

For the first time  
school children from  
Sri Lanka showcase  
innovative  
rainwater harvesting  
systems

Full story below

On the 22nd of March across several countries there were number of events held to commemorate World Water Day. Children from several schools in Sri Lanka were gathered at the Harishchandra Maha Vidyalaya, Anuradhapura on the 22nd of March to showcase their innovative designs of rainwater harvesting systems for their schools. The 13 finalist schools from Mannar, Multhivu, and Anuradhapura and Badulla displayed their model designs at the exhibition held as part of the World Water Day celebration organized by the Lanka Rainwater Harvesting Forum.

The innovative models proposed were rainwater harvesting systems for schools, with filtration systems for domestic purposes and agriculture. The students engaged in developing models have also given thought to the utilization of the water harvested. The students have linked rainwater harvesting with entrepreneurial activities specific to the region such as the cultivation of ornamental flowers such as roses in Badulla which has a cooler climate and freshwater fisheries, greenhouse cultivation such as strawberry and mushroom cultivation, etc. A group of students who joined the model competition from Mannar had suggested sharing the excess water with the communities for drinking and cooking purposes as the available wells and groundwater are saline. A group of students from Mulathivu district had proposed using rainwater harvesting for animal husbandry. Most of the students had proposed recharging the ground water with the overflow from the tanks. The finalist from Badulla district Kuda Kusum Balika Vidyalaya featured a collection tank and water distribution system that did not require electricity to pump water as the collection point is at a higher elevation.



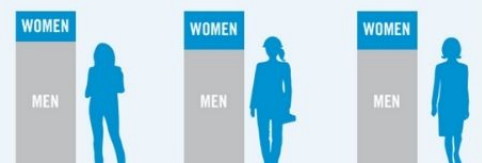
Again on the 08th of  
March we were reminded  
that  
"Women are an untapped  
pool of talent for the  
water sector".

## AVERAGE SHARE OF WOMEN IN A UTILITY

**18%**  
of all utility  
workers  
are women.

**23%**  
of engineers  
are women.

**23%**  
of managers  
are women.



If water is a thought, & a  
topic for every day we don't  
need a World Water Day.





## **Can Space technology enhance the efficiency and effectiveness of Rainwater harvesting:**

**by Dr Khalid Mahmood**



Floods and droughts are two common ways that disaster impacts are manifested. Rainwater management is incredibly important, to foster resilience and nourish sustainable communities. Effective rainwater management includes capturing and storing water for irrigation, groundwater recharge, and even household use, and a reduction of the strain on our existing water supplies and promotion of sustainable use of water resources.

In most of the developing world, the role of this management is limited to collecting rooftop water as a majority of people are often not equipped with the use of space technology to see into larger perspectives, manage plans over bigger areas, and use satellite data needed to make bigger plans. They need to be supported to have a better understanding of spatial patterns and connections, informed decision-making, and developing sustainable water management strategies.

Satellites can help monitor rainfall patterns, provide valuable data for predicting and managing water resources, measure soil moisture levels, and monitor water bodies such as rivers, lakes, and reservoirs. With this information, water resource managers can assess the availability and distribution of rainfall, identify areas prone to flooding or drought, and make informed decisions about water allocation and management strategies. Additionally, space technologies enable the development of advanced weather forecasting models that improve rainfall predictions, vital for planning and implementing effective rainwater harvesting, suitable areas for water storage, as well as efficient utilization of rainwater by assessing the needs of groundwater recharge using GRACE satellite and map green spaces, impervious surfaces, as well as water bodies by satellite-based indices.

Furthermore, GIS by providing insights into the spatial relationship between land use, impervious surfaces, and drainage networks helps in addressing urban flooding by identifying areas with poor drainage systems or inadequate stormwater management and helps improve urban planning and infrastructure development to reduce the impact of heavy rainfall on cities.

It's time for Space4Water community to open its wings to allied water working groups like IRHA, SARNET, and other rainwater harvesting promotional communities, helping them in water sustainability by providing space technology support or helping them establish their geospatial wings. Space4water community can enhance efficiency of the groups engaged in the promotion of rainwater harvesting community and hence water sustainability by providing space technology support or helping them establish their geospatial wings.



Webinar 13 of SARNET concluded 28th of November discussed water budgeting and activities implemented in the Kerala State. The speakers were Dr. Manoj Samuel, Executive Director, Dr. Vivek, B., from land and water management research group and retired senior scientist Dr. C.M. Sushanth from the Centre for Water Resources Development and Management (CWRDM) of Kozhikode in India.

## Kerala will be the first state to initiate water budgeting

In Kerala state, there are 1000 self-governing departments the Grama Panchayat that has an average of around 500 to 1000 hectares. In these areas, the water supply and demand were calculated so that in future years there will be a base document that will explain how much water is available and how to allocate, and judiciously distribute water. All watershed activities, animal husbandry, fisheries, and industries are connected to these water budgeting activities. In future years this will be connected to carbon sequestration, how much water can be used, and will be converted to carbon credits. The water budgeting was conducted by communities themselves engaged in water budgeting with the consultation of scientists. Kerala will be the first state to complete water budgeting out of all states in India as part of its Green Kerala Mission.

–Courtesy: Dr. Manoj Samuel, Executive Director, CWRDM, Kozhikode, India, Water budgeting and rainwater harvesting, Webinar 13, SARNET



If you missed the webinar watch it on SARNET YouTube:  
<https://youtu.be/xgsTylc4H8k>





No one prefers extreme temperatures rising or dropping. But did you know that extreme heat can impact our mental health? The effects of extreme heat on the body and mind can certainly contribute to a range of mental health challenges. Numerous studies have been conducted on this subject. Recent research highlights the link between increasing temperatures and mental health issues. According to research findings, higher temperatures lead to elevated levels of stress, anxiety, and cognitive difficulties, which disproportionately affect vulnerable populations (Thilakaratna, 2024).

## Why should there be more research on climate change and its toll on mental health?

An article in a November 2023 paper titled 'High temperatures on mental health: recognizing the association and the need for proactive strategies – a perspective,' by Moustaq Karim Khan Rony and Hasnat M. Alamgir from Bangladesh explains the heat stress and its effects on mental wellbeing. This study explains that chronic heat stress can contribute to increased stress, anxiety, and cognitive issues, especially for vulnerable groups such as very young, older adults, and people with pre-existing mental health conditions.

The researchers also highlighted how socioeconomic factors can worsen vulnerability, emphasizing the need for tailored strategies to address mental health challenges during periods of high temperatures. Moreover, pre-existing mental illnesses can cause adverse reactions to climate-related stressors, leading to increased sensitivity to heat waves and impeded behavioral adaptation. Several other research have also found an increase in aggressive behaviors with extreme temperatures. In a Time magazine article in 2023 an associate clinical professor at the University of California San Francisco and also the president of the Climate Psychiatry Alliance, urged for a shift in perspective, viewing climate change as a mental health crisis that demands attention from healthcare providers and investing in further research.

Scientists have acknowledged that heat has an impact on brain function but the precise mechanisms are not completely understood. Disrupted sleep patterns and altered neurotransmitter and hormone function are some of the interconnected factors contributing to mental health challenges in high-temperature environments. A study published in the journal Nature Climate Change in 2018 highlighted a troubling association between higher temperatures and increased suicide rates in the United States and Mexico. The research demonstrated a consistent rise in suicide rates with each 1-degree Celsius increase in monthly average temperature, highlighting the urgent need for proactive measures to address mental health challenges worsened by climate change.

It is time that collective action is taken to integrate research on the impacts on mental health due to climate change along with mitigation and adaptation efforts. Raising awareness about the correlation between increasing temperatures and mental health is crucial to encourage understanding and support within communities. Educating people about the potential mental health consequences of climate change and providing resources for coping strategies can empower individuals to take proactive measures to safeguard their well-being.

-Courtesy: Can heat drive us mad? Kusumanjalee Thilakarathna, The Morning, 28th February 2024.



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# Announcements

## Call for submissions for the publication in stories of change in rainwater and development

This publication aims to keep policymakers, development practitioners, and donors informed to have increased investments and policy changes to promote rainwater harvesting. This publication will share evidence of the immense contribution made through rainwater harvesting practices to societies, economies, and the environment as a climate adaptation strategy in South Asia.

The publication will feature stories of change under the following broader thematic areas:

- Achieving safe water and sanitation at the household level
- Effective and efficient water use for industries and businesses.
- Mitigation measures against climate-induced disasters and disaster risk reduction
- Addressing environmental challenges arising in rapid urbanization in South Asia
- Mitigating health challenges arising from water
- Innovative architectural designs that incorporate functional rainwater harvesting systems

## GIS course for beginners

This GIS course will equip the participants with the fundamental skills and knowledge needed to excel in their role as water professionals. Among some of the course the content are introduction to GIS, GIS data types, coordinate systems and map projections, GIS software. The course is spread over month and is due to start on the 09th of May 2024 for the first batch.

## Readers corner question

What are the 3 main ways that water can trigger a conflict? could rainwater harvesting resolve and mitigate such conflicts?

Email your answers to: [lrwhf.regionalcoordinator@gmail.com](mailto:lrwhf.regionalcoordinator@gmail.com) along with your name, and a profile photo to be featured in the next issues of the SARNET newsletter and on the SARNET Twitter page