

Prospects of Fish Farming in Cages in Karnafuli Reservoir (Bangladesh)

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The Karnafuli Reservoir, popularly known as Kaptai Lake, has immense prospects for aquaculture. The lake with an area of 90,645 hectares, was created in 1961 with the damming of the Karnafuli river near Kaptai for the Karnafuli hydroelectric project in Chittagoing Hill Tracts district. The lake is situated in between 92°-02' and 92°-27' East longitude and 22°-90' and 23°-20' North latitude. It is about 150 air miles east of Dacca City and could be reached by plane via Chittagong City or by land via the national highway and water routes through the Karnafuli River.

From 1961 to 1963, the management of the lake was under the Directorate of Fisheries. Since 1964, it has been managed by the Bangladesh Fisheries Development Corporation which directs the exploitation and management of the lake's resources.

Limnological and biological studies show that the lake is capable of supporting abundant fish resources. This was later confirmed by subsequent ADB Missions in Bangladesh which found dense algal bloom and dense population of zooplankton, indicators of fertility.

Some 800 to 900 small country fishing craft using various types of traditional fishing gears are operating in the lake. The total average catch over a 12-year period is about 24,000 MT or an average of about 25 kg per hectare per year. This production from the Kaptai lake is small in relation to its area. It may be attributed to some technical deficiencies in methods and types of fishing gears employed.

Recently the Government of the People's Republic of Bangladesh has given serious thoughts to maximizing the fishery production in this lake by

adopting methods being used in other developing countries. The hilly topography, uneven bottom, soil texture and the wide differences between maximum and minimum water level (35'), point toward fish farming in floating cages under intensive aquaculture practices as the more appropriate system that may be introduced in the lake.

Using the Japanese method of intensive fish culture, a floating fish cage can produce an average of 20-40 kilograms per square meter. The American method can produce 500 pounds of fish per cubic meter. Recent data on Taal Lake in the Philippines indicate an average production of 12.2 MT per hectare during a six-month culture period.

In view of these considerations, it is expected that fish cages culture would become a booming industry in Kaptai lake. Laguna lake in the Philippines covering an area of about 90,000 hectares and comparatively as large as that of Kaptai lake is a good example in respect of its increased production. As proposed by the Asian Development Bank, the International Agro Fisheries System based in Manila submitted a project on cage culture in Karnafuli Reservoir. The project proposes the culture of major carps in floating cages. The major carps like *C. catla*, *L. rohita*, *C. mrigala*, *L. calbasu* are strongly in demand in Bangladesh. An initial area of 400 hectares of fish cage complex in the lake has been recommended by the ADB Missions. The complex shall consist of 16,000 units; the area of each unit shall be 2,500 square meters. The fish seed requirements of this project shall come from the fish hatchery to be established at Rangamati. The total project cost (as proposed by ADB) is US\$13.786 million including foreign exchange component of US\$7.686 million. The project is under consideration by the Government.