

**Proposal of International Conference**  
**on**  
**Water–Environment Meet 2027 (WE Meet 2027)**  
***:Smart, Secure, and Sustainable Water Future***

**To be organized by:** School of Water Resources, IIT Kharagpur

**Proposed Dates:** 23-24 February, 2027

**Domain:** Sustainable Development

### **Background and Rationale**

Water defines civilizations, ecosystems, and economies; yet it is increasingly becoming the most fragile link in our development pathway. From intensifying floods and prolonged droughts to declining water quality, groundwater exhaustion, and ecosystem collapse, water and environmental challenges are no longer distant risks - they are lived realities. The coming decade demands a decisive shift: from fragmented solutions to integrated thinking, from reactive management to resilience-building, and from isolated research to actionable impact. **WE Meet 2027** is conceived as a high-energy, idea-driven forum where science meets practice, technology meets policy, and innovation meets responsibility. More than a conventional academic conference, WE Meet 2027 aims to be a **confluence of ideas, solutions, and partnerships**, bringing together thinkers and doers committed to shaping the future with sustainable and climate-resilient water–environments at local, regional and global scales.

### **Objectives**

The primary objectives of WE Meet 2027 are:

1. To provide a forum for presenting cutting-edge research and innovations in water and environmental sciences and engineering.
2. To foster interdisciplinary dialogue among academia, industry, government agencies, and civil society.
3. To promote sustainable, climate-resilient, and nature-based solutions for water and environmental challenges.
4. To bridge the gap between research, policy, and practice in environmental management and water disaster risk reduction
5. To encourage early-career researchers and students through dedicated sessions, mentoring, and awards.
6. To facilitate national and international collaborations in water and environmental research.
7. To enhance visibility to national/international press and industry partners.

## **Conference Focus Areas and Core Themes**

WE Meet 2027 is consolidated around five strategic and high-impact themes that reflect the most pressing challenges and transformative opportunities in the water–environment sector. The themes emphasize digital intelligence, climate resilience, infrastructure robustness, and sustainability-driven practice.

### **Theme 1: Artificial Intelligence in Water and Environment**

- AI/ML for hydrologic and hydrodynamic modelling
- Predictive analytics for water quality, floods, droughts
- Digital twins and smart decision-support systems
- IoT in water infrastructure and ecosystem management
- Explainable and responsible AI for environmental applications

### **Theme 2: Geospatial Technologies for Water and Environment**

- Remote sensing of surface water, groundwater, and soil moisture
- GIS-based watershed, aquifer, and river basin analysis
- Satellite-driven flood and drought assessment
- UAV, LiDAR, and high-resolution terrain modelling
- Integration of geospatial data with AI and numerical models

### **Theme 3: Innovations in Water Infrastructure: Planning, Design, and Resilience**

- Climate-resilient water supply and wastewater systems
- Assessment and rehabilitation of aging infrastructure
- Smart sensors and real-time infrastructure monitoring
- Nature-integrated and hybrid grey–green infrastructure
- Asset management and performance-based design

### **Theme 4: Floods and Droughts: Risk, Resilience, and Adaptation**

- Flood forecasting, inundation mapping, and early warning systems
- Urban flooding and stormwater management
- Drought vulnerability, mitigation, and adaptation strategies
- Climate change impacts on hydrological extremes
- Policy frameworks and community-based resilience

### **Theme 5: Sustainable Water Practices and Circularity**

- Water reuse, recycling, and resource recovery
- Sustainable groundwater management and managed aquifer recharge
- Water–energy–food nexus approaches
- Nature-based solutions and ecohydrological practices
- Governance, policy, and behavioral dimensions of sustainability

## **Theme 6: Environmental Extremes: Disaster Risk Management**

- Extreme events and coastal –delta- estuarine hazards
- Sediment simulations and landslide susceptibility
- Early warning and monitoring systems
- Ecosystem, biodiversity and environmental resilience under
- Low-impact development for disaster risk mitigation

## **Target Participants**

For enhancing visibility to national/international press and industry partners, WE Meet 2027 will be open to a diverse group of stakeholders, including:

- Researchers and academicians in water and environmental disciplines
- Engineers and consultants
- Policymakers and government officials
- Industry professionals and technology providers
- Non-governmental organizations and development agencies
- Research scholars and postgraduate students

## **Conference Format**

The conference is proposed as a **3-day event** with a blended structure comprising:

- Inaugural and valedictory sessions
- Keynote and plenary lectures by eminent national and international experts
- Thematic technical sessions (oral and poster presentations)
- Panel discussions and roundtables on policy and practice
- Special sessions/workshops on emerging tools and methodologies
- Student and early-career researcher forums
- Industry and technology showcase

## **Expected Outcomes**

The key outcomes of WE Meet 2027 are expected to include:

- Dissemination of high-quality research findings and best practices
- Strengthened networks and collaborations among participants
- Policy-relevant insights and recommendations
- Enhanced capacity building for students and young professionals
- Publication of conference proceedings and/or special issues in reputed journals

## Publications

Selected peer-reviewed papers presented at WE Meet 2027 will be considered for:

- Conference proceedings with ISBN
- Special issues in indexed national or international journals (subject to journal guidelines)

## Organizing Structure (Proposed)

- Patron / Chief Patron
- Conference Chair / Co-Chair
- Organizing Secretary
- Technical Program Committee
- Advisory Committee (national and international members)
- Publication, Finance, and Logistics Committees

## Budget Estimate

| Sl. No. | Item                       | Rupee (₹) | Justification  |
|---------|----------------------------|-----------|--|
| 1       | Travelling allowance       | 10,00,000 | Provision for travelling allowance is necessary to support the participation of speakers and delegates in the proposed conference. Travel support will ensure the presence of subject experts, thereby enriching technical discussions and contributing to the academic quality of the conference.   |
| 2       | Accommodation              | 5,00,000  | Accommodation support is required to facilitate the stay of invited speakers and participants travelling from outside the host city for the duration of the conference. Providing accommodation will ensure their effective participation in technical sessions, panel discussions, and other academic activities of the conference. This support is essential for attracting eminent experts, ensuring smooth conduct of the conference, and maintaining the academic quality of the event. |
| 3       | Conference print materials | 2,00,000  | Expenditure on conference print materials is necessary for the effective organization and smooth conduct of the conference. Printed materials such as the conference programme, abstract booklet, certificates, banners, and signage are essential for information dissemination, participant coordination, and official documentation. These materials contribute to the professional presentation of the conference and facilitate seamless communication among participants.              |

|   |                               |                  |  |
|---|-------------------------------|------------------|--|
| 4 | Contingency/<br>Miscellaneous | 15,00,000        | Provision under contingency/miscellaneous expenses is essential to meet organizational and logistical requirements necessary for the successful conduct of the conference. This includes auditorium and venue booking charges, audio-visual and technical support, and arrangements for registration and help desks. The provision also covers food and refreshments for participants, including breakfast, lunch, and high tea during the conference sessions, which are necessary to ensure uninterrupted participation. Expenses related to conference kits, including folders, notepads, badges, and other essential materials, as well as minor administrative and coordination costs, are also included under this head. |
| 5 | CEP Overhead<br>(@20%)        | 6,40,000         | Institute overhead is required to cover indirect but essential institutional support for organizing the conference. This includes administrative coordination, financial management and auditing, use of institutional infrastructure, utilities, IT and network services, security, housekeeping, and maintenance of conference facilities. These services are critical for compliance, smooth execution, and overall quality of the conference.  |
|   | <b>Total</b>                  | <b>38,40,000</b> |  |

## Sponsorship and Support

**In addition to the Platinum Jubilee Endowment of IIT Kharagpur (₹25,00,000),** the conference will seek financial and technical support from the following sources:

- Government agencies and funding bodies
- Academic and research institutions
- Industry partners and professional societies
- International organizations working in water and environment sectors
- Registration fees collected from participants

## Conclusion

WE Meet 2027 aims to serve as a significant international forum for advancing knowledge, innovation, and collaboration in the water and environment domain. By integrating science, technology, policy, and practice, the conference aspires to contribute meaningfully to sustainable development goals and the creation of resilient water futures.