

TH CIT WASTER INNOVATION SUMMIT 2023 12 - 13 December 2023, Hotel Lalit, New Delhi

Towards a Competitive and Sustainable India@100: Water for Growth, Inclusiveness, Globalisation, Building Trust



Participants 450+

Companies recognised at the 17th CII
National Awards for Excellence in Water
Management

57

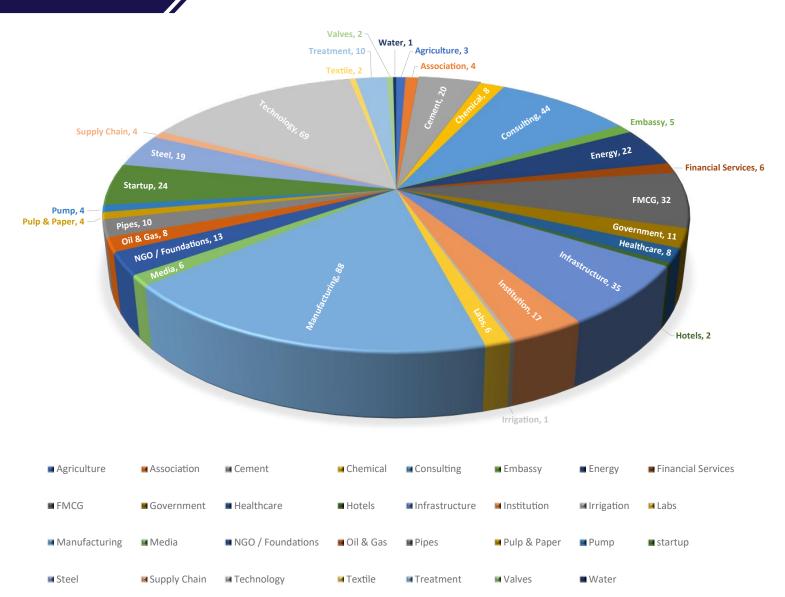
Memorandum
of Understanding
(MoUs) signed

3

Water Neutrality (Scope 1 certifications) felicitated

13

Sectors



9th CII Water Innovation Summit 2023 Retrospect

CII-Triveni Water Institute, CII's Centre of Excellence on Water, organised the 9th edition of its flagship annual event – "Water Innovation Summit" on 12th & 13th December 2023 at New Delhi. The theme for this year's Summit was "Towards a Competitive and Sustainable India@100: Water for Growth, Inclusiveness, Globalisation and Building Trust".

Inaugural Session

As the introductory remarks, **Dr Kapil Narula**, Executive Director and CEO, CII-Triveni Water Institute, emphasized that global community is placing emphasis on intersection of water and climate connect with growing awareness on impact of climate variability on water resources. Water and climate change are inextricably linked. Rising temperatures are altering the water cycle with rainfall becoming more unpredictable, while droughts and floods become more severe and frequent. Climate change is leading to water scarcity and contaminating water supplies, mentioned Dr Narula.

Indian industry has been proactively working on measures to improve their operational water use efficiency (i.e. water consumption across processes) through adoption of 3R



principles - Reduce, Reuse and Recycle. Periodic water audit is one such means to help industry reduce water consumption. Further, it is also equally important to ensure water resource sustainability at the respective watershed or hydrological unit.



Mr Nikhil Sawhney, Chairman, CII-Triveni Water Institute and Vice Chairman & Managing Director of Triveni Turbine Ltd, emphasized on the importance of adopting an integrated approach on water management. He stressed on the role of science and technology, policy, and governance in achieving efficient water management.

Mr Sawhney said that, as water holds a pivotal role in pursuing economic growth & development, collaborations and partnerships remain imperative for ensuring responsible water management.

He further highlighted the increasing importance of policy and governance. CII Water Institute's focus has evolved beyond mere reduction in specific water usage (water used per unit

of production) to a broader approach that emphasizes a reduction in freshwater usage. This shift aligns with environmental concerns, especially in drought-prone areas. Applying scientific tools such as CII's WATSCAN to understand water usage patterns is crucial for building competitiveness in this field.

Indo-Finnish Collaboration and Global Commitment

H.E. Mr Kimmo Lähdevirta, Ambassador of Finland to India, Embassy of Finland viewed that Indo - Finnish collaboration extends beyond bilateral agreements and shared commitments towards climate change, sustainability, environmental and biodiversity protection. Collaborative efforts have been implemented at national and international levels, involving public and private sectors. He further highlighted that innovation and technology along with smart water and data management will be important in implementing sustainable water management practices.

A Memorandum of Understanding (MoU) was signed between Finland Embassy and CII-Triveni Water Institute to promote water related sustainable practices, business opportunities and knowledge exchange of technologies in the sector.



Two other MoUs – 1) CII-Triveni Water Institute and Electrosteel Castings Limited, for raising awareness on various aspects of water resource usages particularly 24X7 water supply management and 2) CII Triveni Water Institute and IB Group on application of scientific tools for groundwater surveys and water smart solutions were also inked during the event.

Water in India's Vision for Prosperity

Prof Ramesh Chand, Member, NITI Aayog, Government of India while delivering his Inaugural address said that the ambition of "Viksit Bharat" has many dimensions linked to water at its core and the theme of the conference "Towards a competitive and sustainable India@100: Water for Growth, Inclusiveness, Globalisation, Building Trust" resonates with the Government's vision of becoming a "Viksit Bharat by 2047".

Recognizing water as vital for well-being, initiatives across regions showcase a nationwide commitment to ensuring water access as a fundamental pillar of India's growth.

He outlined the strategic importance of water in Prime Minister's vision, positioning it as a significant element for India's prosperity, well-being, and growth.











Panel Discussion on Water & Climate for Sustainable Growth



Climate variability across India: Impacts & Challenges

Ms Usha Subramaniam, Country President, Grundfos Pumps India Pvt Ltd highlighted challenges succumbed in Chennai's context due to rising climate variability. She emphasized the urgent need for proactive water management and adaptation strategies amid global climate action imperatives. The climate ordeal aligns with predictions made by the Intergovernmental Panel on Climate Change in 2021. As the global community grapples for climate action, recognizing and addressing water-related challenges becomes paramount, noted Ms Subramaniam.

Water Intensity in Agriculture vs. Industry

Mr Deepak Kumar Arora, President, Nayara Energy explored the debate around water intensity in agriculture and industry, stressing the importance of water-efficient technologies. He mentioned the need to take actions quickly using a combination of people, processes, and technologies, which requires examining three aspects: (a) awareness, (b) data and analytics, and (c) capability and competency. Reflecting on past experiences, such as the Green revolution, he noted that crises often prompts search for solutions. The key is to recognize opportunities for long-term thinking across various dimensions of sustainability.

Customized Solutions for Water Management

Mr Thakur Pherwani, Chief Sustainability Officer at TVS Motor Company, emphasized on shared responsibility for environmental stewardship. The conversation centred on tangible initiatives such as the development ofwatersheds, establishment of catchment areas, and implementation of water-harvesting structures. The key message was to acknowledge the inherent link between water and soil, that are crucial elements which, when integrated, support and sustain life on our planet. Mr Pherwani stressed on understanding the trajectory of water flow within a basin being fundamental for effective water management. He urged the industries to collaborate keeping in mind the dynamic upstream linkages. Collaborative efforts across industries can usher a holistic approach, ensuring equitable and sustainable management of water resources, mentioned Mr Pherwani.

Changing Rainfall Patterns

Dr Mrutyunjay Mohapatra, Director General of Meteorology, India Meteorological Department, Gol, emphasized that the impact of climate change is rising, clearly visible in the increased extreme events. Addressing this requires augmentation of weather monitoring, analysis, and forecasting mechanisms, blending traditional wisdom, data, and actions . While India's overall rainfall remains unchanged, there's a significant shift in distribution patterns. Certain regions experience increased rainfall, while others face a decrease, creating a geographical imbalance. He further highlighted that temporal variations reveal a decrease in the number of rainy days but an increase in heavy rainfall days, presenting a challenge for water management.

Community Participation and Environmental Protection

Ms Shilpa Nischal, Principal Counsellor, CII Water Institute, highlighted the importance of community participation in environmental protection, recognizing the intrinsic connection between water and soil. She underscored the imperative of aligning efforts with a clear purpose and highlighted scientific methodologies, such as those applied by the CII Water Institute, for uptake of appropriate interventions. Additionally, she brought attention to the growing realization that climate action depends on water resilience, acknowledging the value of water beyond its pricing.

Improvising monitoring, analysis, and forecasting mechanisms

Mr Prashant Hota, President - Group Head CSR, Education and Sustainability, Head, Odisha Corporate Communications, Jindal Steel & Power Limited during his address also highlighted that while India's overall rainfall remains same in magnitude, there's a significant shift in distribution patterns. Certain regions experience increased rainfall, while others face a decrease, creating an imbalance.

Mr Hota emphasized the necessity for augmenting management systems and improvising monitoring, analysis, and forecasting mechanisms. These steps are imperative to ensure the availability of water for various purposes in the face of changing climatic conditions.

Key Takeaways

- There remains an urgent need for proactive water management by all stakeholders including industry.
- Water-efficient technologies hold key to arresting growing water challenges in the wake of rising climate variability.
- Timely actions are needed for building awareness, undertaking data analytics, and improving competencies for building resilience.
- Environmental stewardship requires a shared responsibility among communities.
- Enhance weather monitoring by combining traditional wisdom with data-driven approaches.
- Active community participation is vital for environmental protection.

Source Sustainability and Smart Water Management Panel



Mr Pankaj Poddar, Chief Marketing Officer, Electrosteel Castings Limited in his address, focussed on the escalating challenge of maintaining water source sustainability amid increasing scarcity. Notably, the relationship between water availability and quality is interconnected, with climate change posing a significant impact on sustainability.

He stressed on the crucial role of effective water management, highlighting that practices neglecting replenishment of the resource are unsustainable. He underscored the urgency of sustainable water management, advocating for smart water systems utilizing IoT, Big Data, and AI technologies. These systems, he noted, bring transparency, improved control, and the ability to pre-empt issues, emphasizing their contribution to overall environmental goals. Mr Poddar concluded by



emphasizing the centrality of sustainability goals in various sectors, where smart water technologies play a pivotal role in achieving environmental objectives.

Urban Water Management through Startups

Ms D Thara, Additional Secretary, Ministry of Housing and Urban Affairs, GoI in her special address at the session on "Source Sustainability and Smart Water Management" informed that under AMRUT-2.0 Ministry is pursuing the agenda of digitization of infrastructure. Emphasising on data and analytics to take informed decisions, Ms Thara informed that, the ministry is closely looking at the inclusion of smart water management in all new projects sanctioned while also integrating the smart element in legacy infrastructure.

Underlining the need for accelerating actions towards adoption of smart water management, Ms Thara urged industry to take advantage of promising startups that have been onboarded by the Ministry.



Holistic Water Conservation Efforts

Dr Antti Herlevi, Trade and Investment Counsellor, Embassy of Finland emphasized the responsibility of the entire value chain for water conservation, showcasing advancements like big data and predictive analytics in addressing regional challenges. Dr Herlevi emphasized on the promising avenues for improvement offered by smart water solutions. The transformative aspect of remote measurement and monitoring, applicable across industrial, municipal, and household networks, was highlighted as a game-changer. Drawing examples from Europe he showcased the potential impact of technologies such as automatic or remotely readable water meters in minimizing non-revenue water, preventing energy and chemical wastage, and contributing to the preservation of critical water infrastructure.

Mr Dheeraj Kaushik, Sr. General Manager & Head - Water & Environment, Tata Consulting Engineers Limited emphasized on the shared responsibility of the entire budget chain for water conservation and efficient water use. He pointed out that, from the national level, involving both central and state governments, policies and frameworks are devised to address these concerns.

He stressed the need for collective efforts within the comprehensive ecosystem, highlighting the importance of ensuring responsible water management across various sectors and involving diverse stakeholders.

- Key Takeaways

- Integration of IoT and AI technologies for real-time monitoring are key to water management.
- Optimizing water resource usage and early detection of contamination are critical for sustainable water management.
- Inclusion of smart water management in new projects is essential.
- Establishing National-level policies and frameworks is significant for responsible water management.
- Collaboration of policymakers, startups, financial institutions, and technologists is needed to address Water related challenges.

Water Neutrality for Green Credits Panel



Mr. Avinash Mishra, Former Adviser - Water & Land Resources, NITI Aayog, Government of India while moderating the panel commended the efforts of Industry in adopting water neutrality for sustainable development. He emphasized the crucial role of various water management initiatives for operational efficiency, sustainability, and fair water practices.

The commitment to water-neutral operations, he noted, holds immense significance in advancing sustainable development and ensuring steady, enduring progress for the concerned region. Additionally, he underscored the multifaceted benefits of this approach, including its positive impact on environmental sustainability and thereby utilization of green credits.



Jal Jeevan Mission's Impact

Ms Vini Mahajan, Secretary, Department of Drinking Water & Sanitation, Ministry of Jal Shakti, Gol pointed that environment over the years has been neglected which is purest form of economic good. Water is the fundamental requirement for life and she urged the audience to play their part in ensuring water scarcity concerns are arrested.

Speaking further on the economic and health impact of access to quality water, Ms Mahajan shared that a recent WHO report highlights significant impact of 'Har Ghar Jal' Program on Public Health and Economic Savings. She informed that Jal Jeevan Misson's work is going on at a fast pace and at present 71 percent of rural India has tap water connections. One tap connection was provided every second in 2023 under Jal Jeevan Mission. She urged the industry to take benefit of the opportunities presented by the Mission.



Hydrogeological Studies for Sustainability

In her discussion, **Dr Poulomi Banerjee,** Vice President-ESG at ABIS Exports India Private Limited, highlighted the significance of hydrological and hydrogeological studies for tackling water challenges during industrial expansion. She shared the experience of exploring the limited water zone around their own plant, conducting hydrogeological tests, and assessments. The results pinpointed promising aquifers within and beyond the immediate area. Dr Banerjee emphasized on the crucial role of scientific assessments in addressing water challenges during industrial expansion.

3M and 7R Methodology Adoption

Mr Mahaveer Gupta, Plant Head, JSW Steel Coated Products Ltd commended NITI Aayog's adoption of the 3M7R methodology for quantifiable assessment, fostering a comprehensive approach. The inclusion of a water-saving gadget aligns with broader sustainability goals, echoing energy targets and promoting healthy competition. JSW's commitments to water conservation through demand and supply side interventions such as by building check dams and recharge shafts, engaging stakeholders and local communities, were also enumerated by the speaker.

Collaborative Call to Action

Mr. HS Manjunath, Deputy General Manager - Plant Engineering & Carbon Neutral Innovation at Toyota Kirloskar Motor Pvt Ltd urged a culture of collaboration and heightened responsibility for sustainable practices, emphasizing a collective effort for building harmony with nature. Shifting the narrative towards green creativity, he requested all the stakeholders to collectively shape a future in harmony with nature.

Key Takeaways

- Rapid progress in rural tap water connections with economic and health benefits visible by Jal Jeevan Mission Programme by Government of India
- Undertaking proactive studies addressing industrial water challenges can benefit society immensely.
- Adoption of 3M-7R approach can aid sustainability assessments.
- Collective efforts can help building a sustainable future and green creativity.

Session on Technological Solutions

Importance of Technology in Water Management

Mr Ajay Popat, Chair of the Core Group on Technologies, CII National Committee on Water & President of Ion Exchange (India) Limited, emphasized the necessity for technological solutions in water management. He urged the exploration of impactful strategies such as IWRM and GIS for spatial data analysis. Mr Popat pointed out that advanced technologies only reach a small proportion of the total population, highlighting a significant gap. Additionally, he underscored the crucial aspect of the disparity in export and sales capabilities. Mr. Popat stressed the global imperative to achieve more with fewer resources, especially amid rising populations and increased demands. He acknowledged the inherent connection between food and water, emphasizing the imperative nature of resource recovery.



Smart Data Use through Sensors

Mr Sanjeev Choudhary, Commercial and Liaisoning Lead at Grundfos Pumps India Pvt Ltd, focused on the widespread use of sensors in smartphones. He emphasized the opportunities for connectivity and smart data utilization in water management. Mr. Choudhary highlighted the connection between saving energy and conserving water, noting the emergence of IoT, AI, and smart manufacturing. He emphasized the need for proactive use of technologies that align well with addressing global issues and adapting to the changing landscape.

Benefits of Smart Water Management Systems

Mr Sanjay Gaikwad, Growth Unit Head-ZLD, Thermax Limited outlined the advantages of implementing smart water management systems, including increased operational efficiency, optimized distribution, and early detection of potential issues. While some technologies are still in the monitoring phase, transitioning to remote control monitoring is crucial for quicker and more efficient responses to issues. This shift is a significant step toward optimizing energy use and enhancing overall efficiency.

Mr Pradeep Yalla, Delivery Head, Water Vertical, Vassar Labs, emphasized the need for a dynamic approach when considering the impact of climate change. While historical data provides a foundation, he highlighted the importance of integrating real-time data into reservoir management. This, coupled with simulation models, enables more adaptive and responsive decision-making to address changing climate patterns and current demand fluctuations. Mr. Yalla underscored how this approach enhances the resilience of water resource management systems.

Mr Snehal Kumar Bokare, Regional Director-Water & Cities, Bentley Systems mentioned that the adoption of a digital twin model is a transformative leap in addressing water challenges. It unifies disparate data, integrating hydraulic models and engineering data for a comprehensive view of water infrastructure. This enhances operational efficiency and enables proactive decision-making, facilitating quicker responses to drainage and other challenges.

Mr Sri Harsha Karumanchi, Founder-CEO of Kritsnam Technologies, highlighted the imminent rise in water costs and selective government allocations, posing significant challenges for businesses. Particularly in regions like India, where water has historically been perceived as a relatively inexpensive resource, this shift in water dynamics underscores the need for businesses to reassess their strategies and invest in water efficiency measures.

- Key Takeaways

- There is a need for technological solutions and strategies like IWRM and GIS in water management.
- Opportunities for connectivity and smart data use through sensors are immense for improved water resource management.
- Increased operational efficiency, optimized distribution, and early issue detection techniques have many advantages.
- Integrating real-time data into reservoir management can enable adaptive decision-making amid climate change and demand fluctuations.
- Transformative leap is possible through a digital twin model, unifying data for comprehensive water infrastructure and enhancing operational efficiency.

Supported by Ministry of Jal Shakti and Ministry of Housing and Urban Affairs and NITI Aayog, CII Water Innovation Summit 2023 witnessed a gathering of more than 400 delegates from Central and State Governments, Industry comprising of users; technology and solution poviders, environment and climate change officials, Bi-Lateral / Multilateral Agencies etc.

The Summit also witnessed the distribution of Water Neutrality (ASPIRE SCOPE 1) Certificates to companies/facilities which have successfully completed Scope 1 (Aspiring) Water Neutrality/ Positivity requirements as per recent National Guidelines issued by NITI Aayog.

In summary, Day One of the 9th CII Water Innovation Summit provided a comprehensive exploration of key issues, innovative solutions, and collaborative efforts in sustainable water management, reflecting a commitment to addressing global challenges and achieving water security.



Proceedings Day Two (13 December 2023)

Good Practices in Water Management - Within & Beyond the Fence were highlighted by select participating companies of CII National Awards for Excellence in Water Management 2023.

Insights on Efficient Effluent Management

Dr. B. Sengupta, Member of Jury & Former Member Secretary, Central Pollution Control Board in the session on "Good Practices in Water Management - Within the Fence" shed light on the importance of Multiple Effect Evaporation (MEE) reagents, such as sodium chloride or potassium chloride, in achieving efficient effluent management. The emphasis on addressing COD and TDS challenges through integrated MEE reagents showcased a dual strategy for water conservation and responsible effluent control practices.

Holistic Perspective Beyond Industry Boundaries

Prof A.K. Keshari, Member of Jury & Professor Department of Civil Engineering Indian Institute of Technology, (IIT) Delhi in the session "Good Practices in Water Management - Beyond the Fence," highlighted the crucial importance of assessing the impact of initiatives beyond industry boundaries. The discussion emphasized the lasting effects on livelihoods, catchment landscapes, and environmental protection. The call for enduring responsible practices even after industry involvement showcased a commitment to sustainability.

Celebrating Excellence in Water Management

Dr V.K. Saraswat, Member, NITI Aayog, Government of India, mentioned that it is crucial to address the challenges posed by water scarcity, particularly considering India's freshwater reserves and its responsibility to sustain a significant portion of the global population. Speaking at the Water Awards Ceremony, he mentioned that the CII National Award for Excellence in Water Management can play an instrumental role in sharing of knowledge and good practices recognizing efforts of industry towards sustainable water management.

The distribution of the CII National Awards for Excellence in Water Management 2023 recognized the proactive measures taken by the Indian industry to enhance water use efficiency. Dr Saraswat acknowledged industry's commitment to



3R principles (Reuse, Recycle, and Reduce). He also mentioned about NITI Aayog's focus on precision agriculture as a means for innovative and sustainable water management in the sector.

Commendation for Contributions and Guidance

Mr Dhruv Sawhney, Past President CII & Chairman and Managing Director, Triveni Group expressed encouragement for the improvement in the quality of submissions and congratulated all involved in raising the standard. Contributions of Water Awards eminent Jury members in recognising good water management practices and initiatives was acknowledged. Mr Sawhney also extended deep gratitude to Dr. Anil Kakodkar, Chief of Jury, CII National Water Awards for his instrumental role in overseeing the evaluation process and adjudging winners.



Overall, the 9th CII Water Innovation Summit showcased a convergence of expertise, commitment to sustainability, and recognition of exemplary contributions in water management. The day's discussions and recognitions underscored the industry's dedication to addressing water challenges through innovation and responsible practices.

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Confederation of Indian Industry

The Confederation of Indian Industry (CII) works to create and sustain an environment conducive to the development of India, partnering Industry, Government and civil society, through advisory and consultative processes.

For more than 125 years, CII has been engaged in shaping India's development journey and works proactively on transforming Indian Industry's engagement in national development. CII charts change by working closely with Government on policy issues, interfacing with thought leaders, and enhancing efficiency, competitiveness and business opportunities for industry through a range of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues.

As India strategizes for the next 25 years to India@100, Indian industry must scale the competitiveness ladder to drive growth. It must also internalize the tenets of sustainability and climate action and accelerate its globalisation journey for leadership in a changing world. The role played by Indian industry will be central to the country's progress and success as a nation. CII, with the Theme for 2023-24 as 'Towards a Competitive and Sustainable India@100: Growth, Livelihood, Globalisation, Building Trust' has prioritized 6 action themes that will catalyze the journey of the country towards the vision of India@100.

With 65 offices, including 10 Centres of Excellence, in India, and 8 overseas offices in Australia, Egypt, Germany, Indonesia, Singapore, UAE, UK, and USA, as well as institutional partnerships with 350 counterpart organizations in 133 countries, CII serves as a reference point for Indian industry and the international business community.

