SCHOOL OF WATER AND WASTE
AAETI

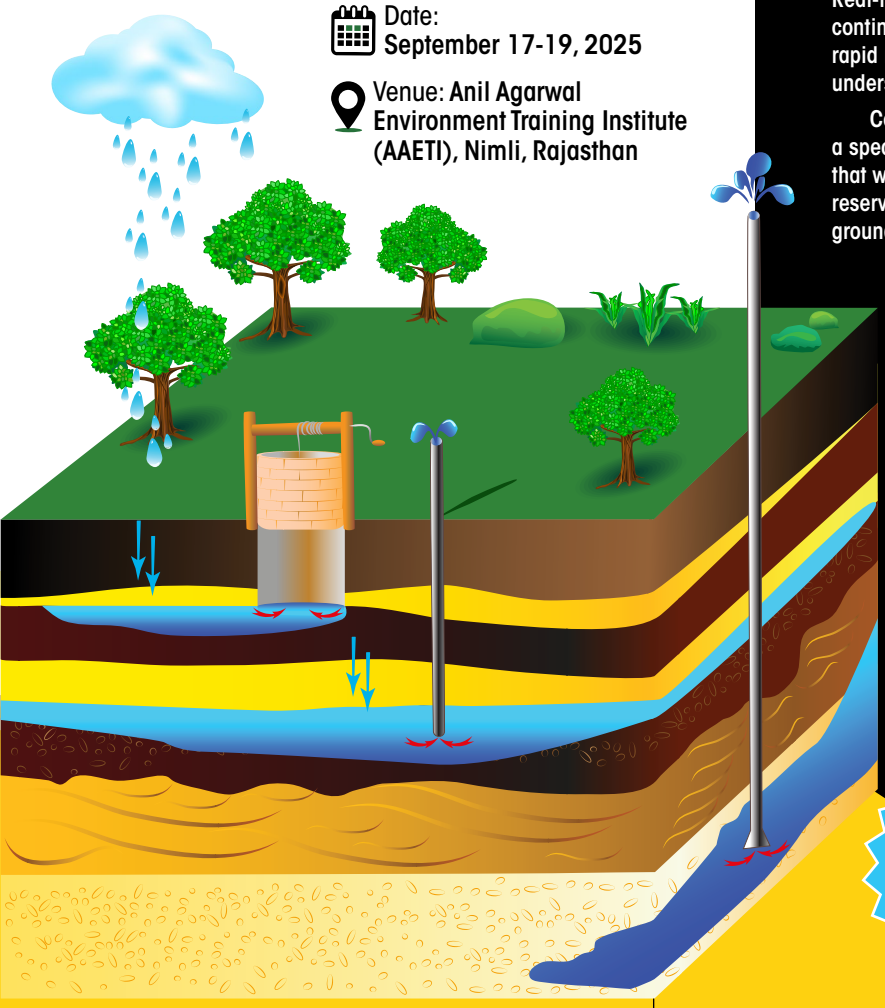
RESIDENTIAL TRAINING PROGRAMME

USING AI, GIS AND REMOTE SENSING

FOR MAPPING POTENTIAL GROUNDWATER RECHARGE ZONES IN URBAN INDIA

Date:
September 17-19, 2025

Venue: **Anil Agarwal Environment Training Institute (AAETI), Nimli, Rajasthan**



INDIA is extracting groundwater at phenomenal speed and scale. Natural recharge of groundwater is becoming almost impossible in urban areas due to loss of green areas and waterbodies – the potential recharge zones in cities. Added to this is lesser number of rainy days and variability in annual rainfall due to climate change. Hence, mapping aquifers for pinpointing groundwater reserves and potential recharge areas has become critical.

Data on groundwater storage, quality and movement is often difficult to monitor due to diverse geological formations, soil types, aquifer structure and limited access to areas having difficult terrain or facing conflicts. Today, the use of advanced tools like Remote Sensing and Geographic Information Systems (GIS) offers several advantages over traditional techniques. Satellite-based monitoring for the mapping of aquifers marks a significant advancement, as such modern techniques have high resolutions, optimal spatial and temporal coverage for modelling and monitoring the groundwater reserve and quality.
Real-time monitoring facilitated by AI algorithms allows for continuous assessment of groundwater quality, enabling rapid response to contamination risks. AI helps in precise understanding of the groundwater behaviour in the aquifers.

Centre for Science and Environment (CSE) is launching a specialized three-day residential training programme that will focus on using advanced tools to estimate the reserve, movement, recharge options and monitoring of groundwater.

TRAINING FEES

Rs 30,000 (single occupancy accommodation) | **Rs 28,000** (double occupancy accommodation)

LAST DATE FOR RECEIVING COMPLETED APPLICATIONS: **SEPTEMBER 8, 2025**

EARLY BIRD DISCOUNT AVAILABLE TILL **AUGUST 31, 2025**

Training fees includes accommodation, food, training material, field visit and travel from CSE's main office at Tughlakabad Institutional Area to the training centre and back.

Early bird entries can avail a discount of 10 per cent. (T&C apply)

COURSE HIGHLIGHTS

- Extent and distribution of aquifers in India
- Urbanisation and its impact on aquifers
- Acquisition and processing of groundwater data
- Principles of QGIS, Google Earth Pro and GPS
- Remote sensing and GIS applications in aquifer mapping
- Coordinate systems, map scales and projections
- Soil and Water Assessment Tool (SWAT) for hydrological modelling and estimating surface runoff and groundwater recharge
- AI models for sustainable groundwater management
- Real-time examples on use of advanced satellite-based systems for estimating groundwater behaviour
- Field visit for collection and interpretation of data for hydrogeological modelling

WHAT DO YOU GET AFTER COMPLETING THE PROGRAMME

1. Completion certificate
2. E-alerts for CSE events, webinars, trainings and workshops
3. CSE's e-bulletins
4. Entry into network CSE's training alumni under the School of Water and Waste
5. Priority access to CSE's publications on water (T&C apply)

TRAINING FACULTY

Pradeep Kumar Mishra
Deputy Programme Manager, Water, CSE

Swati Bhatia
Deputy Programme Manager, Water, CSE

Vivek Kumar Sah
Training Coordinator, Programme Officer, Water, CSE

SOME IMPORTANT POINTS

- CSE will arrange the travel from CSE's main office in Delhi to the training centre (AAETI) in Rajasthan and back.
- Participants need to arrive at CSE's main office in Delhi on **September 16, 2025** by **12 noon.** Anyone who arrives late might get left behind and will have to arrange her/his own transport to reach AAETI.
- Before finalising their travel plans, participants should get in touch with the training coordinator.

TRAINING COORDINATOR

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