

# Duong River Flood Protection Feasibility Study

## UNITED NATIONS DEVELOPMENT PROGRAM

### PROJECT SUMMARY

Plagued by seasonal flooding, Vietnam needed to know if expanding and modernizing flood protection measures along the Red River Delta were feasible. Riverside Technology, inc. examined and quantified the feasibility of additional flood protection measures, focusing on the potential of further hydrometeorology and hydrology infrastructure, technology, and training.

LOCATION  
Vietnam

PERIOD  
2000 – 2001

### PROJECT DETAILS

Riverside Technology, inc. (Riverside) participated in this important feasibility study because of its expertise and experience in:

- Water resources
- Flood management
- Hydrometeorology

Riverside first met and consulted with engineers from Vietnam's Department of Dike Management and Flood Control, the Institute of Water Resources Planning, and Ministry of Agriculture and Rural Development. Fieldwork was conducted along the dike systems in the Red River Delta and particularly along the Duong River (a delta distributary).



The Red River Delta

Working with United Nations Development Program (UNDP) staff, project engineers, and economists, Riverside developed the hydrometeorology and hydrology portions of this large feasibility study and assisted in preparing reports on dynamic flood routing and inundation. Riverside also prepared project guidebooks and manuals to enhance in-country knowledge and skill about data collection networks, water resources management, and flood control. The guidebooks focused on:

- Network planning and development
- Program purposes
- Seasonal meteorological considerations
- Tidal influences
- Geography
- Data requirements
- Station density and location

To enhance data collection and decision-making in the upper delta region, procedures and tools were developed for seasonal and short-term streamflow forecasting needs. Working with the Vietnamese, Riverside used the guidebooks and manuals in a demonstration pilot study that assessed the adequacy of the existing data collection network. Using existing data, the project team determined the economic feasibility of dike improvements along the Duong River. Additional flood frequency and risk analyses along the river were conducted for input to the study.

### RELATED PROJECTS

Strengthening Flood Control and Early Warning Capabilities Along the Red River Basin

National Weather Service River Forecast System Training in Vietnam and Uzbekistan

Hydrologic Forecast System for the Huai River Basin

Flood Inundation Mapping for the Río Lempa

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