

"Water Circularly and innovations for Water Security" to celebrate **World Water Day, on March 21, 2022**

## Groundwater: making the invisible visible

Pre-Event of :12<sup>th</sup> IconSWM-CE & IPLA Global Forum 2022, Nov 30- Dec 3, 2022 at SVU, Tirupati

**Organised by : The International Society of Waste Management, Air and Water (ISWMAW)**  
in association with the

**United Nations Centre for Regional Development (UNCRD), Japan**  
**Sri Venkateswara University (SVU), Tirupati, India**

**Centre for Sustainable Development and Resource Efficiency Management, Jadavpur University, India**  
**The International Partnership for Expanding Waste Management Services of Local Authorities (IPLA)**

### Introduction

In 1992, the year of the UN Conference on Environment and Development in Rio de Janeiro, the UN General Assembly adopted a resolution : 22 March of each year was declared World Day for Water, from 1993. Observances of the World Water Day (WWD), the International Year of Cooperation in the Water Sphere 2013, and the current International Decade for Action on Water for Sustainable Development, 2018-2028 serve to reaffirm that water & sanitation measures are key to poverty reduction, economic growth, and environmental sustainability. WWD raises awareness of the 2.2 billion people living without access to safe water. It is about taking action to tackle the global water crisis, focuses on the importance of freshwater supporting the achievement of Sustainable Development Goal 6: water and sanitation for all by 2030. Beside SDG-6, groundwater directly contributes to poverty eradication (Goal 1), food security (Goal 2), gender equality (Goal 5), sustainability of cities and human settlement (Goal 11), combating climate change (Goal 13) & protecting terrestrial ecosystems (Goal 15).

Groundwater is a major natural replenishable resource to meet the water requirement for irrigation, domestic and industrial needs. It's a vital resource that provides almost half of all drinking water worldwide, about 40% of water for irrigated agriculture and about 1/3 of water required for industry. It sustains ecosystems, maintains the baseflow of rivers and prevents land subsidence and seawater intrusion. Groundwater is an important part of climate change adaptation process and is often a solution for people without access to safe water. Despite these impressive facts and figures, invisible groundwater is out of sight and out of mind for most people. Human activities (including population- and economic growth) and climate variability are rapidly increasing the pressure on groundwater resources: serious depletion and pollution problems are reported for many parts of the world. A World Water Day on groundwater would put a spotlight on this invisible resource, enhance knowledge exchange and collaboration and thereby increase the awareness of the importance of taking care of our groundwater.



Almost all of the liquid freshwater in the world is groundwater. About 40 % of all the water used for irrigation comes from aquifers. Asia and the Pacific region have the lowest per capita water availability in the world, with groundwater use in the region predicted to increase 30 % by 2050. Life would not be possible without groundwater. Most arid areas of the world depend entirely on groundwater. Groundwater supplies a large proportion of the water we use for drinking, sanitation, food production and industrial processes. Water consumption and circularity of used waters play important roles in water security. It is also critically important to the healthy functioning of ecosystems, such as wetlands and rivers. We must protect them from overexploitation – abstracting more water than is recharged by rain and snow - and the pollution that currently haunts them, since it can lead to the depletion of this resource, extra-costs of processing it, and sometimes even preventing its use. Exploring, protecting and sustainably using groundwater will be central to surviving and adapting to climate change and meeting the needs of a growing population.

The National level report on "Dynamic Ground Water Resources of India", reported that the Annual Replenishable Ground Water Resource for the entire country is 433 billion cubic metre (bcm), Net Annual Ground Water Availability is estimated as 399 billion cubic metre whereas the Annual ground water draft for

irrigation, Domestic & Industrial was 231 billion cubic metre and their Stage of Ground Water Development for the Country as a whole is 58%.

The Indian Sub-Continent (ISC), comprises six countries: Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka, is one of the most densely populated regions of the world, hosting ~23% of the global population within only ~3% of the world's land area. It encompasses some of the world's largest fluvial systems in the world (River Brahmaputra, Ganges and Indus Basins), which hosts some of the highest yielding aquifers in the world. The distribution of usable groundwater in the region varies considerably and the continued availability of safe water from many of these aquifers (e.g. Bengal Basin) is constrained by the presence of natural contaminants. Further, the trans-boundary nature of the aquifers in the Indian Sub-Continent makes groundwater sensitive issue, particularly since this region is the largest user of groundwater resources in the world. Indeed, there is considerable concern regarding dwindling well yield and declining groundwater levels, even for the highly productive aquifers. Though irrigation already accounts for >85% of the total groundwater extraction of the region, there is a mounting pressure on aquifers for food security of the region which prompts to think for Water-energy-food nexus. Highly variable precipitation, hydrogeological conditions and predicted, impending climate change effects provide substantial challenges to groundwater management. The observed presence of natural groundwater contaminants together with the growing demand for irrigated food production and predicted climate change further complicate the development of strategies for using groundwater resources sustainably.

## The event

The International Society of Waste Management, Air and Water (ISWMAW) in association with the UNCRD, Sri Venkateswara University (SVU), Centre for Sustainable Dev. and Resource Efficiency Management, Jadavpur University and IPLA will organise the program, **"Water Circularly and innovations for Water Security"** to celebrate **World Water Day 2022**. This event aims to bring innovators, researchers, industry, policy makers with disruptive solutions and city leaders to advance Amrut 2.0 and SDG 6. Experts from different countries will share their experience and thoughts on related issues.

**Date and Time: 16.30pm to 18.40 pm (IST) (+5.30 UTC) online on 21st March 2022.**

**Please register thru Registration link:** <https://forms.gle/E53nr5fWGJHuqPms6>

**Joining Link:** <https://jadavpuruniversity.webex.com/jadavpuruniversity/j.php?MTID=m082658f746f24ab887aab83bc83b1c24>

## The Program Schedule (Time in, Indian Standard Time)

16.25	Dr. Sutripta and Dr. Kaniska Sarkar will introduce the session
16.30	Welcome Speech: Prof. Sadhan K. Ghosh, President, ISWMAW & Moderator of the event
16.40	Inaugural Speech by Prof K. Hemchandra Reddy, Chairman, APSCHE, Guntur, India
16.50	Speech by Prof. C. Viswanathan, Professor, Asian Institute of Technology, Thailand
17.00	Speech by Dr. P. K. Mahapatra, Odisha Water Supply and Sewerage Board, India
17.10	Speech by Prof. David Olukanni, Professor, Civil Engineering, Covenant University, Nigeria
17.20	Speech by Prof. Anurag Mudgal, PDP University, Ahmadabad, India
17.30	Speech by Dr. Cristina Yacoub López, LEITAT Technological Center, Barcelona, Spain
17.40	Speech by Prof. S. Babel, Asian Institute of Technology, Thailand (TBC)
17.50	Speech by Dr. K. Ahamad, Tezpur University, Assam, India
16.00	Prof. Tapas K. Das, Professor, Saint Martin's University, Lacey, Washington, USA
18.10	QA and Discussion
18.25	Concluding Remarks by Mr. CRC Mohanty, UNCRD, Japan

**For Contact :**

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