



**cGanga**  
Centre for Ganga River Basin  
Management and Studies

**Valuing Water | Transforming Ganga**

*Twin Summits*

**10<sup>th</sup> India Water Impact Summit  
[IWIS]**

**From Segmented Efforts to Holistic Stewardship:  
Forging District River Management Plans for India's Water Future**

**&**

**3<sup>rd</sup> Climate Investments and Technology Impact Summit  
[CITIS]**

**Grounding Climate Investment and Technology Innovations at  
District Level in India**

**December 9-11, 2025**

**Indian Institute of Technology Delhi, New Delhi**

**National River Conservation Directorate [NRCD]  
Condition Assessment and Management Plan [CAMP]  
Command Centre at cGanga, IIT Kanpur**

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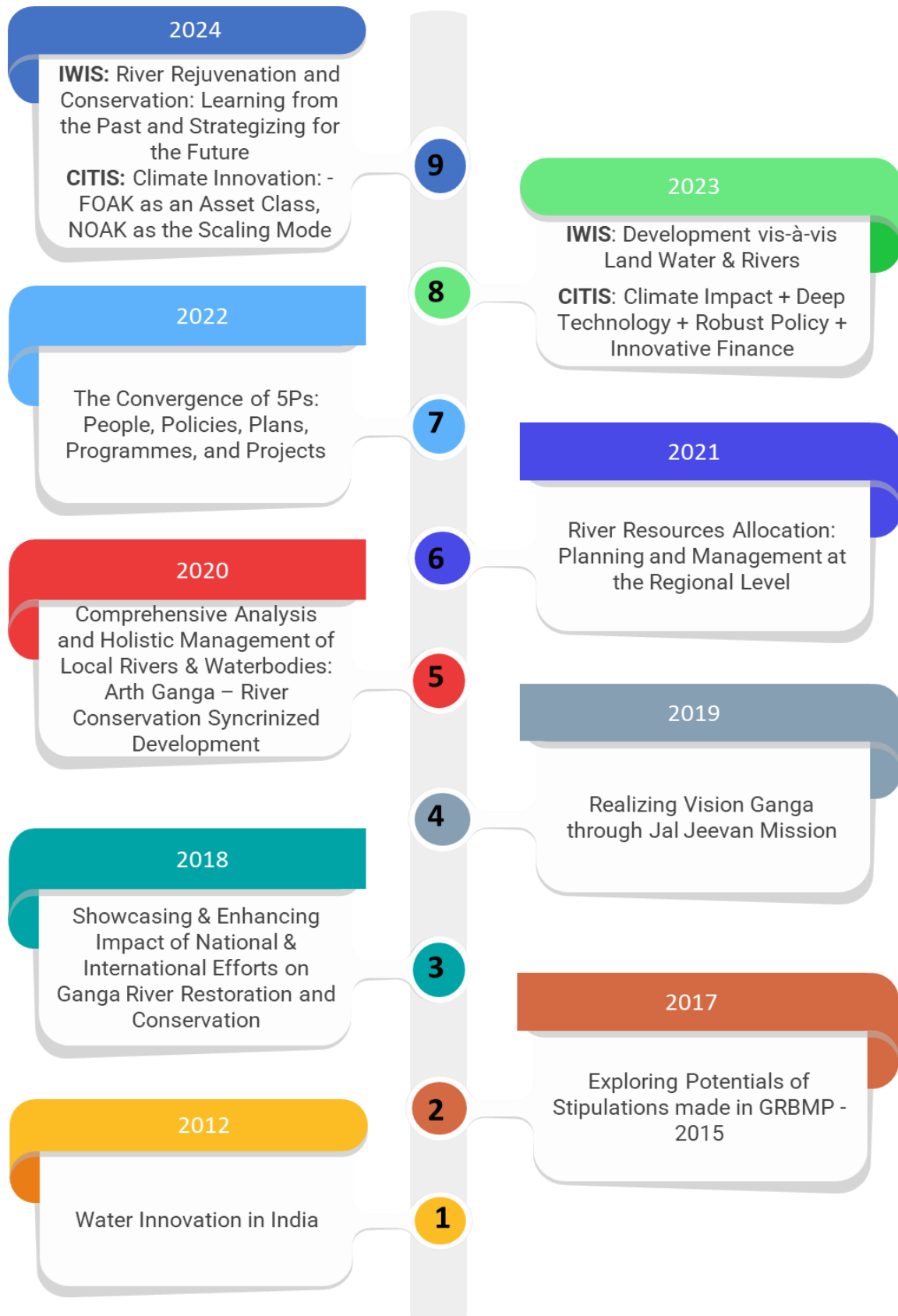


**IIT Palakkad**  
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# Glimpses of 1<sup>st</sup> to 9<sup>th</sup> India Water Impact Summit



# Themes of 1<sup>st</sup> to 9<sup>th</sup> India Water Impact Summit



## 10<sup>th</sup> Indian Water Impact Summit [IWIS-2025]

# From Segmented Efforts to Holistic Stewardship Forging District River Management Plans for India's Water Future

The **India Water Impact Summit (IWIS)**, initiated in 2012, has evolved into a pivotal platform addressing multifaceted technical challenges in river basin management in India. It began during the formulation of the Ganga River Basin Management Plan (GRBMP) by a consortium of IITs, aiming to clarify scientific, technological, socio-cultural, legal, policy, and governance issues related to river management amidst diverse stakeholder interests. Post-GRBMP completion in 2015, IWIS became an annual event, furthering discussions on unclear or contentious issues and building consensus on scientific understanding, analytical tools, data requirements, implementation, monitoring, and policy interventions.

The Climate Investments and Technology Impact Summit (CITIS) was launched during India's G20 presidency (2023) as an offspring of IWIS, reflecting the deep interplay of water with energy, land, agriculture, and other sectors. CITIS aims to streamline the connection between technology providers and investors by reviewing and testing new technologies and innovative solutions. The 9th IWIS (2024) and 2nd CITIS focused on "River Rejuvenation and Conservation: Learning from the Past and Strategizing for the Future," assessing past efforts to strategize for future initiatives.

Drawing from the knowledge assimilated over these nine IWIS editions and two CITIS editions, along with insights from the preparations underway for the GRBMP 2.0, the studies with the involvement of twelve premier Indian Institutes under the National River Conservation Directorates Condition Assessment and Management Plan (CAMP) Project initiated in March 2023, and one of the challenging issues brought out in the quarterly newsletter "Pragyambu" by cGanga, IIT Kanpur on Urban River Management Plan (URMP), the proposed

theme for the 10<sup>th</sup> IWIS and the 3<sup>rd</sup> CITIS will focus on the District River Management Plan (DRMP), which integrates both Urban River Management Plan (URMP) and Rural River Management Plan (RRMP).

The theme "From Segmented Efforts to Holistic Stewardship: Forging District River Management Plans for India's Water Future" reflects the evolution from past individual project-based approaches to an integrated, district-level, and people-centric management paradigm for both urban and rural river stretches. It builds on the "Samarth Ganga" framework and the "5 Ps" (People, Policies, Plans, Programmes, and Projects) by extending them to the district level for comprehensive action.

**The 10th IWIS and 3rd CITIS advance a transition from fragmented interventions to integrated, district-level river basin management through the District River Management Plan (DRMP). Informed by GRBMP 2.0, the CAMP project, and a decade of IWIS deliberations, DRMP unifies urban and rural strategies under a holistic, data-driven framework aligned with the "Samarth Ganga" approach and the "5 Ps" for scalable, decentralized river stewardship.**

## Understanding the Core Concept:

### District River Management Plan (DRMP)

The DRMP is conceptualized as a holistic plan to manage human activities within a district's geographical unit, aiming to conserve and rejuvenate its rivers. The objective is to ensure that the ecological status of rivers, indicated by thriving indigenous biota, is maintained or improved as they flow through and exit the district. This moves beyond the narrow focus on human-centric uses to embrace a biocentric approach where the river's ecological integrity is paramount.

### The DRMP integrates the complexities of both urban and rural environments:

- **Urban River Management Plan (URMP):** Focuses on managing human activities in urban centers to conserve and rejuvenate rivers within those geographical limits. Key aspects of URMP include:
  - **Liquid Waste Management:** Planning for the collection and treatment of liquid waste from residential places, ensuring no untreated discharge into rivers.
  - **Storm Water Drainage:** Managing surface runoff/storm water during monsoon by linking surface water bodies for regulation and transfer of both runoff and treated used water.
  - **Developing Local Surface Water Bodies:** Includes widening, deepening, and desilting major drains and controlling structures like barrages and gates.
  - **Conserving River Space:** Protecting and building habitats for riverine biota, creating spaces for river-people connect, and facilitating activities on riverbanks.
  - **Solid Waste & STP Sludge Management:** Comprehensive planning for collection, intermediate transfer, processing, reuse, and disposal of solid waste and STP sludges, ensuring separation of objectionable overflows and leachates.
  - **Last Journey & Cremation/Burials:** Remodeling and developing facilities to minimize river pollution.
  - **Blue and Green Infrastructure:** Conserving and developing surface water bodies, wetlands, and various types of vegetation (grasses, shrubs, plants, trees).
  - **Multi-purpose Use of Water Bodies:** Planning for cultural, religious, recreational, and navigational uses of surface water bodies and their surroundings.
  - **Controlling Algal/Weed Growth:** Managing excess algal/weed growth and utilizing it for manure, biogas, etc.
- **Rural River Management Plan (RRMP):** (Implicitly, based on the DRMP concept) will address agricultural runoff, livelihood and economy based on domestic animals, their produce and wastes, soil erosion, rural sanitation, groundwater recharge, and decentralized water management solutions specific to rural landscapes.

**The District River Management Plan (DRMP) is a biocentric, district-level framework integrating urban and rural strategies to preserve riverine ecological integrity. By combining URMP and RRMP elements, it addresses pollution, habitat restoration, and sustainable water use, shifting focus from human-centric to ecosystem-based river management.**

### Core Principles Guiding DRMP:

- **Water Demand Re-evaluation:** Water demand is not merely proportional to population or industrial/irrigation needs, but fundamentally dependent on evapotranspiration. All other water largely remains within the unit; thus, the focus shifts to managing quality and reusing water, including meeting ecological needs and groundwater replenishment. These mandates closing the water loop at an appropriate scale within the geographic unit.
- **Decentralization in Sewage Management:** This involves utilizing existing sewer networks, avoiding additional large sewer lines, and installing STPs strategically where sewers exist or where discharge into natural storm water drains occurs. The objective is to ensure that treated liquid wastes meet standards suitable for indigenous flora and fauna and that STP sludges are managed per the Master Plan.
- **Closing the Water Loop at Appropriate Scale:** This implies ensuring water supply for all local water bodies within a geographical unit through the reuse of treated used water. Annually, the only net input is natural precipitation (rainfall/snowfall), and the net output is equivalent through evapotranspiration, while maintaining the salt and nutrient balance. This concept is likened to a desert cooler, where net water requirement equals evaporation, with accumulated salts needing regular removal. In the broader context, rivers transport excess salts back to oceans, completing the global salt cycle annually.

**The DRMP is anchored in core principles that emphasize ecological balance and water sustainability. It redefines water demand based on evapotranspiration, promotes decentralized sewage management aligned with ecological standards, and advocates for closing the water loop within each geographic unit. This integrated approach ensures water reuse, maintains salt-nutrient balance, and supports long-term river health through localized, efficient resource cycling.**

### Thematic Sessions for Panel Discussions (Building on IWIS & CITIS Legacy):

The panel discussions will involve national and international participants from academia, local, state, and central government administration, policy and law makers, innovators, and politicians from the fields of river science and technology, economics, and financing. These sessions will align with the historical tracks of IWIS (Science & Policy, Technology & Innovation, International, Implementation Challenges, Finance & Economics) and the CITIS objective of connecting investors with technology providers.

## इंडिया वाटर इम्पैक्ट समिट 2025 खंडित प्रयासों से समग्र सुप्रबंधकता तक भारत के जल भविष्य के लिए जिला नदी प्रबंधन योजनाएँ गढ़ना

इंडिया वाटर इम्पैक्ट समिट (IWIS), जिसे 2012 में शुरू किया गया था, भारत में नदी बेसिन प्रबंधन में बहुआयामी तकनीकी चुनौतियों का समाधान करने के लिए एक महत्वपूर्ण मंच के रूप में विकसित हुआ है। यह गंगा नदी बेसिन प्रबंधन योजना (GRBMP) के निर्माण के दौरान IITs के एक कंसोर्टियम द्वारा शुरू किया गया था, जिसका उद्देश्य विविध हितधारक हितों के बीच नदी प्रबंधन से संबंधित वैज्ञानिक, तकनीकी, सामाजिक-सांस्कृतिक, कानूनी, नीतिगत और शासन संबंधी मुद्दों को स्पष्ट करना था। 2015 में GRBMP के पूरा होने के बाद, IWIS एक वार्षिक कार्यक्रम बन गया, जिसने अस्पष्ट या विवादास्पद मुद्दों पर चर्चा को आगे बढ़ाया और वैज्ञानिक समझ, विश्लेषणात्मक उपकरणों, डेटा आवश्यकताओं, कार्यान्वयन, निगरानी और नीतिगत हस्तक्षेपों पर आम सहमति बनाई।

क्लाइमेट इन्वेस्टमेंट्स एंड टेक्नोलॉजी इम्पैक्ट समिट (CITIS) को भारत की G20 अध्यक्षता (2023) के दौरान IWIS के एक ऑफसिंग के रूप में लॉन्च किया गया था, जो पानी के ऊर्जा, भूमि, कृषि और अन्य क्षेत्रों के साथ गहरे अंतर्संबंध को दर्शाता है। CITIS का उद्देश्य नई प्रौद्योगिकियों और अभिनव समाधानों की समीक्षा और परीक्षण करके प्रौद्योगिकी प्रदाताओं और निवेशकों के बीच संबंध को सुव्यवस्थित करना है। 9<sup>वें</sup> IWIS (2024) और दूसरे CITIS ने "नदी कायाकल्प और संरक्षण: अतीत से सीखना और भविष्य के लिए रणनीति बनाना" विषय पर ध्यान केंद्रित किया, जिसका उद्देश्य पूर्व प्रयासों का मूल्यांकन करते हुए भावी पहलों के लिए ठोस रणनीतियाँ तैयार करना था।

नौ IWIS और दो CITIS सम्मेलनों से प्राप्त ज्ञान, GRBMP 2.0 के लिए चल रही तैयारियों के दौरान मिली अंतर्दृष्टियाँ, मार्च 2023 में शुरू किए गए नेशनल रिवर कंज़र्वेशन डायरेक्टोरेट (NRCD) के 'स्थिति मूल्यांकन और प्रबंधन योजना (CAMP)' प्रोजेक्ट के अंतर्गत बारह प्रमुख भारतीय संस्थानों द्वारा किए जा रहे अध्ययनों के निष्कर्ष, और सी-गंगा, आई आई टी कानपुर द्वारा प्रकाशित तिमाही समाचार पत्रिका 'प्रज्ञांबू' में उठाए गए प्रमुख मुद्दों से प्रेरणा लेते हुए, दसवें IWIS और तीसरे CITIS सम्मेलन की प्रस्तावित थीम 'जिला नदी प्रबंधन योजना (DRMP)' पर आधारित होगी। यह थीम शहरी एवं ग्रामीण दोनों संदर्भों को एकीकृत करते हुए 'शहरी नदी प्रबंधन योजना (URMP)' और 'ग्रामीण नदी प्रबंधन योजना (RRMP)' के समन्वित दृष्टिकोण को प्रस्तुत करेगी।

**10वां IWIS और 3रा CITIS खंडित प्रयासों से एकीकृत, जिला-स्तरीय नदी बेसिन प्रबंधन की दिशा में परिवर्तन को आगे बढ़ाते हैं, जिसे जिला नदी प्रबंधन योजना (DRMP) के माध्यम से लागू किया जा रहा है। GRBMP 2.0, CAMP परियोजना, और IWIS के एक दशक के विमर्शों से प्राप्त ज्ञान पर आधारित यह योजना, शहरी और ग्रामीण रणनीतियों को एक समग्र, डेटा-आधारित रूपरेखा में समाहित करती है। यह "समर्थ गंगा" दृष्टिकोण और "5 Ps" के साथ समन्वित है, जो विकेंद्रीकृत और स्केलेबल नदी प्रबंधन को सशक्त बनाती है।**

विषय "विभाजित प्रयासों से समग्र प्रबंधन तक: भारत के जल भविष्य के लिए जिला नदी प्रबंधन योजनाएँ बनाना" शहरी और ग्रामीण दोनों नदी क्षेत्रों के लिए एकीकृत, जिला-स्तरीय और जन-केंद्रित प्रबंधन प्रतिमान के लिए पिछले व्यक्तिगत परियोजना-आधारित दृष्टिकोणों से विकास को दर्शाता है। यह "समर्थ गंगा" ढांचे और "5 पी" (लोग, नीतियाँ, योजनाएँ, कार्यक्रम और परियोजनाएँ) पर आधारित है, जो उन्हें व्यापक कार्रवाई के लिए जिला स्तर तक विस्तारित करता है।

## मुख्य अवधारणा को समझना: ज़िला नदी प्रबंधन योजना (DRMP)

"ज़िला नदी प्रबंधन योजना (DRMP) को एक जिले की भौगोलिक सीमा के भीतर सभी मानवीय गतिविधियों के प्रबंधन हेतु एक समग्र योजना के रूप में परिकल्पित किया गया है, जिसका मुख्य उद्देश्य जिले में स्थित नदियों का संरक्षण और पुनरुद्धार सुनिश्चित करना है। इसका लक्ष्य यह है कि नदी की पारिस्थितिक स्थिति—जो उसमें निवास करने वाले स्वदेशी जैव समुदाय (biota) की उपस्थिति से दर्शाई जाती है—जिले से होकर बहते समय, कम से कम प्रवेश के समय जैसी ही बनी रहे, और आदर्श रूप से उससे बेहतर हो। यह दृष्टिकोण पारंपरिक मानव-केंद्रित उपयोगों की सीमित सोच से आगे बढ़कर नदी की पारिस्थितिक अखंडता को केंद्र में रखने वाली बायोसेंट्रिक विचारधारा को अपनाने की दिशा में एक महत्वपूर्ण कदम है।"

### ज़िला नदी प्रबंधन योजना (DRMP) शहरी और ग्रामीण दोनों पारिस्थितियों की जटिलताओं को एकीकृत करती है:

- **शहरी नदी प्रबंधन योजना (URMP):** शहरी केंद्रों में मानवीय गतिविधियों के प्रबंधन पर ध्यान केंद्रित करती है ताकि उन भौगोलिक सीमाओं के भीतर नदियों का संरक्षण और कायाकल्प किया जा सके। URMP के प्रमुख पहलुओं में शामिल हैं:
  - तरल अपशिष्ट प्रबंधन: आवासीय स्थानों से तरल अपशिष्ट के संग्रह और उपचार की योजना बनाना, यह सुनिश्चित करना कि कोई भी अशोधित अपशिष्ट जल का उत्सर्जन नदियों में न हो।
  - तीव्र वर्षा जल निकासी: मॉनसून के दौरान सतही अपवाह/ तीव्र वर्षा जल का प्रबंधन करना, अपवाह के विनियमन और उपचारित उपयोग किए जल के स्थानांतरण हेतु सतही जल निकायों को जोड़ना।
  - स्थानीय सतही जल निकायों का विकास: इसमें प्रमुख नालों एवं नियंत्रण संरचनाओं (जैसे बैराज, गेट आदि) सहित सतही जल निकायों का चौड़ीकरण, गहरीकरण तथा गाद निकालने का कार्य शामिल है।
  - नदी क्षेत्र का संरक्षण: इसमें नदी पारिस्थितिकी तंत्र के लिए प्राकृतिक आवासों का संरक्षण और निर्माण, लोगों और नदी के बीच संबंध को सुदृढ़ करने हेतु उपयुक्त स्थानों का विकास, तथा नदी तटों पर सतत गतिविधियों की सुविधा सुनिश्चित करना शामिल है।
  - ठोस अपशिष्ट एवं एसटीपी स्लज प्रबंधन: ठोस अपशिष्ट और एसटीपी स्लज के संग्रहण, मध्यवर्ती परिवहन, प्रसंस्करण, पुनः उपयोग एवं निस्तारण हेतु एक समग्र योजना तैयार करना, तथा यह सुनिश्चित करना कि आपत्तिजनक ओवरफ्लो और लीचेट्स जल निकायों में प्रविष्ट न हों।
  - अंतिम संस्कार एवं शमशान/दफन व्यवस्थाएं: नदी प्रदूषण को कम करने हेतु अंतिम यात्रा, शमशान एवं दफन स्थलों की सुविधाओं का पुनर्चना एवं सुदृढ़ीकरण।
  - ब्लू और ग्रीन इन्फ्रास्ट्रक्चर: स्थानीय सतही जल निकायों, आर्द्रभूमियों एवं विविध वनस्पति (जैसे घास, झाड़ियाँ, पौधे और वृक्षों) का संरक्षण और विकास करना।

ज़िला नदी प्रबंधन योजना (DRMP) एक जैव-केंद्रित, जिला-स्तरीय रूपरेखा है जो शहरी और ग्रामीण नदी प्रबंधन रणनीतियों को एकीकृत कर नदी पारिस्थितिकी की अखंडता को बनाए रखने हेतु कार्य करती है। यह URMP और RRMP के तत्वों को समाहित कर प्रदूषण नियंत्रण, आवास पुनर्स्थापन और सतत जल उपयोग जैसे महत्वपूर्ण पहलुओं को संबोधित करती है। DRMP मानव-केंद्रित दृष्टिकोण से आगे बढ़कर एक पारिस्थितिकी-आधारित, टिकाऊ और उत्तरदायी नदी प्रबंधन की दिशा में अग्रसर होती है।

- जल निकायों का बहुउद्देशीय उपयोग: सतही जल निकायों तथा उनके पारिस्थितिकी तंत्र के चारों ओर बहुउद्देशीय उपयोग की समग्र योजना बनाना, जिसमें सांस्कृतिक, धार्मिक, मनोरंजक और नौपरिवहन उपयोग शामिल हैं, परंतु इन्हीं तक सीमित नहीं हैं।
- शैवाल/जलीय खरपतवार वृद्धि का प्रबंधन: अत्यधिक शैवाल/जलीय खरपतवार की वृद्धि का प्रबंधन करना तथा जैविक खाद, बायोगैस और अन्य पुनः उपयोगी उत्पादों के निर्माण सहित इसके सतत एवं बहुउद्देशीय उपयोग को प्रोत्साहित करना।
- **ग्रामीण नदी प्रबंधन योजना (RRMP):** (DRMP अवधारणा के आधार पर आधारित) यह योजना विशेष रूप से ग्रामीण परिदृश्यों में लागू विषयों को संबोधित करेगी, जैसे - कृषि अपवाह, घरेलू पशुधन, उनके उत्पादों और अपशिष्ट पर आधारित आजीविका एवं स्थानीय अर्थव्यवस्था, मिट्टी का कटाव, ग्रामीण स्वच्छता, भूजल पुनर्भरण, तथा विकेंद्रीकृत जल प्रबंधन समाधान।

## DRMP को निर्देशित करने वाले मुख्य सिद्धांत:

- जल मांग का पुनर्मूल्यांकन: जल की मांग का मूल्यांकन केवल जनसंख्या वृद्धि या औद्योगिक एवं सिंचाई आवश्यकताओं के अनुपात में नहीं किया जा सकता, क्योंकि जल की वास्तविक खपत मूलतः वाष्पोत्सर्जन पर निर्भर करती है। अधिकांश अन्य जल

**जिला नदी प्रबंधन योजना (DRMP) ऐसे मूल सिद्धांतों पर आधारित है जो पारिस्थितिक संतुलन और जल की दीर्घकालिक स्थायित्व को प्राथमिकता देते हैं। यह वाष्पोत्सर्जन के आधार पर जल मांग की पुनर्परिभाषा करता है, पारिस्थितिक मानकों के अनुरूप विकेंद्रीकृत सीवेज प्रबंधन को बढ़ावा देता है, तथा प्रत्येक भौगोलिक इकाई के भीतर जल चक्र को बंद करने की दिशा में कार्य करता है। यह एकीकृत दृष्टिकोण जल के पुनः उपयोग को सुनिश्चित करता है, लवण-पोषक तत्व संतुलन बनाए रखता है, और स्थानीय स्तर पर संसाधनों के प्रभावी पुनर्चक्रण के माध्यम से नदी पारिस्थितिकी की निरंतरता को सुनिश्चित करता है।**

उसी भौगोलिक इकाई के भीतर बना रहता है। अतः जल प्रबंधन का प्राथमिक केन्द्रबिंदु जल की गुणवत्ता सुनिश्चित करने और जल के पुनः उपयोग पर होना चाहिए। इसमें पारिस्थितिक आवश्यकताओं की पूर्ति और भूजल पुनर्भरण जैसे पहलुओं को भी शामिल किया जाना चाहिए। इस दृष्टिकोण से, किसी भी क्षेत्रीय इकाई के भीतर जल चक्र को उपयुक्त पैमाने पर पूर्ण करना आवश्यक हो जाता है।

- सीवेज प्रबंधन में विकेंद्रीकरण: इसका उद्देश्य मौजूदा सीवर नेटवर्क का प्रभावी उपयोग करते हुए अतिरिक्त बड़ी सीवर लाइनों की आवश्यकता को न्यूनतम करना है। इसके तहत, एसटीपी (STPs) को ऐसे स्थानों पर रणनीतिक रूप से स्थापित किया जाता है जहाँ पहले से सीवर उपलब्ध हैं या जहाँ उपचार के बाद जल को प्राकृतिक स्टॉर्म वॉटर ड्रेनेज में छोड़ा जा सकता है। यह सुनिश्चित किया जाता है कि उपचारित तरल अपशिष्ट स्थानीय वनस्पति और जीव-जंतुओं की पारिस्थितिक आवश्यकताओं के अनुरूप मानकों को पूरा करें। साथ ही, एसटीपी से उत्पन्न ठोस अवशेष का प्रबंधन संबंधित मास्टर प्लान के अनुसार किया जाना चाहिए।

- उपयुक्त पैमाने पर जल चक्र की परिपूर्णता: इसका तात्पर्य एक भौगोलिक इकाई के भीतर सभी स्थानीय जल निकायों के लिए पानी की आपूर्ति सुनिश्चित करना है, जो उपयुक्त गुणवत्ता सुधार के बाद पुनः उपयोग योग्य उपचारित

जल के माध्यम से किया जाता है। वार्षिक रूप से एकमात्र शुद्ध इनपुट प्राकृतिक अवक्षेपण (जैसे वर्षा या हिमपात) होता है, और शुद्ध आउटपुट वाष्पोत्सर्जन के माध्यम से समकक्ष मात्रा होता है, जबकि लवण और पोषक तत्वों का संतुलन भी संतुलन बनाए रखा जाता है। इस अवधारणा को "डेज़र्ट कूलर" के उदाहरण से समझा जा सकता है, जिसमें जल की आवश्यकता केवल वाष्पित हिस्से तक सीमित होती है, जबकि उसमें जमा लवण को समय-समय पर बाहर निकालना आवश्यक होता है। इसी प्रकार, व्यापक स्तर पर नदियाँ अतिरिक्त लवणों को समुद्रों तक पहुँचाकर वैश्विक लवण चक्र को संतुलित करने में महत्वपूर्ण भूमिका निभाती हैं।

**पैनल चर्चाओं के लिए विषयगत सत्र (IWIS और CITIS की विरासत पर आधारित):**

पैनल चर्चाओं में देश-विदेश से शिक्षाविद, स्थानीय, राज्य और केंद्र सरकार के प्रशासनिक अधिकारी, नीति एवं विधि निर्माता, नवोन्मेषक, तथा नदी विज्ञान, प्रौद्योगिकी, अर्थशास्त्र और वित्तीय क्षेत्र के विशेषज्ञ और प्रतिनिधि सहित राष्ट्रीय और अंतरराष्ट्रीय प्रतिभागी शामिल होंगे। ये सत्र IWIS की ऐतिहासिक विषयवस्तु—विज्ञान एवं नीति, प्रौद्योगिकी एवं नवाचार, अंतरराष्ट्रीय सहयोग, क्रियान्वयन की चुनौतियाँ, और वित्त एवं अर्थशास्त्र—पर आधारित होंगे और साथ ही CITIS के उस मूल उद्देश्य के अनुरूप होंगे, जिसमें निवेशकों को प्रौद्योगिकी प्रदाताओं से जोड़ने पर बल दिया गया है।

## Twin Summits at a Glance

| Venue                | Block D - Auditorium  | Block C- Ideation Lounge                | Block D - Board Room  |
|----------------------|---|---|---|
| <b>Time, hrs</b>     | <b>Day 1: Tuesday, 09 December 2025</b>   |   |   |
| <b>09:00 – 10:00</b> | <b>Registration, Meet and Greet over Tea/Coffee</b>   |   |   |
|                      | <b>10<sup>th</sup> IWIS</b><br>GRBMP & DRMP Framework<br><i>Science &amp; Technology;</i><br><i>Policy &amp; Governance</i> | <b>ETV</b><br><br>Technology<br>Pitches | <b>3<sup>rd</sup> CITIS</b><br>GRBMP & DRMP Framework<br><i>Sectoral Challenges &amp; Opportunities</i> |
| <b>10:00 – 11:30</b> | <b>IWIS Session I</b><br>From Vision to Framework:<br>Charting the Path of GRBMP 2.0  | <b>ETV Session I</b>                    | <b>CITIS Session I</b><br>Economics of<br>Creating markets for treated waste-water                      |
| <b>11:30 – 12:00</b> | <b>Tea/Coffee Break</b>   |   |   |
| <b>12:00 - 13:00</b> | <b>IWIS Session I</b><br>...Continued   | <b>ETV Session I</b><br>...Continued    | <b>CITIS Session I</b><br>...Continued  |
| <b>13:00 – 14:00</b> | <b>Lunch</b>  |   |   |
| <b>14:00 – 15:30</b> | <b>Inaugural Session of 10<sup>th</sup> IWIS</b>  |   |   |
| <b>15:30 – 16:00</b> | <b>Tea/Coffee Break</b>   |   |   |
| <b>16:00 – 17:30</b> | <b>Inaugural Session of 3<sup>rd</sup> CITIS</b>  |   |   |
| <b>17:30 – 18:30</b> | <b>High-Tea Reception</b>   |   |   |

| <b>Time, hrs</b>     | <b>Day 2: Wednesday, 10 December 2025</b>   |   |   |
|----------------------|---|---|---|
| <b>09:00 - 10:00</b> | <b>Registration, Meet and Greet over Tea/Coffee</b>   |   |   |
| <b>10:00 – 11:30</b> | <b>IWIS Session II</b><br>District River Management Plan (DRMP):<br>Architecture, Principles & Pathways | <b>ETV Session II</b>                   | <b>CITIS Session II</b><br>Economics of<br>Sludge Management      |
| <b>11:30 – 12:00</b> | <b>Tea/Coffee Break</b>   |   |   |
| <b>12:00 – 13:00</b> | <b>IWIS Session II</b><br>...Continued  | <b>ETV Session II</b><br>...Continued   | <b>CITIS Session II</b><br>...Continued                           |
| <b>13:00 – 14:00</b> | <b>Lunch</b>  |   |   |
| <b>14:00 – 15:30</b> | <b>IWIS Session III</b><br>Closing the Loop: Reconnecting Water,<br>Soil, Wetlands & Communities        | <b>ETV Session III</b>                  | <b>CITIS Session III</b><br>Economics of<br>Top-Soil Rejuvenation |
| <b>15:30 – 16:00</b> | <b>Tea/Coffee Break</b>   |   |   |
| <b>16:00 – 17:30</b> | <b>IWIS Session IV</b><br>DGP SWOT & Gap Analysis: Why DGPs<br>Must Evolve into DRMPs                   | <b>ETV Session III</b><br>... Continued | <b>CITIS Session III</b><br>... Continued                         |
| <b>17:30 – 18:30</b> | <b>High-Tea Reception</b>   |   |   |

| <b>Time, hrs</b>     | <b>Day 3: Thursday, 11 December 2025</b>   |                                       |  |
|----------------------|--|---------------------------------------|--|
| <b>09:00 – 10:00</b> | <b>Registration, Meet and Greet over Tea/Coffee</b>                                |                                       |  |
| <b>10:00 – 11:30</b> | <b>IWIS Session V</b><br>DGP vis-à-vis DRMP: Converting<br>Diagnostics into Action | <b>ETV Session IV</b>                 | <b>CITIS Session IV</b><br>Economics of<br>Biogas generation |
| <b>11:30 - 12:00</b> | <b>Tea/Coffee Break</b>  |                                       |  |
| <b>12:00 - 13:00</b> | <b>IWIS Session V</b><br>... Continued   | <b>ETV Session IV</b><br>...Continued | <b>CITIS Session IV</b><br>... Continued                     |
| <b>13:00 – 14:00</b> | <b>Lunch</b>   |                                       |  |
| <b>14:00 – 16:00</b> | <b>IWIS &amp; CITIS Joint Valedictory</b>  |                                       |  |
| <b>16:00 – 17:30</b> | <b>Parting Dialogues Over High Tea</b>   |                                       |  |

## IWIS Session I

### From Vision to Framework: Charting the Path of GRBMP 2.0

#### 1. Highlights of GRBMP 2.0 Framework

- Presents a unified, basin-scale, scientifically integrated approach to river basin management that is designed for implementation at the micro level. It builds on the foundational Ganga River Basin Management Strategic Plan prepared by the Consortium of 7 IITs, and responds to the evolution of programmes such as Namami Gange, state and local government initiatives, and notable community-led actions—including those highlighted by the Hon'ble Prime Minister in Mann Ki Baat and other national platforms.
- Offers a coherent architectural structure that links hydrology, ecology, soil and land systems, climate resilience, governance mechanisms, and livelihoods, ensuring that each dimension contributes to an integrated basin management vision.
- Embeds digital governance, monitoring, data systems, and adaptive management as essential layers for decision-making, transparency, and accountability.
- Positions districts at the centre of river basin implementation through the District River Management Plan (DRMP) mechanism, thereby creating a practical bridge between basin-level strategy and field-level action.
- Aligns with national missions, SDGs, and cross-sectoral government programmes, enabling convergence across multiple ministries, departments, schemes, and community-level efforts.

#### 2. Key Conceptual Questions & Contestable Areas

##### A. Scope & Comprehensiveness

- Is the framework too broad in attempting to integrate such a wide range of sectors and disciplines?
- Should certain themes be designated as foundational pillars while others remain supportive or crosscutting?

##### B. Hierarchy of Knowledge Systems

- Does the framework give adequate conceptual primacy to ecology, or is hydrology disproportionately foregrounded?
- Are traditional ecological knowledge, community practices, and local experiential insights sufficiently incorporated?

##### C. Institutional Architecture

- Does GRBMP 2.0 tend toward over-centralisation of basin governance?
- How should the roles of states, districts, and DGCs be conceptualised within the larger basin architecture?

**D. Standardisation vs. Flexibility**

- How much uniformity should a basin-wide framework enforce across diverse geographies?
- How much district-level autonomy is necessary for realistic, context-appropriate solutions?

**E. Digital Backbone**

- Are expectations around real-time monitoring, digital twins, IoT networks and AI-based analytics realistic given institutional capacity?
- Should digital systems be integrated into the core conceptual framework, or treated as an implementation support layer?

**F. Climate & Economic Integration**

- Should climate adaptation, resilience planning, and Arth Ganga-based economic regeneration be central structural pillars?
- Or should they remain cross-cutting themes rather than core framework components?

**G. Framework–DRMP Relationship**

- Is the DRMP a subordinate instrument under the GRBMP, or an inseparable operational extension of the basin framework?
- Are the conceptual linkages between basin frameworks (macro) and district plans (micro) robust, coherent, and implementable?

**3. Expected Outcome of the Panel**

- Achieve 8–10 key refinements to strengthen conceptual clarity, structural coherence, and usability of the GRBMP 2.0 framework.
- Clarify conceptual ambiguities, philosophical differences, and interpretational variations across institutions.
- Establish the intellectual foundation for subsequent technical sessions on DRMP development and district-level implementation pathways.
- Build a shared understanding across all stakeholders—national and international agencies, central and state governments, district administrations, industry, private sector, academia, NGOs, CSOs, and knowledge partners—to ensure collective ownership of the framework.

**IWIS Session II****District River Management Plan (DRMP):  
Architecture, Principles & Pathways****1. Purpose of the Session**

This session introduces the **DRMP Framework**—the operational engine of GRBMP 2.0. While GRBMP 2.0 provides the basin-wide architecture, the **DRMP translates it into district-level governance, planning and implementation**, unifying:

- Urban water systems
- Rural sanitation & agriculture

- Groundwater & aquifers
- Wetlands & floodplains
- Industry & MSMEs
- Reservoirs & canal networks
- Biodiversity & ecological processes
- Monitoring & digital governance

It reflects the comprehensive framework laid out in *A Comprehensive Framework for DRMP* (cGanga, 2025)

## 2. Core DRMP Elements (for Panel Discussion)

### A. Administrative Integration

DRMP positions the **District Magistrate (DM)** and **District Ganga Committee (DGC)** as the nodal bodies unifying 20+ departments into a single water governance platform.

### B. Hydrological Integration

Hydrology is treated as a continuum, not a set of fragmented components:

Rain → Drains → Tributaries → Main River → Wetlands → Aquifers →  
Agriculture → Return flows → River

### C. Ecological Integration

Wetlands, biomass, soils, riparian corridors and floodplains are treated as **core infrastructure**, not environmental add-ons.

### D. Technical Integration

Decentralised STPs, polishing wetlands, biosolids reuse, recharge structures, and digital dashboards operate as a unified technical ecosystem.

## 3. Contestable & Discussion-Worthy Issues

- Should DRMPs follow a uniform template or allow district-specific pathways?
- Is the DM-centric model too centralised or the only workable model? Should the study and planning exercise be done for a group of districts under a division administratively headed by Divisional Commissioner and supported by Independent Technical Centre such as cGanga?
- How much ecological intelligence should be encoded in the DRMP vs. kept flexible?
- Should DRMPs prioritise hydrology, ecology, infrastructure, or governance as the primary pillar?
- Is the 12-component DRMP structure too detailed or appropriately comprehensive?

## 4. Expected Outcomes

- A shared understanding of what constitutes a DRMP.
- Agreement on essential vs. optional DRMP components.
- Identification of where the DRMP Framework must be refined for clarity and usability.
- Preparing ground for Sessions III & IV, which deepen two critical components:
  - Closing the Loop (ecology–engineering integration)
  - DGP Upgradation for DRMP compliance

## IWIS Session III Closing the Loop: Reconnecting Water, Soil, Wetlands & Communities

### 1. Purpose of the Session

This session introduces the “**Long Loop**” **Ecological Framework**, which synthesises:

- Decentralised wastewater treatment
- Perennialisation of drains
- Wetland polishing
- Aquatic biomass harvesting
- Biosolids return to soil
- Soil carbon enhancement
- Groundwater recharge
- Ecological baseflow restoration

It shifts the national dialogue from **linear waste disposal** to **circular ecological regeneration**.

### 2. Key Conceptual Pillars from the Document

- A. Water is Not a Disposable Commodity**  
It must be **cycled**, not discharged.
- B. Natural Systems as Treatment Infrastructure**  
Wetlands, sediments, plants and microbes deliver tertiary treatment at negligible cost.
- C. Nutrients Are Not Waste**  
Wastewater nutrients are **soil resources**, not pollutants.
- D. Biomass as an Ecological Service**  
Aquatic vegetation is a **nutrient sink**, not a nuisance.
- E. Soil Health = Water Health = River Health**  
Rejuvenated river flows are impossible without soil restoration.

### 3. Contestable & Debate-Ready Issues

- Is “**managed eutrophication**” acceptable as a mainstream framework?
- Should wetland-polishing be a mandated stage of the treatment chain?
- What is the correct balance between **engineering treatment** and **ecological processes**?
- How much biosolids reuse is agronomically safe?
- Can biomass-based bioeconomies become financially viable at district scale?

### 4. Relevance to DRMP

The “Closing the Loop” framework is not a standalone philosophy—it is the **ecological engine behind DRMP implementation**.

- Cluster 1 (d-STPs)
- Cluster 2 (Perennial flows)
- Cluster 3 (Wetlands)
- Cluster 4 (Biomass)
- Cluster 5 (Biosolids + soil)
- Cluster 6 (Recharge)

All derive directly from this long-loop metabolism.

### 5. Expected Outcomes

- Clarity on the scientific and ecological rationale behind DRMP components.
- Identification of where the “Long Loop” needs district-level customisation.
- Consensus on using biomass & biosolids for soil regeneration.

## IWIS Session IV

### DGP SWOT & Gap Analysis: Why DGPs Must Evolve into DRMPs

#### 1. Purpose of the Session

To evaluate four representative DGPs (Moradabad, Bareilly, Shahjahanpur, Udham Singh Nagar) and extract a district-neutral **SWOT and Gap Framework**.

#### 2. Unified SWOT Insights

##### A. Strengths

- Excellent diagnostics: drains, wetlands, industries, agriculture, groundwater.
- Good maps, datasets and stakeholder consultation records.
- Strong identification of district-level problems.

**B. Weaknesses**

- No integrated hydrological planning.
- No closed-loop water cycle (treatment → ecology → reuse).
- Weak URMP–RRMP integration.
- Wetlands mapped but not restored.
- No perennialisation strategies.
- Industrial drains not segregated.
- Groundwater not linked to rivers.
- No monitoring framework.

**C. Opportunities**

- Strong base for DRMP development.
- Rich wetland resources.
- Abundant potential for biomass-based livelihoods.
- Scope for district-level convergence.

**D. Threats**

- Rapid urban expansion
- Increasing industrial loads
- Climate variability
- Weak enforcement capacities

**3. Gaps Between DGPs and DRMP Requirements****A. Structural Gaps**

DGP = one-time diagnostic

DRMP = cyclic planning + implementation + monitoring

**B. Hydrological Gaps**

DGPs list rivers but do not integrate flows, tributaries or drains.

**C. Ecological Gaps**

Wetlands identified but not linked to hydrology or nutrient cycles.

**D. Drainage Gaps**

DGPs map drains but ignore:

- Categories
- Pollution loads
- Interception points
- Wetland linkages

**E. Agricultural Gaps**

DGPs do not include nutrient balances, pesticide controls, or soil carbon strategies.

**F. Governance Gaps**

No DGP defines:

- DGC roles

- Department convergence
- Project pipelines
- Monitoring dashboards

#### 4. Expected Outcomes

- Agreement on the universal DRMP-ready gap list.
- Recognition of why DRMP is essential for implementation.
- Preparation for the DGP–DRMP alignment discussions in Session V.

## IWIS SESSION V

### DGP vis-à-vis DRMP: Converting Diagnostics into Action

#### 1. Purpose of the Session

To examine how DGPs produced by WWF-India, GIZ, DGCs and district administrations can be **aligned, upgraded and transformed** into full DRMPs.

This is the bridge session between “what we have” (DGPs) and “what we need” (DRMPs).

#### 2. Key Discussion Themes

##### A. From Mapping → Management

DGPs provide excellent mapping.

DRMPs provide integrated management and implementation pathways.

##### B. From Sectoral → Holistic

DGPs treat drains, wetlands, industries separately.

DRMPs unify these into **one hydrological and governance continuum**.

##### C. From Fixed Document → Cyclic Process

DGP = static report

DRMP = dynamic 5-year cyclic plan

##### D. From “Sewage & Pollution” → “Hydro-ecological Systems”

DRMP reframes water management by linking:

- groundwater
- soil
- agriculture
- wetlands
- flows
- biomass

##### E. From Individual Projects → Cluster Architecture

DRMP requires cluster-wise planning across:

- Urban
- Rural
- Wetlands
- Industry

- Groundwater
- Reservoirs
- Digital governance

**F. From District Data → Basin Outcomes**

DRMP ensures district actions improve the river where it **leaves the district boundary**.

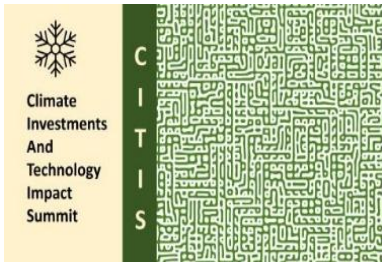
**3. Contestable Issues for Panel Debate**

- How much of the DGP should be retained vs. rewritten?
- Should the DRMP enforce strict templates or allow local flexibility?
- Should districts receive standardised data formats?
- Should DGCs be given technical cells?
- How to ensure upstream–downstream coordination?

**4. Expected Outcomes**

- A unified method to convert all existing DGPs into DRMPs.
- A consensus list of “must-include” DRMP components.
- Agreement on district-neutral templates for all states.
- Preparedness for subsequent hands-on DRMP development sessions.

# CITIS 2025 | Grounding Climate Investment and Technology Innovations at District Level in India



The **Climate Investments & Technology Impact Summit (CITIS)** represents a groundbreaking initiative, marking the first event of its kind dedicated to presenting innovative solutions aimed at generating awareness and accelerating the uptake of climate action measures. The core philosophy underpinning CITIS is the recognition that addressing global systemic issues like climate change necessitates a comprehensive and deep-rooted approach. This approach is encapsulated in the overarching theme of the conference: “**Climate Impact**”, which emphasizes the synergistic integration of three critical components: **deep technology, robust policy, and innovative finance**. CITIS will serve as a unique platform, bringing together disruptive technology companies at the forefront of climate innovation with influential policy makers and forward-thinking financial institutions that specialize in providing innovative financial solutions for climate initiatives.



## Grand Challenges

CITIS introduces a format where it presents **Grand Challenges** that the nation and the world is facing across 5 thematic sectors. By bringing together experts, innovators, and decision-makers, CITIS aims to catalyze meaningful progress towards addressing the urgent and complex challenges posed by climate change, offering a roadmap for a sustainable and prosperous future.



Water



Energy



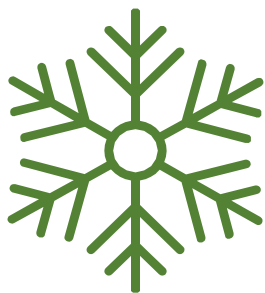
Waste & Circular Economy



Food & Agri



Digital Systems



AAA

## Poster Exhibition

In addition to its comprehensive discussions and collaborative initiatives, CITIS will feature a **Poster Exhibition**, spotlighting disruptive technologies and innovative solutions that have the potential to revolutionize climate action. This exhibition will provide attendees with a firsthand look at cutting-edge innovations and serve as a catalyst for collaboration and knowledge sharing among stakeholders from various sectors.

## Making Solutions Affordable and Accessible

The timing of inaugural CITIS was particularly significant, taking place during India's G20 Presidency. This alignment not only underscores the global importance of the event but also positions India as a leader in the Global South when it comes to delivering climate solutions that **prioritise affordability** through the transformative scale effect. This strategic positioning is poised to have a resounding impact on the trajectory of climate action within the Global South, highlighting India's commitment to fostering sustainable and **accessible climate solutions**.

## **CITIS: Climate Investments and Technology Impact Summit Grounding Climate Investment and Technology Innovation at District Level in India**

The 3<sup>rd</sup> Climate Investments and Technology Impact Summit (CITIS) focuses on a pivotal shift: grounding climate investment and technology innovation at the district level across India. This year's theme recognises that true climate impact is unlocked not in national blueprints alone, but in the everyday realities of India's 766 districts — where water, energy, waste, agriculture, and nature-based challenges converge. CITIS 2025 will bring policymakers, financiers, technologists and local administrations together to design scalable, investible and district-ready climate solutions. By aligning FOAK-to-NOAK technologies with innovative financing models, the Summit aims to build a new architecture of decentralised climate action that is measurable, bankable and transformative for the communities that need it most. Like previous year, 3<sup>rd</sup> CITIS 2025 will run in parallel to the 10<sup>th</sup> India Water Impact Summit (IWIS).

Key Themes:

- Creating a market for treated waste-water
- Managing sewage sludge
- Managing top-soil rejuvenation
- Enabling the biogas economy

### **Inaugural Session**

The inaugural session on Arth Ganga sets the strategic foundation for leveraging India's river systems as engines of sustainable economic growth. Anchored in the principle that ecological rejuvenation and economic prosperity must advance together, the session will highlight how district-level initiatives—spanning water reuse, sludge valorisation, soil restoration and bioenergy—can collectively build a resilient riverine economy. Arth Ganga frames the integration of technology, finance and local livelihoods, demonstrating how climate-positive interventions can generate new markets, strengthen community incomes and create long-term, investible opportunities along the Ganga basin and beyond.

### **CITIS Session I Creating Market for Treated Waste-water**

The CITIS session on Creating Markets for Treated Waste-Water explores how India can unlock a new class of circular water economies by converting treated effluent into a reliable, tradable and bankable resource. The discussion will examine the technical, regulatory and economic pathways required to scale reuse across industry, agriculture and urban systems, while addressing quality assurance, demand aggregation, pricing structures and risk allocation. By grounding solutions at the district level, the session aims to demonstrate how treated waste-water can shift from a compliance burden to a strategic asset that supports water security, reduces freshwater extraction and attracts long-term investment into resilient infrastructure.

**Part A: Technical Aspects**

- Variability in influent quality leading to inconsistent treated-water output.
- Lack of standardised water-quality benchmarks across districts and sectors.
- Limited real-time monitoring and digital assurance systems (quality, flow, traceability).
- Integration challenges with existing wastewater treatment assets and legacy infrastructure.
- Insufficient modular/FOAK technologies for decentralised treatment or polishing.
- Difficulty in ensuring reliability of supply for industrial buyers (uptime, redundancy).
- Absence of district-level pipelines linking treatment facilities to end-user distribution networks.
- Skills and capacity gaps in operation & maintenance of advanced treatment systems.

**Part B: Economic Aspects**

- Variability in influent quality leading to inconsistent treated-water output.
- Lack of standardised water-quality benchmarks across districts and sectors.
- Limited real-time monitoring and digital assurance systems (quality, flow, traceability).
- Integration challenges with existing wastewater treatment assets and legacy infrastructure.
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## CITIS Session II

### Managing sewage sludge

The CITIS session on Managing Sewage Sludge: Creating Value from an Overlooked Resource examines how India can transform one of its most persistent urban challenges into a viable circular-economy opportunity. With growing sludge generation across districts, the session will explore scalable technical pathways for safe processing and end-use, alongside economic models that enable monetisation through bio-fertilisers, construction materials, energy recovery and carbon credits. By aligning innovation, regulation and investment, the discussion aims to position sewage sludge not as a liability but as a district-level asset capable of generating environmental, social and financial value.

**Part A: Technical Aspects**

- Heterogeneity in sludge characteristics across districts (moisture, organics, contaminants).
- Limited availability of advanced dewatering, stabilisation and drying technologies.
- Inadequate laboratory capacity for consistent testing of pathogens, heavy metals and nutrient content.
- Absence of standardised protocols for safe handling, transportation and processing.

- Difficulty in scaling FOAK technologies for sludge-to-resource pathways (bio-fertiliser, biochar, construction materials).
- Operational challenges at STPs due to intermittent flows and poor O&M performance.
- Limited integration of sludge treatment systems with existing wastewater and solid-waste infrastructure.
- Insufficient GIS- and digital-mapping tools to track generation, logistics and end-use flows.

### **Part B: Economic Aspects**

- High capital and O&M costs for modern sludge-treatment technologies.
- Weak commercial incentives due to uncertain end-use markets (fertiliser, energy, construction).
- Lack of clear revenue models or price discovery mechanisms for sludge-derived products.
- Absence of long-term procurement or offtake agreements from agriculture, industry or municipal buyers.
- Fragmented district-level demand, limiting economies of scale for processing facilities.
- Limited access to blended finance, guarantees and viability-gap funding to support FOAK deployments.
- Overreliance on public budgets without adequate mechanisms to attract private operators.
- Regulatory uncertainty around quality standards, certification and product approval pathways.

## **CITIS Session III Managing Top Soil Rejuvenation**

The CITIS session on Top-Soil Rejuvenation: Restoring the Foundation of India's Agricultural and Ecological Productivity focuses on reversing the rapid degradation of soil health across districts. With erosion, nutrient depletion, chemical imbalance and declining organic matter threatening food security and ecosystem resilience, this session will explore science-led and technology-enabled pathways to rebuild soil vitality. It will examine district-ready interventions—from bio-fertilisers, composting and regenerative agriculture to soil-carbon enhancement and digital soil intelligence—while highlighting financing models that make rejuvenation economically viable for farmers, panchayats and local administrations. The goal is to shift top-soil management from a conservation challenge to an investible opportunity that strengthens climate resilience and rural livelihoods.

### **Part A: Technical Aspects**

- Limited availability of high-resolution soil data at district and sub-district levels.
- Inconsistent soil-testing protocols and inadequate laboratory capacity.
- Low organic matter content requiring sustained replenishment strategies.
- High variability in soil types and micro-climatic conditions demanding localised interventions.

- Limited adoption of regenerative practices due to lack of awareness and technical support.
- Absence of scalable models for integrating compost, biochar, and sludge-derived products safely.
- Poor integration of digital tools for soil mapping, monitoring, and nutrient advisory services.
- Challenges in demonstrating FOAK soil-rejuvenation technologies at district scale.

### **Part B: Economic Aspects**

- Weak economic incentives for farmers to shift from high-input to regenerative practices.
- Lack of established markets for soil-carbon credits or ecosystem-service payments.
- High upfront costs for soil restoration inputs (biofertilisers, compost, micronutrients).
- Uncertain return on investment due to slow, multi-season soil recovery timelines.
- Fragmented smallholder landholdings making scale and aggregation difficult.
- Limited availability of blended-finance and risk-sharing instruments for soil-health projects.
- Inadequate monetisation frameworks for co-benefits (water retention, yield improvement, carbon sequestration).
- Absence of district-level procurement models to guarantee demand for soil-enhancement products.

## **CITIS Session IV Enabling the Biogas Economy**

The CITIS session on Enabling the Biogas Economy explores how India can unlock a robust, district-level ecosystem for converting organic waste, agricultural residues and biomass into clean energy and value-added products. With biogas and bio-CNG holding enormous potential to reduce reliance on fossil fuels, cut methane emissions and create rural income streams, this session will examine the technological, regulatory and financial enablers required to scale the sector. The discussion will focus on FOAK-to-NOAK pathways, feedstock assurance, upgrading technologies, offtake structures and district aggregation models that make biogas a reliable, investible and climate-positive component of India's energy and circular economy.

### **Part A: Technical Aspects**

- Variability and seasonality of feedstock supply (agri residues, municipal organic waste, manure).
- Lack of robust feedstock-preprocessing infrastructure (segregation, shredding, drying).
- Inconsistent digester performance due to design, O&M challenges and climatic variations.
- Limited availability of advanced upgrading technologies for high-quality bio-CNG production.
- Challenges in integrating biogas plants with local gas distribution networks or virtual piping.
- Poor monitoring systems for methane leakage, plant efficiency and gas purity.

- Difficulties in scaling decentralised biogas plants while maintaining performance consistency.
- Limited standards and certification frameworks for bio-CNG quality and digestate safety.

**Part B: Economic Aspects**

- High capital expenditure and long payback periods without adequate financial de-risking.
- Uncertain revenue streams due to fluctuating prices for bio-CNG, power and carbon credits.
- Lack of long-term offtake agreements with transport, industry or municipal buyers.
- Weak monetisation frameworks for digestate, despite its potential as a soil enhancer.
- Fragmented feedstock markets leading to volatile costs and supply insecurity.
- Limited access to blended finance, guarantees, viability-gap support and concessional capital.
- Difficulty in aggregating district-level demand to achieve economies of scale.
- Regulatory uncertainty across states regarding grid injection, procurement and subsidy regimes.

## Technology Showcases

### Climate technologies that will be showcased:

- ❖ Recycle and reuse of waste-water to in a continuous mode to treat drains
- ❖ Membrane based soil-less farming to enhance crop yields
- ❖ Processing end-of-life tyres using ultra high-pressure water jets
- ❖ Satellite based remote sensing of flood plains
- ❖ Sludge management for top-soil rejuvenation
- ❖ Faecal sludge capture and transport systems
- ❖ Industrial effluent recovery
- ❖ Carbon capture and storage
- ❖ Plastic waste to hydrogen
- ❖ Digital carbon trading platform
- ❖ Digital waste-water trading platform
- ❖ Drinking water filtration systems
- ❖ Network management systems
- ❖ Odour control systems
- ❖ Liquid fertilizer from processed waste
- ❖ Waste to biofuels
- ❖ Recycling of electronic waste, batteries and panels
- ❖ Fast charging systems
- ❖ And many more.....

## Participation

Each of the Summits shall have participation of the following key stakeholders:

### **Indian Government and State Governments**

Like every year, the Summit would bring various arms of the Indian Government at central, state and local level together with other national and international stakeholders.

### **Other Stakeholders**

- Country partners
- Industry including technology and engineering companies
- Scientists and technical experts
- Professional services firms
- Investors including family offices, venture capital, private equity and lenders
- Multilateral and Development finance institutions
- Civil society, NGOs and Think-tanks

## How to Engage

The Summits are great multi-disciplinary platforms to showcase your efforts, solutions, knowledge through a range of strategic engagement plans. These are:

### **Strategic Partnerships**

This engagement mode is for Government departments at all levels (central, state, municipal), public sector entities, multilateral institutions, NGOs, and foundations who wish to deepen their strategic engagement with India for various environmental programmes. A partnership can entail releasing a special report, initiating a project, highlighting select areas of work or other initiatives.

### **Sponsorship**

For private sector companies or entities wanting brand recognition, the Summits offer a multitude of opportunities including but not limited to hosting networking events, display of special solutions and other showcases. Please get in touch with the Summit team for more details.

### **Technology and Innovation Showcase**

Companies or organizations that have developed solutions, which have the potential of high impact on climate and environment, can get an opportunity to present to stakeholders, potential Indian partners and investors.

### **Knowledge Partners**

Professional service firms and knowledge-oriented institutions are invited to partner with cGanga to prepare and launch a number of special reports during the Summits as well as curate and organize the various Summit sessions.

## Ongoing Engagement Model

There are various ongoing engagement models that enable partners to find various touch points with the Ganga River Basin. These are:

### **Working Groups and Task Forces**

Interested parties can channel their novel ideas through dedicated task forces and working groups. These groups have in-depth deliberations which are summarized in the form of white papers submitted to Government and various stakeholders. The working groups are a sub-set of 5 major task forces: (i) Science & Research (ii) Engineering & Operations (iii) Technology, Innovation, Entrepreneurship & Skills (iv) Policy, Law & Governance (v) Finance & Investments.

### **Pilots / Demonstration Projects**

Companies interested in introducing their solutions into the River Restoration and Conservation programmes can do so through pilot/demonstration projects. They must however first go through the Environment & Technology Verification (ETV) process. This allows stakeholders to assess the technologies and ascertain value for money.

## International Chapters and Roadshows

cGanga regularly conduct international roadshows to increase the outreach and awareness.

Additionally, countries can establish their own local country chapters to channel their collective innovations and interests into India.

## Registration and Participation in the Summit

- Participation in the Summit is strictly by invitation only.
- Participants must have a formal invitation from the organizers before attempting registration.
- International participants may register through the following mechanism:
  - Their country's official participation channels
  - Presentation slot in CITIS – subject to prior approval
  - If your nation is not represented formally then kindly send in a formal request so that an invitation may be generated.
- Media partners must be accredited and registered.
- Kindly check [iwis.cganga.org](http://iwis.cganga.org) for more details.

## Registration for your Participation

- All invitations to the Summit shall be issued during 15-30<sup>th</sup> November 2025.
- If you have not received the invitation, then please get in touch with the Summit organizers.
- The links to the registration process is on through [iwis.cganga.org](http://iwis.cganga.org)

## Lead Supporting Partners

**samarth ganga**  
FOUNDATION

**Samarth Ganga Foundation (SGF)** is a new entity and a strategic collaborator to cGanga. Designed as an “applied innovation and impact” think-tank, the non-profit entity specialises in developing solutions with high economic impact. SGF is supporting cGanga to advocate the solution across the nation to various urban local bodies.

**bharatia**

The **Bharat Technology & Impact Accelerator (BHARATIA)** specialises in technology commercialisation by bringing disruptive innovation from around the world to India. Its core expertise is in delivering the First-of-a-Kind, high impact projects. BHARATIA is a SGF initiative.

[www.bharatia.org](http://www.bharatia.org)

 Climate & Energy  
Transition Finance  
Initiative

The **Climate and Energy Transition Finance Initiative (CETFI)** was initiated in 2023 as a multi-stakeholder alliance of interested parties that wish to effect a faster rollout of climate solutions and energy transition projects. CETFI is primarily focused on the global south as the needs for access to long term, low cost, concessionary and non-recourse finance are much more pronounced in these markets. CETFI is managed by Bharatia and is a SGF initiative.

[www.cetfi.org](http://www.cetfi.org)

## Organizer Profiles



**cGanga**  
Centre for Ganga River Basin  
Management and Studies



**National River Conservation  
Directorate**  
D/O WR, RD & GR  
Ministry of Jal Shakti

### Centre for Ganga River Basin Management and Studies (cGanga)

cGanga is a think tank and a centre of excellence formed under the aegis of NMCG, and one of its stated objectives is to make India a world leader in river and water science. The Centre is headquartered at IIT Kanpur and has representation from most leading science and technological institutes of the country. cGanga's mandate is to serve as think-tank in implementation and dynamic evolution of Ganga River Basin Management Plan (GRBMP) prepared by the Consortium of 7 IITs. In addition to this it is also responsible for introducing new technologies and innovations as well as novel policy, governance and financial solutions for the water sector in India.

[www.cganga.org](http://www.cganga.org)

### National River Conservation Directorate (NRCDD)

The National River Conservation Directorate, functioning under the Department of Water Resources, River Development & Ganga Rejuvenation, and Ministry of Jal Shakti providing financial assistance to the State Government for conservation of rivers under the Centrally Sponsored Schemes of 'National River Conservation Plan (NRCP)'.

[www.nrcd.gov.in](http://www.nrcd.gov.in)

### cMahanadi at NITRR & NITRKL



[www.cmahanadi.org](http://www.cmahanadi.org)

### Centres for Six River Basin Management Studies

The Centres for six River Basin Management Studies are Brain Trusts dedicated to River Science and River Basin Management, established in 2024 by 12 technical Institutions (IITs, NITs and NEERI), under the leadership of cGanga at IIT Kanpur. The centres serve as knowledge wing of the National River Conservation Directorate (NRCDD) under the Ministry of Jal Shakti.

The vision for these centres was laid out in 2019 by the President of India, who emphasized the need for comprehensive management of six major river basins, akin to the work done for the Ganga basin. The goal is to study these basins, assess their status, and develop strategies for restoration and sustainable management.

### cNarmada at IITGn & IITI



[www.cnarmada.org](http://www.cnarmada.org)

Condition Assessment and Management Plan (CAMP) studies of each of the six river basins have been assigned to specific institutions with expertise in their unique geographical, ecological, and hydrological characteristics.

These centres are committed to restoring and conserving the six major rivers and its resources through the collation of information and knowledge, research and development, planning, monitoring, education, advocacy, and stakeholder engagement.

### cGodavari at NEERI & IITH



[www.cgodavari.org](http://www.cgodavari.org)

### cKrishna at NITW & NITK



[www.ckrishna.org](http://www.ckrishna.org)

### cCauvery at IISc & NITT



[www.ccauvery.org](http://www.ccauvery.org)

### cPeriyar at IITPKd & NITC



[www.cperiyar.org](http://www.cperiyar.org)

## Contact Details

- **General Enquires and Submissions of Participation Requests:** [iwis@cganga.org](mailto:iwis@cganga.org)
- **For Indian Government Related Queries:**  
Dr Vinod Tare: [vinod.tare@cganga.org](mailto:vinod.tare@cganga.org)
- **For International Participation and Summit Partnerships:**  
Mr Sanmit Ahuja: [sanmit.ahuja@cganga.org](mailto:sanmit.ahuja@cganga.org)
- **For Summit Sponsorships:** [po\\_outreach@cganga.org](mailto:po_outreach@cganga.org)

