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Vulnerable social groups

Cirata, Indonesia

10,111 Indonesian families from 32 villages were relocated during the Cirata Project, most being dependent on annual rice crops until construction of the dam provided aquaculture to diversify income sources and increase net income.

Overview

The Cirata Hydro-electric Power Project is located on the Citarum River in West Java, Indonesia, approximately 100km southeast of Jakarta. It was constructed between 1984 and 1988, principally for the purpose of power generation, though the ability to store water for irrigation, flood control and water supply were also recognized goals of the project.

Cirata is a concrete faced rock-fill dam with a height of 125 m, a crest length of 453 m and volume of 3.9 million m³. The power plant has an installed capacity of 1,008 MW, and makes a very significant contribution to peak electricity supply for the city of Jakarta and surrounding areas.

Dam Name

Scheme operator Electric Power Generation, Java Bali Power Co Ltd	Size of scheme (MW) 1008
Country Indonesia	Catchment area 4119km ²
River Citarum River	Effective reservoir capacity 796 x 10 ⁶ m ³
Construction years 1984-88	Reservoir size 62km ²

External recognition

Nil

Details

The creation of a new aquaculture industry to increase net income and diversify paddy farming communities into fish culture was an objective of the resettlement program for communities displaced the Cirata Project. Floating nets were deemed the most productive and cost effective technique for achieving this goal and the right to farm fish on the reservoir was held exclusively for displaced families. Each family was allowed up to 4 adjoining nets of dimension 7m x 7m. A total of 27,000 nets had been installed on the reservoir by 2002, and the average income of families engaged in aquaculture is 3 times that previously earned from rice farming. 108,115 tons of fish were harvested from the lake in 2000.

Secondary industries resulting from the construction of the storage include house construction, tourism, boat construction, plastic recycling and pellet (fish food) factories. Communities in the areas surrounding the reservoir received training opportunities offered through the resettlement program, including carpentry, fisheries, farming and tourist guiding.

Other aspects

Local capacity building

Through the Cirata Project resettlement program, many families were provided with the training and resources required to diversify into aquaculture. In addition, training was provided for individuals interested in pursuing incomes from carpentry, fisheries, farming or tourism. The establishment of secondary industries, such as boat building and fish food production is presumed to have further increased skills and expertise among the local community.

Energy system benefits

The Cirata Hydro-electric Power Plant plays a significant role in meeting peak electricity demand for the major city of Jakarta, and saves the Indonesian economy millions of dollars annually on the purchase of fuel for thermal power stations.

Multiple use benefits

The Cirata Project provides water for irrigation in the northern part of West Java and has increased the volume of rice production in the area. Seasonal fluctuations in water level enable the cultivation of corn and peanuts along the reservoir perimeter below full supply level for a period of about 4 months of each year. The dam also has a flood management function and has enhanced fish production in the area.

Further information

Source: Hydropower Good Practices Workshop, Annex VIII - Examples for Good Practice Report, Villach, Austria, October 2005. International Energy Agency.

Soetomo Siswamidjono (PT PLN): Resettlement of Local Peoples and Transformation of Community Tradition in Relation with the Construction of Large Dams for Saguling and Cirata Hydro Electric Power Plant, West Jav, 2002