Overview

JICA’s support for river basin development and management can be largely divided into three periods: 1) development of multipurpose dams with emphasis on hydropower; 2) implementation of comprehensive flood-control and river basin development projects based on master plans during the 1970s to 1990s; and 3) rehabilitation of existing flood-control and water resources facilities and reinforcement of water resources management organizations since 2001.

Indonesia pursued food production increase and rapid development of its electric power sector for industrialization during the 1950s and 1960s. Accordingly, Japan assisted in the development of three representative multipurpose dams. These dams were the Kanarivi Dam and Kub-Kusmi Dam in the Brantas River basin and the Kamo River Basin in South Kalimantan. During the 1970s to 1990s, serious flood damage occurred nearly every year in many major river basins of Indonesia. Japan responded by conducting surveys for comprehensive river basin development that included flood control, hydropower generation, and development of irrigation and domestic, municipal, and industrial water. These surveys resulted in the implementation of projects centered on three river basins (the Brantas River, Solo River, and Jeneberang River). In river basin development, the first step involved formulating a comprehensive master plan. Then, based on this plan, long-term projects were systematically implemented to build multipurpose dams, develop irrigation, generate hydroelectric power, and improve rivers among other activities. As a result, flood damage was significantly reduced in the targeted river basins, and construction of power and irrigation facilities brought industrial development and better livelihoods. Joint work by Indonesian and Japanese technicians through JICA’s cooperation resulted in technical training and the training of Indonesian technicians. This technical transfer took place during the process of providing long-term cooperation, ranging from the formulation of master plans to the implementation of each project.

In the area of flood control, JICA is supporting the reduction of flood damage by providing cooperation for flood prevention in major river basins, Medan, Pajang, Bandung, and Banda Aceh.

Supporting the 2000s, Japanese cooperation began placing priority on rehabilitation of existing flood-control and water resources facilities and strengthening the capabilities of government agencies and users’ organizations concerned with river basin management.

Results

JICA has supported comprehensive river basin development and flood control projects in major regional cities. As a result:

- Comprehensive river basin development along the Brantas River, Solo River, and Jeneberang River significantly reduced flood damage, thereby bringing stability to residents’ lives. It also contributed to regional economic growth, better incomes and livelihoods among residents through hydropower generation projects, supply of domestic and industrial water, and irrigation development.

- Long-term projects were systematically executed based on a process that reached from the formulation of a master plan in each river basin to project implementation, and human resource development took place throughout joint work by Indonesian and Japanese technicians throughout this process.

- Flood-control projects significantly reduced flood damage in targeted regions.

Competitive river basin development on the Brantas River

Projects started with war reparations in 1958. Based on master plans, JICA built multipurpose dams, developed irrigation, constructed hydropower stations, made river improvements, and conducted other activities from the 1960s. Such activities significantly reduced flood damage, and the construction of power and irrigation facilities brought industrial development. At the same time, the projects’ implementation trained many Indonesian technicians.

Disaster Management

Overview

In the disaster management field, JICA has provided cooperation in both prevention and disaster recovery. The format is cooperation aimed at minimizing disaster damage, and the latter is cooperation that assists quick recovery should an unfortunate disaster occur.

Indonesia is one of the world’s most volcanic countries. In particular, Java, which is the political and economic center of Indonesia, has more than 20 active volcanoes. Since ancient times, the peoples of Java have lived alongside and under the influence of volcanoes. Although volcanic eruptions provide fertile soil on the one hand, volcanic mudflows frequently cause major disasters on the other. Consequently, measures against sediment disasters represent an extremely important issue for the preservation of Indonesia’s national territory and the country’s economic development. In the 1970s, Japan constructed emergency volcanic sediment control facilities each time there were fears that Mt. Merapi or Mt. Semeru might erupt. And, with an eye to the long term, it established the Volcanic Sabo Technical Center and trained sediment engineers there. From the 2000s, JICA has been implementing a technical cooperation project to reinforce ability to cope with “Hawaii-landslides” disasters, in which mudflows occur when natural dams form. During the 2000s, Indonesia suffered a succession of disasters, including a major earthquake off the coast of Sumatra and west coast tsunami (December 2004), an earthquake in central Java (May 2006), and an earthquake off the coast of Padang in West Sumatra (September 2009). Japan immediately dispatched emergency relief teams following these disasters and provided financial and technical cooperation for quick post-disaster recovery.

Furthermore, JICA is also working to reinforce Indonesia’s disaster management systems in preparation for future disasters. Since the mid-2000s, JICA has been assisting with the formulation of comprehensive disaster-prevention plans, improvement of early warning systems for tsunami, and reinforcement of administrative functions to improve the seismic resistance of houses.

The Project on Building Administration and Enforcement Capacity Development for Seismic Resilience (2007 to 2011)

This project had its origins in the considerable damage caused by housing collapse during an earthquake in central Java and JICA-provided technical assistance in housing reconstruction. Focusing on areas susceptible to earthquake damage, the project is diffusing information on methods for improving the seismic resistance of houses and supporting the reinforcement of inspection functions within the government.

A model of a Japan Disaster Focus Investment Earthquake Disaster Relief