

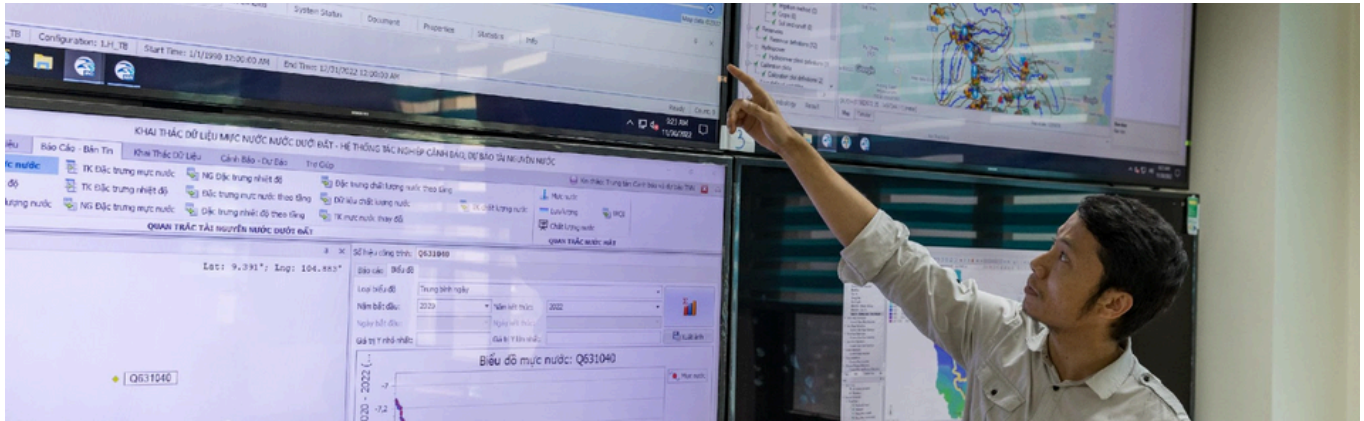


**Technical Assistance:** Localization of water resources management technology to adapt to climate change in Hong-Thai Binh river basin

**Location:** Hong-Thai Binh River Basin

**Solution:** Flow Forecasting System with daily, medium-term and seasonal data

**UNEP CTCN grant:** USD 192,999



A Flow Forecasting System is installed at NAWAPI's Centre for Water Resources Warning and Forecast © UNEP-CTCN

Management of transboundary water resources in the Hong-Thai Binh River basin is crucial due to the challenges posed by climate change. To address this, a project was launched to localize water resources management technology, focusing on improving data availability and accuracy for water resource planning. This initiative involved the identification and customization of advanced technologies to monitor and forecast transboundary water flow into Vietnam, as well as installation, testing and capacity-building.



## Objectives

- The primary objective is to localize and implement water management technologies that enhance the resilience of the Hong-Thai Binh River Basin to climate change, a transboundary river vulnerable to upstream use.
- By improving data accuracy and availability, the project supports better planning and resource allocation, reducing the risks associated with climate variability.



## Social Impact

- The project supported a total of 25 direct beneficiaries.
- Among these direct beneficiaries, 52% were women, and 15% were youth.
- The focus on improved water management practices through this project has led to better resource allocation and reduced vulnerability to climate impacts.



## Adaptation Impact

- **Enhanced Water Security and Climate Resilience:** The project strengthens water security in the Hong-Thai Binh River Basin by providing accurate, real-time data that supports climate-resilient water management. This reduces the vulnerability of the basin's water resources to climate-induced changes, ensuring sustainable water availability for various uses.
- **Increased Capacity for IWRM:** The project contributes to the development of integrated water resources management (IWRM) practices in Vietnam, improving the country's ability to manage its water resources sustainably in the face of climate change.



### Other Co-Benefits

- Improved flood and drought management
- Increased capacity for integrated water resources management



### Innovation & Technology

- **Advanced Hydrological Modeling:** Due to the lack of hydro-meteorological data from upstream ground stations, a Global Hydrological Model was used for runoff simulations. This model is tailored to operate on globally available meteorological data from satellites and numerical weather models. The high resolution allows for the generation of parameters based on physical characteristics of an area. It eases the possibility to calibrate the model.
- **Earth Observation (EO) products:** EO routines were developed to continuously measure the water level and compute the storage of unknown reservoirs upstream.
- **Customization of Technologies:** The operational platform used was extended with a flow routing model using real-time data, allowing for daily, mid-term and seasonal forecasting.



### Replication Potential

- The project can be replicated in other contexts where water management processes can benefit from localization, and from the use of Global Hydrological Models and EO models to assess the state and characteristics of a reservoir .
- More broadly, the project can be a model for enhancing water management practices with data and technology.



### Key Figures

- USD 192,999 project budget
- 6 governmental institutions trained as part of the project
- Flow estimation improved, to be used in the National Water Resources Management Plan
- The project contributed to the following SDGs:

