6th India Water Impact Summit
IWIS 2021

Valuing Water | Transforming Ganga

9 – 14, December 2021 | Hybrid Mode (Physical + Virtual)

Venue: New Delhi

River Resources Allocation

"Planning and Management at the Regional Level"

नदी संसाधन निर्धारण

"क्षेत्रीय स्तर पर योजना और प्रबंधन"

Lead Organisers

सत्यमेव जयते
Goverment Of India

cGanga
Centre for Ganga River Basin Management and Studies
Indian Institute of Technology Kanpur

NMCG
National Mission for Clean Ganga
Ministry of Jal Shakti, Government of India

THE EVENT IS STRICTLY BY INVITATION ONLY

Please note that this is a non-profit activity. All net proceeds will go towards funding research for conserving rivers and other waterbodies

5th India Water Impact Summit 2020 – Glimpses

6th India Water Impact Summit
[IWIS 2021]

River Resources Allocation

"Planning and Management at the Regional Level"

This year's Summit is based on the theme of "River Resource Allocation" for sustainable river management. The pressing need for restoration and conservation of healthy and vibrant rivers in India is dependent primarily on systematic and balanced use of river resources on basin scales in place of rivers being randomly over-exploited for some resources in select places and times. The task entails a re-assessment of available river goods and services vis-à-vis multiple river resources and anthropogenic interventions across landscape scales, and a river resource planning framework that integrates the interests of the smallest stakeholders at local levels to larger stakeholders at the State and National levels.

Large rivers are rich in various resources that have been used by humans in their civilizational journey from foragers to agricultural settlers to industrial producers for an increasing number of uses. River resources tend to vary in amount and composition in time and along the lengths of rivers. Hence their abstraction or usage fulfils different needs in different times and in different regions. In the pre-industrial age humans mostly abstracted river resources in amounts or rates that did not exhaust the resource regeneration capacities of rivers, and rivers could recover their healthy ecological states even when over-exploited for short periods. However, rapid, unplanned and often indiscriminate resource abstraction in modern times has led many rivers to degenerate, and even cease to exist in extreme cases. Systematic assessment of river resources and their regenerative capacities in different rivers and along different stretches of a river is, therefore, imperative in order to meet modern-day human needs optimally.

River resources of value to humans may be identified in terms of river ecosystem goods and services that include diverse entities such as water (for domestic, agricultural and industrial uses), sediment, nutrients, food, biodiversity, energy, flood drainage, navigation, waste treatment, recreation, etc., apart from physically unquantifiable attributes such as aesthetic, mystical and spiritual aspects of rivers. The ecosystem goods and services of rivers vary in amounts and proportion along their lengths, thereby offering variable benefits in different river stretches. Thus, large rivers like the Ganga, Brahmaputra, Narmada, Kaveri and Godavari in India, while having their own characteristic resource troves, may also exhibit a common pattern in the distribution of resources as the river flows down from its upland source to its final destination to the sea. Rivers also tend to exhibit a common pattern in the distribution of resources over time (such as over annual cycles). Inventorizing and quantitative estimation of river resources in different stretches and over different time intervals are, hence, a first step in optimal allocation of resources for various purposes.

Secondly, the allocation of river resources must take into account the needs of different contenders in different regions or near different river stretches. The main contenders of river resources are riverine organisms (including amphibian species) apart from humans and other terrestrial organisms that benefit from rivers. Among these contenders, river biota are a primary contender of river resources since almost all river resources are vital for their sustenance and growth. However, the resources needed by river organisms may be significantly different from those used by humans in amounts and proportion. Hence the river resources of value to riverine organisms, humans and other terrestrial organisms need to be assessed independently.

The allocation of river resources to various contenders also needs to take into account that the different resources – or different goods and services of rivers – are often interdependent. Hence the abstraction of one resource from the river may affect the availability of other resources. For instance, wat.
er abstraction from rivers may affect sediment flows, biodiversity, hydropower potential, navigability, aesthetic appeal, etc. Or, to take another example, sand mining from river beds may adversely impact downstream river morphology and stability, habitat structures and biodiversity, water quality, etc. The interactive aspects of river resources (or river goods and services) must, therefore, be taken into account for optimal and sustainable river resource allocation. Simultaneously, the impact of selective resource abstraction from particular stretches on resource availability in upstream and downstream stretches and on their regeneration over time also needs to be assessed to ensure sustainable resource use.

The Summit

The National Mission for Clean Ganga (NMCG) and the Centre for Ganga River Basin Management and Studies (cGanga) are pleased to organise the 6thIndia Water Impact Summit during 9-14 December 2021. Due to current pandemic situation the Summit will be held in Hybrid Mode (Physical Presence in New Delhi + Virtual mode).

This year, the Summit will give an insight into the complexities and peculiarities of managing rivers across basin scales that synchronises river conservation with developmental needs over the long term by recourse to river resource budgeting. The systematic assessment and budgeting of river resource use for various human needs will ensure healthy river functioning along with scope for optimal and sustainable human benefits such as municipal water supplies, hydro-energy, recreation and tourism, irrigation, commercial navigation, fisheries, waste management and flood management. The modus operandi of managing these multiple goals across the length of large rivers is proposed to be embedded in a comprehensive planning process that can combine the needs and interests of small and large stakeholders and stakeholders in upstream and downstream regions in the context of select Ganga Basin states, namely Delhi, Uttarakhand, Uttar Pradesh, Bihar and West Bengal that verily need to co-ordinate their river resource uses for maximum all-round gains.

The Summit will give an insight into the specific river resource needs and river service potentials of each State in the river basin, as well as provide insights into the efforts put in by the government, international agencies and other parties in managing rivers holistically and beneficially.

The Summit, like the last previous IWIS, will also host the “Finance Forum”, a special track that will bring together global financial institutions and investors interested in river restoration and conservation programme (Namami Gange).

The 2021 Summit, like earlier Summits, will also provide an opportunity to dozens of technology and innovation companies from around the world that are keen to bring their solutions to India to address various issues and concerns pertinent to our river basins. The Technology Showcase will run throughout the Summit.

cGanga declared the formation of a number of task forces which were announced in 2017. The task forces are comprised of subject matter experts from around the world who provide their knowledge and expertise through specific working groups. A number of working groups will meet in parallel to further the planned objectives.

The 2021 India Water Impact Summit is organised along with many other organisations that will provide the much-needed impetus for developing water and environment infrastructure to safeguard River Ganga and other rivers and water bodies in India.

Inauguration of 5th India Water Impact Summit 2020 (L to R: Mr Rozy Agarwal, ED (F), Mr D P Mathuria, ED (T); Mr U P Singh, Secretary, Jal Shakti; Mr Rajiv Ranjan Mishra, DG, NMCG; Hon’ble Ratan Lal Kataria, MoS, Jal Shakti

5th India Water Impact Summit 2020 (Clockwise: Hon’ble Shri Gajendra Singh Shekhawat, Minister, Jal Shakti; Dr Vinod Tare, Founder Head, cGanga; Dr Rajiv Kumar, Vice Chairman, NITI Aayog; Shri U P Singh, Secretary, Jal Shakti; Shri Rajiv Ranjan Mishra, DG, NMCG; HE Ms Gaitri Kumar, High Commissioner to the United Kingdom; Mr Sanmit Ahuja, Expert Member, cGanga; Hon’ble Shri Vijay Kumar Choudhary, Minister, Water Resource Department, Government of Bihar, Hon’ble Shri Prahlad Singh Patel, Union Minister of State for Tourism and Culture (I/C)

Summit Highlights

1. Spotlight on States – Since the 3rd IWIS attempts are being made to bring the Ganga States to the common platform to showcase the collective efforts of national and international stakeholders.
2. A platform to bring all stakeholders together to discuss, debate and develop model solutions for some of the biggest water related problems in India.
3. The Summit will showcase new technological innovations, research, policy frameworks and investment models from around the world and from within India.
4. Platform for civil society and faith leaders to engage with scientific, engineering, industry, finance and Government representatives.
5. Multi-country dialogue to strengthen India's international collaborations in the Water sector.
6. A number of parallel tracks to discuss over 25 topics in depth:
   - Science and Research
   - Engineering and Operations
   - Technology, Innovation, Skills & Entrepreneurship
   - Policy, Law and Governance
   - Finance and Investments

Summit at a Glance

Summit Plenaries	Special Sessions
Session P1 – Inaugural Session: **"**River Resources Allocation - Planning and Management at the Regional Level - Overall Basin" This session includes: ➢ Special Announcements including strategic international projects ➢ Launch of Projects including sludge management, sustainable agriculture, circular economy initiatives and waste-water trading ➢ Release of Reports: - Economics of Sludge - Technology Acceleration through ETV Process - Full Proceedings of 5th IWIS	**Session P2 –** "River Resources Allocation - Planning and Management at the Regional Level - Upper Segment" *organised jointly with States having Upper Segment of Major Rivers.* **Session P3 –** "River Resources Allocation - Planning and Management at the Regional Level Middle Segment" *organised jointly with States having Middle Segment of Major Rivers.* **Session P4 –** "River Resources Allocation - Planning and Management at the Regional Level - Lower Segment" *organised jointly with States having Lower Segment of Major Rivers.* **Session P5 –** "River Resources Allocation - Planning and Management at the Regional Level - Deltaic Region" *organised jointly with States having Upper Segment of Major Rivers.* **Session P6 –** Valedictory Session

TRACK A Science, Technology & Policy	TRACK B Finance & Economics	TRACK C Technology & Innovation
Session A1 – River Goods and Services vis-à-vis Anthropocentric Interventions for Basin Resource Planning **Session A2 –** Roles and Responsibilities for River Resource Assessment and Monitoring **Session A3 –** Strategies to Balance River Resource Conservation with Anthropogenic Interventions **Session A4 –** Empowering Local and Small Stakeholders for Sustainable River Resource Management **Session A5 –** Methodological and Policy Measures for Resource Allocation Planning and Plan Implementation	**Session B1 –** Economics and Financing of Sludge **Session B 2 –** Economics and Financing of Sustainable Agriculture **Session B3 –** Economics and Financing of Water Recycling, Circular Economy and Water Trading Market **Session B4 –** "Ganga Hydrogen Forum"	**Session C1 – C5:** Technology & Innovation - Digital Water - Data and Information - Decentralised Wastewater treatment - Sustainable Agriculture - Sustainable Hydropower - Green hydrogen - Waste to Hydrogen - Waste to biogas - Carbon Capture in STPs - Drinking water systems - Energy Efficiency systems - Inland-water Navigation Systems

TRACK D International	TRACK D International …..Continued	TRACK E Policy, Law & Governance
Session D1 – Norway "Collaboration on Sludge, Hydrogen and marine pollution" **Session D2 – BRICS** "Knowledge sharing and capacity building through Network of Universities/Institutes" **Session D3 – EU** "Multi-faceted partnership on water security – including river basin management and circular economy"	**Session D4 – Australia** "Managing water rights" **Session D5 – UK** "Economics of water" **Session D6 – Japan** "Urban water and waste-water management"	**Session E1 – Challenges for Policy, Law & Governance for River Resource Allocation Planning** For holistic management of human activities in entire basin to ensure adequate river resource generation. **Session E2 – Holdups in Policy, Law & Governance for River Resource Allocation Plan Implementation** For equitable river services to stakeholders across administrative boundaries and timeframes.

Summit Timetable

Time	Day 1 Thu, Dec 9	Day 2 Fri, Dec 10	Day 3 Sat, Dec 11	Day 4 Mon, Dec 13	Day 5 Tue, Dec 14
09:30 – 10:45	Pre-Summit Session *MOUs, Key Announcements*	**E-1** Challenges for Policy, Law & Governance for River Resource Allocation Planning	**E-2** Holdups in Policy, Law & Governance for River Resource Allocation Plan Implementation	**D4** International Australia	**D6** International Japan
10:45 – 11:00	**Break**				
11:00 – 13:00	**P-1** Inaugural Session River Resources Allocation ***Overall Basin***	**P-2** Plenary Session River Resources Allocation ***Upper Segment***	**P-3** Plenary Session River Resources Allocation ***Middle Segment***	**P-4** Plenary Session River Resources Allocation ***Lower Segment***	**P-5** Plenary Session River Resources Allocation ***Deltaic Region***
13:00 – 14:00	**Break**				
14:00 – 15:45	**A-1** River Goods and Services vis-à-vis Anthropocentric Interventions for Basin Resource Planning	**A-2** Roles and Responsibilities for River Resource Assessment and Monitoring	**A-3** Strategies to Balance River Resource Conservation with Anthropogenic Interventions	**A-4** Empowering Local and Small Stakeholders for Sustainable River Resource Management	**A-5** Methodological and Policy Measures for Resource Allocation Planning and Plan Implementation
	C-1 – C5: ETV: Novel & Noble Solutions				
15:45 – 16:00	**Break**				
16:00 – 17:45	**B-1** Economics & Financing of *Sludge*	**B-2** Economics & Financing of *Sustainable Agriculture*	**B-3** Economics & Financing of *Water Recycling, Circular Economy and Water Trading Market*	**B-4** Ganga Hydrogen Forum	**P-6** **Valedictory Session**
17:45 – 18:00	**Break**				
18:00 – 19:00	**D1** International Norway	**D2** International EU	**D3** International BRICS	**D5** International UK	

All Plenary "P" and "A" Sessions will be focused on the Summit Theme and will have deliberations considering entire basin as well as region wise namely Upper Segment (typically mountainous region), Middle Segment (typically higher planes), Lower Segment (typically lower planes) and Deltaic Region of a River Basin

Session Details

1. Plenary Sessions

All Plenary sessions shall have participation from very high level national and international representatives

Session P1 Day 1: Thursday, December 9, 2021 11:00 – 13:00 hrs	**Inaugural Session: River Resources Allocation - Planning and Management at the Basin Level** **Overall Basin** The diverse climatic and geological setting of the major river systems provide for a kaleidoscopic array of river resources that have enriched human communities for ages until resource overuse and misuse in modern times. To ensure river conservation along with optimal river goods and services all over the basin, a comprehensive plan is required to integrate the developmental needs of the country with the river resources needed by different stretches of the river and its tributaries.
Session P2 Day 2: Friday, December 10, 2021 11:00 – 13:00 hrs	**River Resources Allocation - Planning and Management at the Regional Level** **Upper Segment** The uppermost segment of the Ganga river lies in Uttarakhand, where a multitude of Himalayan head-streams combine to form the Ganga river before it enters the alluvial plains of North India. With relatively steep slopes and narrow valleys, limited anthropogenic impacts in the catchment, freshly weathered rock sediments, and round-the-year flows, the river provides immense scope for hydro-power generation, tourism and recreation, irrigation, and sand mining, besides other ecosystem services. Availing such services, however, needs to be planned with minimal interventions to fulfil the river's own resource needs and that of the lower stretches.
Session P3 Day 3: Saturday, December 11, 2021 11:00 – 13:00 hrs	**River Resources Allocation - Planning and Management at the Regional Level** **Middle Segment** The upper part of the middle segment of River Ganga lies in the alluvial plains of Uttar Pradesh, where several large tributaries like the Ramganga and Yamuna enrich the river. With significant anthropogenic impacts and interventions caused by irrigation abstractions, wastewater and pollutant disposals, fishing and sand mining, the river's ability to sustain its ecosystem and provide the best ecosystem services has been greatly jeopardized, necessitating comprehensive planning of its resource use for human services.
Session P4 Day 4: Monday, December 13, 2021 11:00 – 13:00 hrs	**River Resources Allocation - Planning and Management at the Regional Level** **Lower Segment** The lower part of the middle Ganga segment lies mostly in Bihar, where large tributaries originating from the Himalayas and Central Indian mountains swell the resource-rich river into a mighty flow. With the high silt load of its Himalayan tributaries, the Ganga and several other rivers in Bihar are a major cause for frequent floods as well as irrigation sources, commercial navigation, fishing and other benefits for human needs. The various anthropogenic needs and impacts on the river of human interventions, however, need to be integrated with the resource needs of the river itself and those of upstream and downstream reaches.
Session P5 Day 5: Tuesday, December 14, 2021 11:00 – 13:00 hrs	**River Resources Allocation - Planning and Management at the Regional Level** **Deltaic Region** The lowermost estuarine segment of River Ganga lies in the alluvial delta of West Bengal and Bangladesh, where the river rapidly divides and subdivides, spreading across a fan-shaped alluvial deposit. Apart from the gentle slope, the river flows are affected by high and low sea tides that result in ingress and mixing of saline seawaters with the river's freshwater flow. Irrigation, navigation, and fishing are among the many river services valued in these reaches, but the impact of various anthropogenic activities and interventions need to be tempered with the resource requirement of the upstream river and the downstream sea at the mouth of the river.
Session P6 Day 5: Tuesday, December 14, 2021 16:00 – 17:45 hrs	**Valedictory Session**

Participation

Indian Government and State Governments

(*Confirmations are being received and will be announced by the end of November/early December 2021*)

- Ministry of Jal Shakti
- National Mission for Clean Ganga
- cGanga/IIT Consortium
- Ministry of Environment, Forest and Climate Change
- State Government/ Representations of Various Municipal Corporations
- Various Subject Matter Experts

International

- A number of country delegations and international experts
  (*Confirmations are being received and will be announced by the end of November/early December 2021*)

2. Thematic Sessions

The format of the thematic sessions shall include select/invited presentation on the topic followed by an in-depth discussion between presenters, experts and task force representatives participating in the session. The session chairs are required to summarise the deliberations and present in the plenary session on the final day.

TRACK A – SCIENCE, TECHNOLOGY & POLICY	
Session A1 Day 1: Thursday, December 9, 2021 14:00 – 15:45 hrs	**River Goods and Services vis-à-vis Anthropocentric Interventions for Basin Resource Planning** River uses have multiplied manifold with diverse and multiple anthropocentric interventions for hydro-energy, fish production, sand for construction, crop irrigation, commercial navigation, riverbed farming, floodplain constructions, river channelization, embankments for flood containment, etc. Many such interventions affect river ecosystems drastically and curtail other ecosystem services. Hence there is a need to review understanding of river resources and ecosystem services with respect to anthropocentric interventions.
Session A2 Day 2: Friday, December 10, 2021 14:00 – 15:45 hrs	**Roles and Responsibilities for River Resource Assessment and Monitoring** Since river resources and the consequent ecosystem services of rivers vary significantly over time and along the length of rivers, the resources need to be systematically assessed and inventorized before a comprehensive plan for river resource management can be evolved. To ensure adequate and proper resource assessment and monitoring, it is necessary to chalk out the roles and responsibilities of various government agencies and stakeholders for the purpose.
Session A3 Day 3: Saturday, December 11, 2021 14:00 – 15:45 hrs	**Strategies to Balance River Resource Conservation with Anthropogenic Interventions** Selective over-exploitation of specific river resources has invariably led to the realisation of overwhelming loss of multiple river resources over extended time periods. Suitable scientific techniques can be developed that temper anthropogenic interventions for resource use with the conservation of river resources to ensure healthy river functioning and sustainable resource use simultaneously. Such measures, however, need to be implemented through suitable policies and financial actions to ensure their success.
Session A4 Day 4: Monday, December 13, 2021 14:00 – 15:45 hrs	**Empowering Local and Small Stakeholders for Sustainable River Resource Management** Riparian communities have intimate and long-standing connections with rivers. Given their primacy in ensuring sustainable river resource management, they need to be adequately empowered at local levels, while overall conservation measures on larger scales are overseen by governments, educational-research institutions and interested citizens. This calls for identification and empowerment of local stakeholders vis-à-vis other stakeholders for local river stretches, small rivers and waterbodies in large river basins.
Session A5 Day 5: Tuesday, December 14, 2021 14:00 – 15:45 hrs	**Methodological and Policy Measures for Resource Allocation Planning and Plan Implementation** Sustainable allocation of river resource necessitates the evaluation of human resource needs and the impact of such uses on other contenders – especially of riverine organisms. Given the limited understanding of river processes and of societal perceptions and needs, a flexible approach needs to be adopted combining scientific understanding of rivers with local and regional needs and institutional strengths. Given the highly dynamic nature of rivers, a careful strategising of suitable policy planning and management is therefore imperative.

TRACK B – FINANCE AND ECONOMICS	
Session B1 Day 1: Thursday, December 9, 2021 16:00 – 17:45 hrs	**Economics & Financing of Sludge** As the deployment of number of sewage treatment plants in the country increases, so will the quantity of sludge produced. Although sludge handling should become an integral part of waste-water treatment facility, there are however thousands of STPs in the country that do not have sludge treatment on-site. • For older facilities how does the retrofit model work in the case and how will these get financed. • With increase in urbanisation, how will the cities cope up with increase in sludge quantity. Do they need to set up dedicated sludge treatment centres. If so, what are the requisite conditions under which they will be financed? <u>Instrument and Facility Case Study</u> cGanga and NMCG have initiated a number of strategic pilot projects to treat and process sludge. A facility is being set up to finance these projects with cooperation of green-investors from around the world.
Session B2 Day 2: Friday, December 10, 2021 16:00 – 17:45 hrs	**Economics & Financing of Sustainable Agriculture Finance** There is a significant correlation between agriculture and water quantity/quality in the river systems. Agricultural sector in northern India uses far more water than global averages in areas with similar conditions. This is largely to do with prevailing irrigation practices, such as type of crops, e.g. rice that use large volumes of water; dual cropping system that increases the demand on the system; inefficient irrigation practices, etc. Changing attitudes and behaviours within the farming community is not easy, therefore disruptive innovation that creates a new generation of farmers is a model that will enable shifting of the landscape and attitudes of incumbent farmers. • How can technology innovation bring about disruption in the agricultural sector? • What impact do water-efficient solutions have on the overall water balance of the country/region? <u>Instrument and Facility Case Study</u> cGanga and NMCG have successfully rolled out advanced agri technologies that conserve on water and deliver high quality output. A major facility is being set in partnership with a range of financing institutions.
Session B3 Day 3: Saturday, December 11, 2021 16:00 – 17:45 hrs	**Economics & Financing of Water Recycling, Circular Economy and Water Trading Market** For the water market to become more robust, it is important to establish not only the pricing but an efficient trading market. • What are the necessary conditions to establish waste-water trading schemes? • Who will the pricing and trades be regulated? For the circular economy to enter mainstream, there must be a clear set of policy regulations, establishment of supply chain that make the economic feasibility stack up, implementation of technologies that will process and/or enable efficient material recovery and digital platforms that enable the entire value chain. • What have been the impediments to scale-up circular economy in India? • What are the different enabling conditions that are needed for different types of waste categories: e.g. plastics, food-waste, farm waste, tyres, construction waste, etc. <u>Instrument and Facility Case Study</u> - cGanga is developing a pilot scheme for trading between industrial off-takers and waste-water generators. - cGanga in partnership with a number of technology companies and institutions has developed a number of high impact initiatives e.g. Tyre recycling and plastics trading facilities
Session B4 Day 4: Monday, December 13, 2021 16:00 – 17:45 hrs	**Ganga Hydrogen Forum** The programme launches in providing a "generation platform" to accelerate development of the hydrogen economy using municipal solid waste to hydrogen, sewage gas to hydrogen, hydropower to hydrogen and other forms of green hydrogen. In the following decades India could require 40MT of hydrogen generation per annum. This programme will help support the National Hydrogen Mission.

TRACK C – TECHNOLOGY&INNOVATION	
Session C1 to C5 Day 1 through Day 5 14:00 – 15:45 hrs	This track will give opportunities to companies from around the world to showcase their cutting-edge technologies and innovations that have the potential of making a significant positive impact in the river basin. The 2021 Summit will focus on technologies in three areas: - Digital Water - Data and Information - Decentralised Wastewater treatment - Sustainable Agriculture - Sustainable Hydropower - Green Hydrogen - Waste to Hydrogen - Waste to biogas - Carbon Capture in STPs - Drinking water systems - Energy Efficiency systems - Inland-water Navigation Systems

TRACK D – INTERNATIONAL	
Session D1 Day 1: Thursday, December 9, 2021 18:00 – 19:00 hrs	**Norway** Recently cGanga signed a MOU with NIBIO (Norway) to develop a sludge management framework. The collaboration is now expanding to assess sludge master-plan for various cities and to deploy demonstration sludge management projects. Additionally, partnership around hydrogen and marine pollution will also be discussed in detail.
Session D2 Day 2: Friday, December 10, 2021 18:00 – 19:00 hrs	**EU and Member States** EU and its member nations are engaged with India on multiple facets of managing water resources including but not limited to river basin planning, circular economy principles, data & information systems, energy, sustainable transportation and many others. This session will highlight the multi-faceted partnership with EU around water.
Session D3 Day 3: Saturday, December 11, 2021 18:00 – 19:00 hrs	**BRICS Nations** The BRICS nations (Brazil, Russia, India, China and South Africa) are jointly running a "water resource management". This session will focus on collaboration around knowledge sharing, capacity building and developing a training programme for students.
Session D4 Day 4: Monday, December 13, 2021 09:30 – 10:45 hrs	**Australia** Australia has effectively managed water rights by creating a fair and equitable trading scheme that allows water rights to be governed and monetised. This session will focus on knowledge sharing and building a partnership around water rights management.
Session D5 Day 4: Monday, December 13, 2021 18:00 – 19:00 hrs	**UK** Recently cGanga signed a MOU with British Water to create a bridge for UK industry to pair up with its Indian counterparts to build 21st century infrastructure in water and environment sector. The Clean Ganga Exhibition in the UK has also created a phenomenal platform and blueprint for engaging international community including the Indian diaspora to participate in and support the Clean Ganga programme. UK is also becoming a major partner to help India tap into global capital base to finance its green growth agenda. The session will put a spotlight on how the partnership is being put into action.
Session D6 Day 5: Tuesday, December 14, 2021 09:30 – 10:45 hrs	**Japan** With rapid urbanisation in India, the need for effective management of urban water resources and treatment of wastewater is at an all-time high. The dialogue with Japan will focus on efficient management of urban water and waste-water management.

TRACK E– Policy, Law & Governance	
Session E1 Day 2: Friday, December 10, 2021 09:30 – 10:45 hrs	The critical problem in River Resource Allocation planning, whether on large basin scales or more minor catchment scales, is accessing adequate and reliable data of the river's resources in basin and anthropogenic activities in the basin about these resources. The second major problem is that of accommodating the interests of small and marginal stakeholders such as riverbank communities and those in subsistence engagements with rivers (such as boatmen, fishers and riverbank farmers) in the resource allocation plan.
Session E2 Day 3: Saturday, December 11, 2021 09:30 – 10:45 hrs	The critical problem in implementing River Resource Allocation plans, whether on large basin scales or smaller catchment scales, is that the implementation will probably be carried out by existing administrative and implementation agencies that are governed by (i) administrative jurisdictions (e.g. district and state boundaries) and (ii) existing laws and policies that may impact river resources. For instance, river resources are affected by direct anthropogenic interventions and human activities in the basin, such as land use and groundwater abstraction/ recharge, which may be covered under laws unrelated to rivers.

Engage with Us

A. Engagement Models during the Summit

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

1. **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 the River Restoration and Conservation programmes. It could entail releasing a special report, initiating a project, highlighting select areas of work or other initiatives.

2. **Sponsorship**
   For private sector companies or entities wanting brand recognition, the Summit offers 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.

3. **Technology and Innovation Showcase**
   Companies or organisations that have developed solutions, which have the potential of high impact in Indian River Basins, can get an opportunity to present to stakeholders, potential Indian partners and investors.

4. **Knowledge Partners**
   Professional Service Firms and Knowledge-oriented institutions are invited to partner with cGanga and NMCG to prepare and launch a number of special reports during the Summit as well as curate and organise the various Summit sessions.

B. Ongoing Engagement Models

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

1. **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 summarised 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

2. **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.

3. **International Chapters and Roadshows**
   cGanga and NMCG 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.

Information for Participation in the Summit

- Participation in the Summit is strictly **by invitation only**.
- Participants must have a formal invitation from the organisers before attempting registration.
- Registration is only possible by using special or dedicated "registration codes".
- International participants may register through the following mechanism:
    - their country's official participation channels
    - presentation slot in Track C
    - 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 using the special registration code provided.
- Kindly check www.cganga.org for more details.

REGISTRATION FOR YOUR PARTICIPATION

- All invitations to the Summit shall be issued during 15-30 November 2021. If you have not received the invitation, then please get in touch with the Summit organisers.
- To register you must have a special registration code either provided by your Government Department, Organisation, Delegation Leader or through your direct participation in the Summit.
- Use the "registration code" that you received to complete the registration process.
- The links to the registration process shall be made available from 25th November 2021.

Contact Details

- General Enquiries and Submissions of Participation Requests:
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- For Indian Government Related Queries:
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- For International Participation and Summit Partnerships:
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    - media@cganga.org

About the Organisers

NATIONAL MISSION FOR CLEAN GANGA (NMCG)

NMCG is the implementation wing of National Ganga Council which was setup in October 2016 under the River Ganga Authority order 2016. Initially NMCG was registered as a society on 12th August 2011 under the Societies Registration Act 1860. It acted as implementation arm of National Ganga River Basin Authority (NGRBA) which was constituted under the provisions of the Environment (Protection) Act (EPA) 1986. NGRBA has since been dissolved with effect from the 7th October 2016, consequent to constitution of National Council for Rejuvenation, Protection and Management of River Ganga (referred to as National Ganga Council).

www.nmcg.in

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.

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