

International Water Summit on “Water Security in India - Challenges & Prospects”

(24th February 2023)

A one-day **International Water Summit** on the theme of **Water Security in India - Challenges & Prospects** was organized by MRIIRS on 24th February 2023, in collaboration with Central Ground Water Board, Govt. of India. Water research experts from all over India connected together through the summit to discuss the water security issues in India and of the world and to spread awareness about the importance of sustainable water management in present days scenario.

In the inaugural session Sh. N C Wadhwa, IAS, DG MREI highlighted the work being done by CAWTM, MRIIRS under different projects. Sh. Shashi Shekhar, former secretary MoJS covered all relevant and contentious issues related to water resourced its management and governance in India. Being co chair of the drafting committee of National Water Policy, he informed the audience the various thoughts and action plans incorporated there, Ms Keshani Anand Arora, chairperson, HWRA highlighted the importance of sustainable water management in present days scenario. She detailed the activities taken up by HWRA in the state of Haryana particularly in the demand and management side interventions.

Discussion and Key takeaways

- Technology solution providers often sub optimal solutions based on their own range of expertise
- More holistic solutions are required involving community would be better.
- Emphasis on how to involve various stakeholders and the community so that the visionary government policies are developed. The necessary way forwards are End user education for better information and implementation of newer technologies.
- Water contamination, particularly geogenic contamination of groundwater is a real threat. Arsenic contamination is widespread, particularly across the Indo-Ganga-Brahmaputra Plains.
- In India, drinking groundwater arsenic contributes to ~ 1/200 of cardiovascular disease mortality ~ 10,000 people per annum (for CVD) and VSL annual costs of ~ USD 1 billion to 3 billion

- Selection of “best” remediation approaches should not only be only technology based but also co-designed with user communities and overseen by an independent inspectorate.
- Water security is an important issue. The seminar greatly enriched the common understanding of water security issues in India and of the world.
- Crop diversification aligning to water availability of an area is an important issue and essential for sustainable water management. Rice is grown in areas where there is tremendous overexploitation. On the other hand Sugercane is grown in draught
- The water trade particularly the virtual water issues was given a particular focus in the context of rice and wheat. Huge volume of virtual water is being exported from some of the most water deficit areas like Punjab and Haryana. This is happening through the rice and wheat export from those areas to other states and countries.
- It answered some of the most pertinent questions related to sustainable water management and its aligned issues creating an interlinked web to step forward in a wise and judicial approach to reduce the escalating water crisis.
- Huge volume of waste water is being generated from the urban areas of India. Waste water is an important source of water for secondary uses. It is important to look into their cheap and effective treatment so that they can be reuse to lessen the burden on fresh water withdrawal.
- All steps to promote smart irrigation, laser levelling of land and wise agronomic practices and cropping calender to enhance the irrigation efficiency. The Atal Bhujal Joyona is putting lot of emphasis on those.
- Special attention to be given on the widening gap of IPC-IPU. That needs to be urgently bridged to add millions of hectares to irrigated area through a series of reforms
- National Aquifer Management programme is creating lot of detailed understanding on aquifer geometry, Aquifer hydraulics, resource availability and groundwater flow regime. The findings needs to be disseminated to the stake holders.

- Water Quality to be given due importance. Both for surface and groundwater. The State Govt Depts to be strengthened. Teams of multidisciplinary professionals are needed to implement the water quality agenda
- Wetlands are an important component of global water regime and essential for biodiversity. The wetlands are under pressure. The Mapping and Geo-coding of wetlands particularly the Local Water Bodies and their rejuvenation are to be given top priority.
- The flow of the rivers during the non-monsoon months are declining significantly. Maintenance of the E-flow is essential. It needs a holistic approach to manage the surface and groundwater regime in the basin. River Rejuvenation in 10 river basins on priority
- River Regulation Zones, to facilitate both river rejuvenation and flood management, needs to be notified
- Mechanism should be developed for Co-operative Federalism in Water Governance. As there are wide stake holders and the States play a big role in its management.
- The states are forming Water Resources Regulatory Bodies. Some of the states like in Haryana, Maharastra is doing exemplary work. It should be formed in all states vested with proper power.
- Community orientation on water resources issues. This is important particularly for groundwater management. It is a distributed resource and millions of users depends for their lively hood.
- Indian industry is currently excessively dependent on fresh water and tends to dump its untreated waste into rivers and groundwater. Despite some progress in effluent treatment, there is still a heavy load of untreated effluents discharged into streams and rivers.
- Need to reduce the water footprint of Indian industry, which is bringing industry into conflict with other stakeholders and society.
- Thermal power plants take up the highest proportion of industrial water used in India. The country lost about 14 terawatt-hours of thermal power due to water shortages in 2016, cancelling out more than 20 per cent of growth in total electricity generation from 2015. During 2013-16, water scarcity forced at least one shutdown for 14 of the

20 largest thermal power plants, which lost more than Rs.10,000 crore in potential revenue.

- 90 per cent of thermal power plants use freshwater in their cooling towers. It has been estimated that by converting all thermal power plants from once-through open-loop to closed-cycle cooling systems using recycled water, about 65,000 million litres per day of fresh water can be saved.
- Comprehensive water audits must constitute a recurring feature of industrial activity. All companies must include details of their water footprint in their annual report, as also the steps they are undertaking to improve their production processes to reduce water demand, thereby leading to decrease in effluent generation and increased industrial value added per unit of water consumed.
- OCEMS (Online Continuous Effluent Monitoring Systems) should mandatorily be installed in all water polluting industries in order to ensure rigorous monitoring. Comprehensive rainwater harvesting systems and management of industrial catchment areas would help make water use in industry more sustainable.
- Groundwater extraction continues to be governed by 19th century Indian Easement Act. It gives landowners the right to take all water below their own land, legally sanctifies unlimited volumes of abstraction. It adversely impact water levels in neighbouring wells. The of 1882 needs urgent revision to bring it line with the realities of 21st century India and renewed understanding of groundwater.
- India needs a National Water Framework Law to provide an umbrella statement of general principles governing the exercise of legislative and/or executive (or devolved) powers by the Centre, the States and the local governance institutions. The law may incorporate major legal pronouncements by the Supreme Court in this regard.



Manav Rachna Center for Advance Water Technology and Management,
Manav Rachna International Institute of Research and Studied Campus, Faridabad, Haryana.

Cordially Invites you to attend the one day

International Water Summit 2023 **“Water Security in India: Challenges & Prospects”**

On 24th February 2023

at Seminar Hall, B-Block, MRIIRS Campus, Sector-43, Surajkund Road, Faridabad

Co-Organizer Central Ground Water Board, Govt. of India

University Partner-Gurugram University

Supported by

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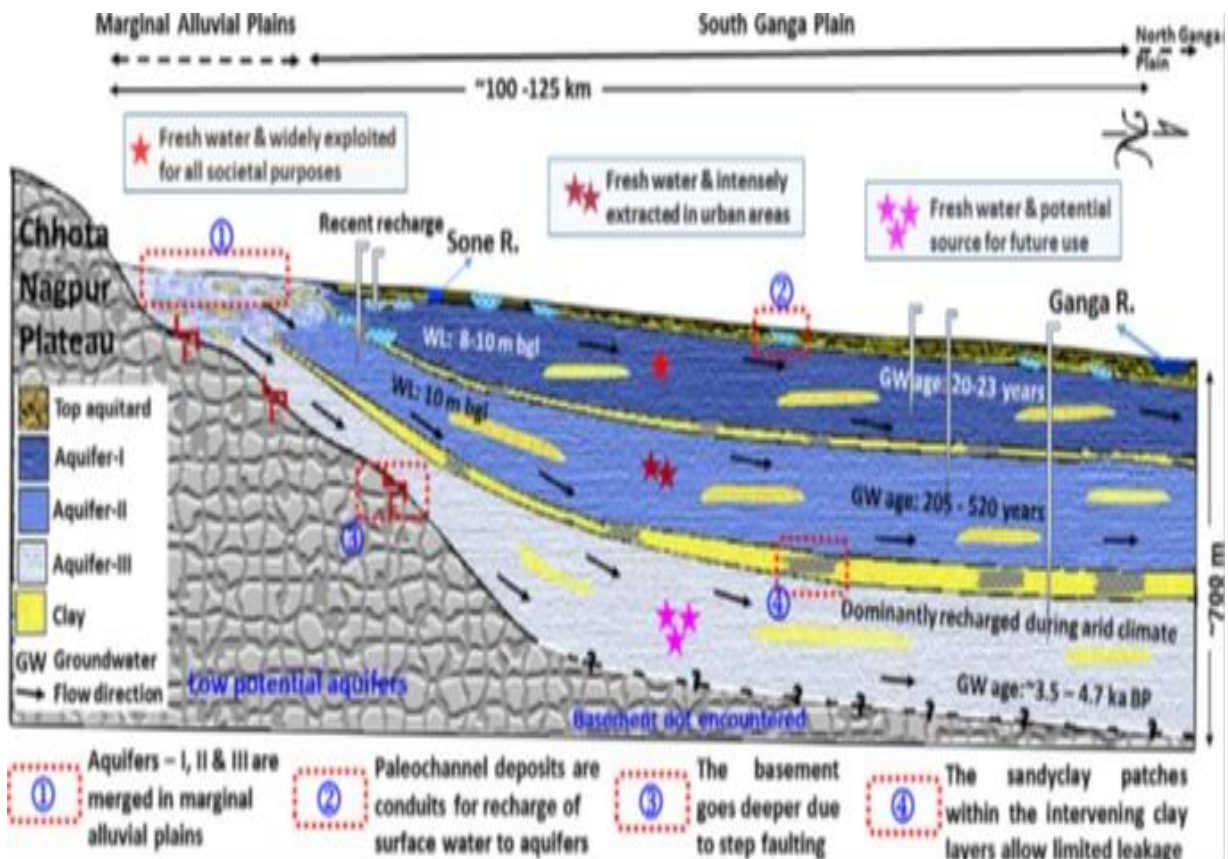
Knowledge Partners: HWRA, ICID, BARC, NIH

Program

9.00 AM – 10.00 AM	Registration
10.00 AM – 11.00 AM	Inaugural Session-Panel Discussions
11.00 AM – 11.20 AM	Tea Break
11.20 AM – 12.30 PM	Technical Session 1: Water demand and supply- widening gap
12.30 PM – 13.30 PM	Technical Session 2: Regulatory measures on water sector- how effective they are?
13.30 PM – 14.15 PM	Networking Lunch and Poster session
14.15 PM – 15.15 PM	Technical Session 3: Water and food security –the linkage and challenges ahead
15.15 PM – 15.30 PM	Tea Break
15.30 PM – 16.15 PM	Technical Session 4: Rising contamination of water- the way out
16.15 PM – 17.00 PM	Concluding Session

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Fluorescent dye injection links sinkholes to springs

