

**AMITY INSTITUTE OF ENVIRONMENTAL SCIENCES WITH
NATIONAL MISSION FOR CLEAN GANGA, GOVERNMENT OF INDIA**

Workshop on

**Navigating the Opportunities and Challenges in Water
Management for a Sustainable World-SDG 6**

Initiative under

**Mission LiFE – Lifestyle for
Environment**

24th August, 2023

Timings: 11:30 am – 5:00 pm

Venue: F-3 Seminar Hall

OUTCOME REPORT

- 1) What was the Inspiration behind taking up this Particular Subject for the Workshop ?

The inspiration behind organizing the workshop titled "Navigating the Opportunities and Challenges in Water Management for a Sustainable World" in collaboration with the National Mission for Clean Ganga, Government of India, stems from the urgent need to address the critical issues related to water resources and management. The workshop aims to provide a platform for students, professionals, researchers, policymakers, practitioners, and stakeholders to come together and collectively address the challenges posed by growing urbanization, climate change, and unsustainable practices that are putting immense pressure on water resources globally.

The key factors that have motivated the organizers to choose this particular subject for the workshop are:

1. Urbanization-related environmental deterioration: The workshop acknowledges that although urbanisation is necessary for progress, it may also result in environmental deterioration. A concentrated effort on water management is required due to the effects of

urbanisation on water resources, such as contamination, excessive extraction, and decreased accessibility to clean water.

2. Water resources are important because they support life, ecosystems, and socioeconomic growth. They are a valuable resource. The quantity and quality of water resources are under risk due to issues including population expansion, climate change, and unsustainable activities.
3. Alignment with National Agenda: The workshop's partnership with the Namami Gange Program's National Mission for Clean Ganga demonstrates how it is in line with the country's overall goals for water management and conservation. This emphasises how important the Ganga River and its tributaries are to the social, economic, and environmental fabric of India.
4. Empowerment via Knowledge Exchange: The workshop's goal is to provide participants useful information, practical experience, and insights into cutting-edge tactics. This gives experts and stakeholders the capacity to actively support long-term water conservation measures in their specialised fields.
5. Integrated approaches are required. Water management presents a number of complex difficulties that need for integrated strategies that take into account governance, regulations, technology, and community engagement. These comprehensive methods will be examined and promoted during the event.
6. Networking and Capacity Development: By bringing together experts, decision-makers, practitioners, and stakeholders, the workshop promotes networking, capacity building, knowledge sharing, and cooperation. In turn, this improves the efficiency of water management programmes.
7. Impact of Climate Change Mitigation: The workshop acknowledges that climate change exacerbates problems with water. In light of shifting climatic circumstances, it intends to investigate adaptable solutions to improve water security and resilience.
8. Promoting Sustainable Practices: The programme places a strong emphasis on the value of rainwater collection and its contribution to the advancement of sustainable water management and conservation

practises. Participants will learn about useful methods that may be used to reduce water shortage.

Hence, the necessity to solve the problems with water resource management in the context of urbanisation, climate change, and environmental degradation served as the driving force behind this workshop. The organisers want to help create a more equitable and sustainable water future by promoting cooperation, information exchange, and the exploration of novel techniques.



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Program Chairperson



PROF. (DR.) BALVINDER SHUKLA
Vice Chancellor
Amity University Uttar Pradesh

Co- Chairperson



PROF. D. K. BANDYOPADHYAY
Mentor AIES,
Amity University Uttar Pradesh

Chief Guest



SHRI SATYA PRAKASH VASHISHTH
Executive Director (Administration),
National Mission for Clean Ganga

Eminent Speakers



DR. SANDEEP K SHUKLA
Research Officer and Quality Manager
National River Water Quality Laboratory,
Upper Yamuna Division,
Central Water Commission



MR. SUNEEL PADALE
National Coordinator
Biodiversity Finance and
Sustainable Land Management,
UNDP India



MS. ALPANA NARULA
Scientist (B)
Central Pollution Control Board
Delhi

Program Coordinator



DR. RENU DHUPPER
Assistant Director
Amity Institute of Environmental Sciences
Amity University, Uttar Pradesh



DR. HARSHITA JAIN
Assistant Professor
Amity Institute of Environmental Sciences
Amity University, Uttar Pradesh



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- 2) Who were the Distinguished Guest Speakers Invited for the Event. Kindly give their Names. Designations, Organisation, Qualifications, Area of Expertise and any Honours and Awards received by them.



Program Schedule:

Time (IST)	Topic
11:30 -11:35	<i>Lamp lighting and Saraswati Vandana</i>
11:35-11:45	<i>Welcome address by Dr Renu Dhupper, Assistant Director, AIES</i>
11:45-11:50	<i>Opening Remarks by Dr. S.P Singh (Domain Head)</i>
11:50-12:00	<i>Address by Prof. Tanu Jindal, Director, AIETSM, Amity University Uttar Pradesh, India</i>
12:00-12:10	<i>Few thoughts by Prof. D. K. Bandyopadhyay, Chief Advisor FPO / Chairman, Amity Law School, Mentor, Amity Institute of Environmental Sciences, Amity University Uttar Pradesh, India</i>
12:10 -12:20	<i>Few thoughts by Prof. (Dr.) Balvinder Shukla, ViceChancellor, Amity University Uttar Pradesh (AUUP)</i>
12:20-12:50	<i>Address by Chief Guest, Shri S. P. Vashishth, Executive Director, National Mission for Clean Ganga.</i>
12:50-13:30	<i>Address by Dr. Sandeep Kumar Shukla, Research Officer, Central Water Commission, New Delhi.</i>
13:30 -14:30	<i>Lunch</i>
14:30-15:00	<i>Address by Mr. Suneel Padale, National Coordinator - Biodiversity Finance and Sustainable Land Management, UNDP India</i>
15:00-15:30	<i>Address by Alpana Narula, Scientist, Central Pollution Control Board, New Delhi</i>

15:30-16:00	<i>Interactive QUIZ ACTIVITY to assess understanding of water management and its role in creating a sustainable world</i>
16:00-17:00	<i>GROUP ACTIVITY: Designing a Community Water Conservation Plan followed by activity presentations.</i>
17:00-17:30	<i>Vote of Thanks followed by HI-Tea.</i>

Address by Chief Guest, Shri S. P. Vashishth, Executive Director, National Mission for Clean Ganga.



His profound dedication to environmental conservation and his pivotal role as the Executive Director of the National Mission for Clean Ganga have had a transformative impact on our nation's water resources. His professional journey began in the Central Water Engineering Service as an Assistant Director. He later joined the Indian Forest Service, where his contributions were marked by roles in various domains. Notably, he served as a Probationer in the Indira Gandhi National Forest Academy and held positions such as DFO (Wildlife). His dedication to the field extended to central deputation as well, where he held significant roles such as Director in the Ministry of Rural Development and DIG (Wildlife) in the Ministry of Environment, Forests & Climate Change. In terms of cadre postings, sir has held various key positions, including CCF (Territorial) in the Upper Assam Zone, APCCF (Territorial) in the Upper Assam Zone, and APCCF (Social Forestry) in Guwahati, among others. Currently, sir is serving as the Executive Director (Administration) of the National Mission for Clean Ganga, where he continues to contribute his expertise to one of India's most crucial environmental initiatives.

Address by Dr. Sandeep Kumar Shukla, Research Officer, Central Water Commission, New Delhi.



With a prominent role as a Research Officer and Quality Manager at the National River Water Quality Laboratory, Upper Yamuna Division, Central Water Commission, Dr. Shukla brings a wealth of knowledge and experience to our gathering. His dedication to ensuring the quality of our precious water resources exemplifies his commitment to environmental preservation and sustainable practices. Dr. Shukla's commitment to water conservation and his contributions to research are indeed commendable.

Address by Mr. Suneel Padale, National Coordinator - Biodiversity Finance and Sustainable Land Management, UNDP India



Mr. Suneel Padale is a distinguished advocate for biodiversity finance and sustainable land management. With an impressive background as the National Coordinator for Biodiversity Finance and Sustainable Land Management at UNDP India, Mr. Suneel Padale is a driving force in promoting environmental sustainability and conservation. Let's give a warm and enthusiastic round of applause as we welcome Mr. Suneel Padale to the stage.

Address by Alpana Narula, Scientist, Central Pollution Control Board, New Delhi



Alpana Narula is an accomplished professional with over 20 years of experience in Environmental Science. She holds a Bachelor's degree from the University of Delhi and a Master's degree from Guru Jambheshwar University. Alpana's journey began at the Central Pollution Control Board (CPCB) in 2009, where she now serves as a Scientist (B) in the Water Quality Management – I Division. Her expertise and commitment have significantly contributed to the field of environmental preservation and water quality management.

- 3) What was the Criteria Considered for inviting the Various Individual Guests, Internal as well as External ?

The criteria for inviting various individual guests, both internal and external, to the workshop on "Navigating the Opportunities and Challenges in Water Management for a Sustainable World" would

likely have been based on a combination of factors to ensure a diverse and impactful participation.

Expertise and Relevance: Invitations were extended to individuals who have expertise and experience in the field of water resources management, environmental science, sustainable development, climate change adaptation, and related areas.

Influence and Impact: Individuals with a track record of influencing positive change in water management practices or policy-making were prioritized. This included policymakers, thought leaders, and experts whose work has led to tangible outcomes.

Reputation and Recognition: Guests who are recognized and respected in their respective fields would likely be sought after for their insights and credibility. Their participation enhanced the workshop's reputation and attract a wider audience.

Contribution to the Agenda: We have considered how potential guests could contribute meaningfully to the workshop's discussions, presentations, and interactive sessions. Their expertise and perspectives were aligned with specific topics within the workshop's themes.

Alignment with Objectives: Invitations were extended to individuals whose work, research, or initiatives directly aligned with the workshop's objectives and themes, such as integrated water resources management, water conservation, climate change adaptation, and stakeholder engagement.

Government and Institutional Representatives: Considering the collaboration with the National Mission for Clean Ganga, government officials, representatives from relevant ministries, and institutions related to water management and environmental

conservation could have been invited to share their policies, initiatives, and experiences like NMCG, CWC and CPCB.

Community and Stakeholder Engagement: Individuals with experience in community engagement and participatory approaches to water management could have been invited to share practical insights on involving local communities in conservation efforts like UNDP.

Networking and Collaboration: Potential guests with a history of fostering collaborations and partnerships were considered to encourage networking and potential future collaborations among participants.

Ultimately, the selection of individual guests was a thoughtful process that aimed to create a diverse and knowledgeable group of participants capable of contributing meaningfully to the workshop's discussions, sharing valuable insights, and collectively addressing the challenges of water resource management such as NMCG, CWC, UNDP and CPCB.

- 4) Were the guests in advance and if yes, from what previous interaction? Were the guests Recommended by someone. If yes, who ?

Yes, the guests were invited in advance, and their participation in the workshop was likely based on various factors including their expertise, relevance to the workshop's themes, and collaborations with relevant organizations.

Collaboration through MOU with Namami Gange: The workshop had a collaboration with the National Mission for Clean Ganga (Namami Gange) under the Government of India. This workshop was aligned with the government's water conservation efforts, particularly related to the Ganga River and its tributaries. Through this collaboration, We have gained access to a network of experts and officials associated with the Namami Gange program.

Previous Collaboration with Central Water Commission (CWC) and CPCB: The workshop's collaboration with the Central Water Commission and the Central Pollution Control Board (CPCB) was a result of history of engagement with government agencies responsible for water management and environmental protection. We had established working relationships with individuals from these organizations through previous projects, workshops, or initiatives. These pre-existing connections led to the recommendation of experts from CWC and CPCB as potential guests for the workshop.

Community Engagement through UNDP: The collaboration with the United Nations Development Programme (UNDP) focused on community engagement and participatory approaches in water management, since UNDP often works closely with local communities and experts in sustainable development and environmental conservation.

5) Who all attended the workshop ? Also, if possible, give the numbers.

The total number of attendees, up to 100.

1. **Bachelor's Students:** Undergraduate students pursuing degrees in fields related to Natural Resources and Environmental Sciences (NRES).
2. **Master's Students:** Graduate students specializing in NRES or related disciplines who are conducting research or coursework in water resources management and environmental science.
3. **Faculty Members:** Professors and instructors from Amity Institute of Environmental Sciences who specialize in environmental sciences, water management, or related fields and who may have been involved in organizing or leading the workshop.
4. **Researchers:** PhD scholars with research interests in water resource management, environmental conservation, sustainable development, and related areas.

- 6) What were the 'Take Homes' for the Guests and the Attendees in the form of knowledge, facts, information etc.?

The workshop provided guests and attendees with valuable knowledge and insights on various aspects of water resource management and environmental conservation.

Overview of Namami Gange Mission:

- The mission's objectives and significance in preserving and revitalizing the Ganga River.
- Initiatives and projects undertaken as part of Namami Gange to improve water quality and restore the river's ecological balance.
- Collaborative efforts involving government agencies, stakeholders, and communities in achieving the mission's goals.

Key Government Schemes in Indian Water Sector:

- An overview of prominent government schemes and programs related to water resources management in India.
- How these schemes aim to address water scarcity, pollution, and promote sustainable water use.
- The role of policy frameworks and regulatory mechanisms in supporting these schemes.

Ganga River Basin, India Project Summary under Namami Gange Mission:

- Specific projects and activities focused on the Ganga River Basin.
- Objectives and outcomes of these projects in terms of water quality improvement and conservation.

Innovations for Long-Term Sustainability of Assets - One City One Operator (OCOP):

- The concept of OCOP in managing water supply and sanitation infrastructure.
- How OCOP can contribute to efficient and sustainable water asset management.
- Examples of successful OCOP implementations.

Governance Structure of the Mission:

- The organizational hierarchy and decision-making processes within the Namami Gange Mission.
- The roles and responsibilities of various stakeholders, including government bodies, agencies, and local communities.

Pesticides Contamination in Water Resources and Their Harmful Effects:

- The sources of pesticide contamination in water resources, including agricultural runoff and industrial activities.
- The adverse effects of pesticide contamination on aquatic ecosystems, human health, and biodiversity.
- Strategies for monitoring and mitigating pesticide contamination.

Pathway of Pesticides in Water Resources:

- How pesticides enter and move through water bodies and aquatic environments.
- Factors influencing the transport and persistence of pesticides in water.
- The importance of understanding the pathways for effective management and prevention.

7) Has the Workshop been able to generate any Tangible Gains for the Faculty, Researchers and Students of Amity. If yes , what are these ?

The workshop has indeed generated several potential benefits for the faculty, researchers, and students of Amity Institute of Environmental Sciences and NRES domain:

- Faculty members, researchers, and students had the opportunity to learn from expert guest speakers and participants. They have gained deeper insights into water resource management, environmental conservation, and related topics.
- The workshop provided a platform for attendees to network with experts, professionals, and peers in the field. These connections can lead to future collaborations, research opportunities, and knowledge sharing.
- Understanding the Namami Gange Mission and key government schemes in the Indian water sector could be valuable for faculty, researchers, and students involved in environmental science and water management research. This exposure can inform their work and research projects.
- The workshop would likely have increased awareness among faculty and students about the pressing issues related to water management and environmental conservation, motivating them to engage in research and initiatives in these areas.
- Faculty, researchers, and students may have been inspired to integrate the knowledge gained from the workshop into their academic work, research projects, and future career endeavors, contributing to sustainable water management practices.

8) What are the 'Progressive Outcomes /Way Forward' planned, based on the event of the webinar? Please give them pointwise, with timelines and names of the persons responsible for their execution.

1. Knowledge Dissemination:

- Timeline: Ongoing.
- Responsible: Workshop organizers and presenters.

- Action: Share workshop materials, presentations, and the post-workshop report on a dedicated website or platform for wider access by participants and the public.
- 2. Networking Opportunities:**
- Timeline: Ongoing.
 - Responsible: Workshop organizing committee.
 - Action: Facilitate continued networking among participants through online forums, groups, or social media platforms dedicated to water resource management.
- 3. Follow-up Webinars or Workshops:**
- Timeline: Announce and schedule follow-up webinars or workshops as needed.
 - Responsible: Workshop organizing committee.
 - Action: Plan additional sessions to delve deeper into specific topics, address emerging challenges, or facilitate ongoing discussions.
- 4. Research and Project Collaboration:**
- Timeline: Ongoing.
 - Responsible: Researchers, faculty, and students.
 - Action: Encourage collaborative research projects among workshop participants interested in addressing specific water management challenges.
- 5. Policy Advocacy:**
- Timeline: Ongoing.
 - Responsible: Workshop organizers, experts, and policymakers.
 - Action: Engage with government agencies and policymakers to advocate for the adoption of sustainable water management policies and initiatives discussed during the workshop.
- 6. Community Engagement:**
- Timeline: Ongoing.
 - Responsible: Workshop organizers, NGOs, and community leaders.
 - Action: Extend community engagement efforts, possibly in collaboration with NGOs and local leaders, to implement

water conservation projects and raise awareness among communities.

7. Monitoring and Evaluation:

- Timeline: Regularly.
- Responsible: Workshop organizers or a designated monitoring team.
- Action: Establish a system for tracking the progress and impact of initiatives or projects that originated from the workshop, ensuring they align with the intended goals.

8. Annual Workshops or Conferences:

- Timeline: Annually or as determined.
- Responsible: Workshop organizing committee.
- Action: Consider making the workshop a recurring annual event, allowing participants to track progress and exchange updates on their projects and research.

9. Online Knowledge Repository:

- Timeline: Within six months after the workshop.
- Responsible: Workshop organizers or a designated team.
- Action: Create and maintain an online platform or repository for sharing resources, research findings, and best practices related to water management.

- 9) Have we Followed-Up with the Guests to consider Various Collaborations such as Joint Research Papers and Publications; Joint Funded Projects; Student Internships and Placements; Participation in National/ International Seminars/ Conferences,/Workshops ; Student/Faculty Exchange Programmes ; Post Doctorate tie ups ; etc. etc.

Yes, we have actively followed up with the guests to explore various collaborations and partnership opportunities. Specifically, we have been in contact with organizations such as UNDP (United Nations Development Programme), CWC (Central Water Commission),

Namami Gange, and CPCB (Central Pollution Control Board) to initiate and discuss potential collaborative efforts.

- Discussions are underway to identify and secure funding for joint projects that align with our shared objectives. These projects can address critical water management challenges and support sustainable practices.
- We are working on establishing internship and placement programs for students, providing them with hands-on experience and exposure to real-world water management projects and initiatives.
- We are actively considering opportunities for guest speakers and experts from these organizations to participate in future seminars, conferences, and workshops organized by our institution. Their involvement can enrich discussions and provide valuable insights.
- We are exploring the possibility of initiating student and faculty exchange programs with these organizations. Such programs can promote cross-learning and collaborative research.

These ongoing conversations with UNDP, CWC, Namami Gange, and CPCB reflect our commitment to fostering meaningful collaborations that can contribute to the sustainable management of water resources and environmental conservation. We believe that such partnerships will have a positive impact on both our institution and the broader community working towards a sustainable world.

- 10) What are the plans for utilizing the contacts developed with the Invited Guests, for future cooperation to meet the targets of 'Mission: Connect' and 'Mission : Synergy of Brains' ? Please give a roadmap with timelines.

Timeline	Actions	Responsible Parties
Short-Term (0-6 Months):		
Initial Contact and Gratitude (0-1 Month)	Send personalized thank-you messages to invited guests and express interest in future collaboration.	Workshop Organizers
Database Management (0-2 Months)	Create and maintain a database of invited guests, including their expertise and collaboration interests.	Database Manager
Identify Immediate Collaboration Opportunities (0-3 Months)	Review workshop discussions and guest interests to identify potential collaboration possibilities.	Workshop Organizers
Mid-Term (6-12 Months):		
Proposal Development (3-6 Months)	Develop project proposals aligning with guest expertise and interests, specifying goals and outcomes.	Workshop Organizers
Contact Reestablishment (6-9 Months)	Reestablish contact with guests to discuss specific collaboration proposals and share project details.	Workshop Organizers
Collaboration Agreement (9-12 Months)	Formalize collaboration agreements outlining roles, responsibilities, timelines, and resources.	Collaborative Team
Long-Term (12+ Months):		
Initiate Collaborative Projects (12+ Months)	Begin collaborative projects, ensuring regular communication and tracking of progress.	Collaborative Team
Periodic Reviews (Ongoing)	Schedule regular reviews and check-ins to assess project progress and address challenges.	Collaborative Team
Project Completion and Outcome Sharing (Ongoing)	Share project outcomes, findings, and publications through relevant channels.	Collaborative Team