water Sensitive Urban Design and Planning (WSUDP) – Rain / Stormwater Harvesting at different scales	Aug 03 – Aug 20, 2022	Ms. Shivani Yadav (shivani.y@cseindia.org)
3.	Urban Waterbodies Management	Sep 28 – Oct 14, 2022	Ms. Shivani Yadav (shivani.y@cseindia.org)
4.	Decentralised Wastewater Management and Local Reuse	Nov 2 – 16, 2022	Mr. Jyoti Parsad (jyoti.parsad@cseindia.org)
5.	Water Efficiency and Conservation	Mar 14-27, 2023	Ms. Charu Upadhyay (charu.upadhyay@cseindia.org)
Residential Trainings			
1.	Water Sensitive Urban Design and Planning (WSUDP) – Rain / Stormwater Harvesting at different scales	Nov 9 – 12, 2022	Ms. Shivani Yadav (shivani.y@cseindia.org)
2.	Urban Waterbodies Management	Nov 22 – 26, 2022	Mr. Dhruv Pasricha (dhruv.pasricha@cseindia.org)

3.	Decentralised Wastewater Management and Local Reuse	Dec 20 – 23, 2022	Mr. Jyoti Parsad (jyoti.parsad@cseindia.org)
4.	Training cum Workshop on City Water Balance Plan	Jan 10 – 13, 2023	Ms. Shivani Yadav (shivani.y@cseindia.org)
5.	Urban Groundwater Management	Tentatively in January	Mr. Dhruv Pasricha (dhruv.pasricha@cseindia.org)
Webinars/Workshops/Exposure Visits			
1.	WSUDP for Climate Resilience	Aug – 2022	Ms. Shivani Yadav (shivani.y@cseindia.org)
2.	Urban Groundwater Management	Sep – 2022	Ms. Charu Upadhyay (charu.upadhyay@cseindia.org)
3.	WSUDP for Urban Waterbodies	Sep – 2022	Ms. Shivani Yadav (shivani.y@cseindia.org)
4.	Used Water Management & Local Reuse	Nov – 2022	Mr. Jyoti Parsad (jyoti.parsad@cseindia.org)
5.	Exposure Visit - Odisha	Aug – 2022	Mr. Pavan Kumar (pavankumar@cseindia.org)
6.	Water-Sanitation Conclave	Apr – 2023	Dr. Sumita Singhal (sumita.singhal@cseindia.org)

* For any further query and clarification, please write to Training Director at sww-aaeti@cseindia.org and copy to respective training coordinator.

Meet the Team

 **Depinder Kapur** Director Urban Water & Waste Programme Email-	**Depinder Kapur** is a Development and WASH expert, Senior Fellow and Faculty at Shiv Nadar University. He was Country Representative WaterAid, Director NRM at CARE, Director Program and Advocacy at Oxfam, National Coordinator of WSSCC for India and with SPWD and AKRSP. He previously has led the Sanitation Capacity Building Platform (SCBP) at NIUA, developing its national capacity development strategy, two original Frameworks for assessing Capacity Development and Resilient Urban Sanitation Response Effectiveness.
 **Dr Sumita Singhal** Programme Manager Urban Water-Waste Management Email- sumita.singhal@cseindia.org	**Dr Singhal** has a doctorate in Environment from Dr BRA University Agra. Her area of research was on "Monitoring of Pollution and its effect on human health in Agra City". She is dedicated and committed environmentalist with nearly 12 years of working experience at different capacities in various organizations such as Central Pollution Control Board, Consulting Engineering Services, Ecotech Instruments Private Limited and Tide Technocrats Private Limited. She was part of the project implementation team for the project - small pyrolyser unit product development and commercialization, funded by Bill and Melinda Gates Foundation. She works on all aspects related to research, reporting and capacity building at CSE.
 **Mr. Jyoti Parsad** Programme Officer Urban Water and Waste Management Email- jyoti.parsad@cseindia.org	Mr. Jyoti Parsad has done his Graduation in Civil Engineering from Rajasthan Technical University. He has a total of 6+ years of working experience including good exposure in WASH & Development sector, having expertise in planning, designing and implementing decentralized wastewater and FSSM projects. His overall experience includes planning, designing, drawings & DPR preparation, construction supervision, monitoring & evaluation, survey data analysis, project coordination, liaison with client, contractors & government officials, capacity building, community engagement, research and reports preparation. In his past tenure at CDD Society, Bangalore – He has been actively involved in projects consisting implementation of FSTPs in various ULBs of Rajasthan and Jharkhand state in collaboration **with** RUIDP, LSG Rajasthan, NIUA, SUDA, JUIDCO under BMGF and ADB Grant.

 **Mr. Dhruv Pasricha** Programme Officer Urban Water and Waste Management Email- dhruv.pasricha@cseindia.org	Dhruv Pasricha is a young urban-regional-environmental planner and researcher. His area of work at CSE includes Water-Sensitive Urban Design and Planning (WSUDP), WASH, Green Infrastructure, Urban Lake and Wetland Management, Water-Sensitive Cities, City Sanitation Plans, Shit Flow Diagrams and GIS and Remote Sensing applications. He has worked extensively in research, capacity building and advocacy on these themes in India, South Africa, Rwanda, Bangladesh and Nepal. He has co-authored three research publications on Roadmap for WSUDP at CSE. He also contributes to Down-to-earth magazine through various research blogs. Mr Pasricha has studied Bachelor and Master of Planning (Environmental Planning) from School of Planning and Architecture, New Delhi. He is also an active member of the Sustainable Sanitation Alliance (SuSanA) and International Water Association (IWA) Connect.
 **Ms. Shivani** Senior Research Associate Urban Water and Waste Management Email: shivani.y@cseindia.org	Ms Shivani is an Architect with her post-graduation in Urban Regeneration (M.Arch) from Jamia Millia Islamia, Faculty of Architecture and Ekistics, New Delhi She is involved at CSE in research and advocacy for various themes on urban water management including water sensitive urban design and planning, urban lake management, storm water management, rainwater harvesting etc. in India and global south. She has co-authored report - 'Roadmap for implementation of water sensitive urban design and planning in Delhi, Odisha and Uttar Pradesh – Storm water Harvesting in Parks and Opens Spaces' published by CSE in 2020-21.