

Harnessing Digitalization and Space Technology for Water Security and Resilience in Asia and the Pacific



Supporting local water managers in developing and implementing **digitalization solutions** to foster resilience and improved water security.

Examples of ADB's recent initiatives:

- Cluster Technical Assistance on Mainstreaming Water Resilience in Asia and the Pacific,
- Supporting emerging solution providers and e-Marketplaces,
- Partnerships with private and public entities, such as JAXA and ESA.



Earth Observation for Improving Water Security and Resilience



Challenges and Opportunities for Earth Observation in Water Sector

Disaster risk management

Disasters impact, post-disaster recovery, coastal erosion management, weather and flood forecasting, cyclone detection and tracking

Areas inundated with water

Flood frequency flood maps
Identification of water bodies
Intertidal zone
Reservoir levels
Parametric insurance
Emergency assistance

Fluctuation in groundwater levels

Groundwater abstraction/recharge
Groundwater flooding, leak detection

Crop productivity and water efficiency

NDVI, NDWI, evaporation, soil moisture, vegetation cover and planning for NbS
Water accounting and productivity

Pollution of water bodies

Pollutant plumes

Dam, dikes deformation

Emergency response

Snow and glacial melting

Snow melting detection, glacial protection models

Geodata

Topography and bathymetry

Digitalization for Water Resilience Under Cluster TA

Improving Water Security and Resilience through Digitalization (TA 6854: Subproject 2)

- Bangladesh: Dhaka Water Supply and Sewerage Authority for the proposed Sewerage System Development Project
- Georgia: Ministry of Environmental Protection and Agriculture for the ongoing Sustainable Water Supply and Sanitation Sector Development Program and the proposed Climate Smart Irrigation Sector Development Program
- Mongolia: Smart and Resilient Water Supply and Sewerage Systems for Ulaanbaatar Satellite City Project
- Pakistan: Punjab Irrigation Department for the proposed Greater Thal Canal Irrigation Project
- Sri Lanka: Department of Irrigation for the Integrated Water Productivity Improvement Project
- Other projects on an ad-hoc basis

Digitalization of Water Management for Improved Resilience (TA 6872: Subproject 3)

- Solomon Islands : Ministry of Infrastructure Development
- Nepal : Department of Water Resources and Irrigation





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