

Proposal for Improving Water, Sanitation, Health and the Environment of the Kaptai Lake Chittagong Hill Tracts (CHT), Bangladesh

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Background

The Kaptai Lake in the Chittagong Hill Tracts (CHT), created in the early 1960s by damming the Karnaphuli River,¹ is the largest man-made lake in East Asia,² covering an area of approximately 1036 sq km.³ It was created with the assistance of USAid for the purpose of electricity production.

The CHT, in the southeast part of Bangladesh, is the traditional home of 11 indigenous groups collectively known as the Jummas, as well as containing more recent settlements of transmigrated Bengali settlers.

The lake engulfed 40% of the precious plough lands in the CHT, old Rangamati town (the major town of the region), and 17.5% of jum lands and Reserve Forest. It displaced about 60% of the CHT population, mostly Chakma indigenous people. The displacement is known to the Chakmas as the '*bara parang*' meaning the 'great exodus'.

Today, over 60% of the population in the CHT live around the lake. 85% of this population relies on the lake for drinking water and everyday household and small-scale commercial use.

In July 2008, the UNDP reports that the CHT has extremely poor access to safe water sources and an extremely poor health situation due to decades of conflict and inaccessible and remote hilly terrain.⁴

¹ The Karnaphuli Multipurpose Project begun in 1957 and was fully completed by 1963. Shapan Adnan, 2004, Migration Land Alienation and Ethnic Conflict: Causes of Poverty in the Chittagong Hill Tracts of Bangladesh, Research and Advisory services, Dhaka, p.23.

² Indu Lal Chakma and Md Abdul Kahlek, 2005, Parbatya Anchale Matsya Paribahan O Bipanan (Transportation and Marketing of Fish in Hill Tracts Area), pp. 110-112, *Jatiya Matsya Pakha 2005: Haor Baor Plabanbhumi matsya chasher sonar khani*, Matsya Adhidaptar, Matsya O Pashupalan Mantranalai, p. 110.

³ There are also various other estimations given the area of the lake.

⁴ UNDP, 7 July 2008, National Health Management Specialist, Dhaka, Bangladesh, http://jobs.undp.org/cj_view_job.cfm?job_id=5326. The UNDP states, '[health] situations in the

The report highlights that: 70% of the CHT population live without access to a safe water source in comparison with 21% for other rural areas in Bangladesh; over 80% of all reported malaria cases and half of malaria mortality in Bangladesh occur in the CHT; more than 70% of households in the CHT (twice the national average) consume less than the national minimum food requirements; the maternal mortality rate is estimated to be 2 or 3 times higher than the national average which is one of the highest in South Asia; mothers of young children suffers from diarrhoea and night blindness at the rates of 3 to 2 times higher than the figures for rural Bangladesh. The UNDP further estimates that two-thirds of households in the CHT have no, or very limited, access to basic primary health services.

The Kaptai Lake as a Resource

Bangladesh now depends on the lake for electricity⁵, freshwater fish, navigation, flood control, waterways to access remote hills and forests, and agriculture (an automatic irrigation system exists in the agricultural lands around the lake as the water level is maintained at different heights throughout the year⁶). The lake also attracts a significant number of national and a small number of international (restricted) tourists.

The annual catch of fish in the lake meets the local demand plus contributes to supplying major cities, including Dhaka, Chittagong and other districts of Bangladesh. However there has over time been a substantial decrease in the production of fish.⁷ In 1966, 78% total catch were large fish. Up until the 1980s there were still many large

Chittagong Hill Tracts (CHT) require urgent attention, responses and resources. Decades of conflicts, isolated hilly terrain, linguistic diversity, and the lack of capacity for health governance have created health conditions and situations far worse than the national or even rural average in some vital indicators.

⁵ Kaptai Lake generates about US \$30 million worth of electricity. Most of it is supplied outside the CHT. CHT Regional Development Plan, 2000, ADB.

⁶ Although there are allegations that the authority do not follow the 'Rule Curve', often severely damaging agricultural production in the CHT.

⁷ Field reports by a number of organizations including the Bangladesh Fisheries Development Corporation, Freshwater Research Sub-station and Aquatic Research Group (ARG) claim that over-fishing has caused a drastic decrease of carp. Nuruddin Mahmood and M Abdul Hai, *Banglapedia*, Asiatic Society of Bangladesh.

fish in the lake.⁸ But modern fishing equipment and over fishing have decreased the number of large fish, and by 1993 the percentage of large fish had decreased to 2% of the catch.⁹

Nevertheless, the lake remains an important fish source. According to the Bangladesh Fisheries Development Corporation (Bangladesh Matsya Unnayan Corporation) the annual catch of fish in the lake is 6000 to 7000 metric ton.¹⁰ There are 72 species of fish, 35 species being caught for commercial purposes, and two types of shrimp (FRI) are available in the lake.¹¹

Despite the large economic disparity that exists between the powerful fish traders (largely from outside the CHT) and local fishermen, the lake provides livelihood to many locals. In 2005, it was reported that there were 5560 registered fishermen from the CHT who fished in the Kaptai Lake. There were also many fishermen from the 10 other districts of Bangladesh engaged in fishing in the Kaptai Lake. Among the local fishermen 45% are Muslims, 31% Hindus and 24% are local indigenous people.¹²

The lake is a basin of biological diversity with varieties of fish, fauna, aquatic mammals, and many species of local birds, and is an en-route for many migratory birds¹³. There are many varieties of marine and forest species, including a number of endangered aquatic species in the lake (for instance, fresh water pappus (dolphins, *shugar mach* in Chakma language)), reptiles, including turtles in the surrounding mountains, large animals like tigers, bears, rhinos, and many other smaller animals in the forest.

⁸ Indu Lal Chakma, 2007, Parbatya Anchale Mach Chash, pp. 68-70, *Deshiya Prajatir Matsya Sangrakhon O Samprasaran Abhijan 2007: Rakha karle deshi maach pusti pabe baro mash*, Matsya Adhidaptar, Matsya O Pashupalan Mantranalai, p. 68.

⁹ Nuruddin Mahmood and M Abdul Hai.

¹⁰ Indu Lal Chakma, 2005, p. 110. 7000 ton is referred to in Banglapedia.

¹¹ Indu Lal Chakma, 2005, p. 110.

¹² Indu Lal Chakma, 2005, pp. 111-112.

¹³ Migratory birds are now under threat due to commercial trapping used by the settlers around the lake. Information from an UNDP official, 31 July 2008.

Environmental Degradation

As the following data indicate, environmental degradation is increasing dramatically.

- The drinking water supplied by the Public Health Engineering Department in the major town Rangamati contains 10 times more bacteria than the accepted health standard.¹⁴ The Rangamati unit of the National NGO Forum reports that the coliform and faecal coliform are as high as 800 and 450 per 100 milliliters of water in the lake surrounding the Rangamati town, while it should be zero in potable water.¹⁵
- There is a discharge of 5 tons of untreated human excrement daily into the lake, as well as dumping of garbage. There are no guidelines from the municipality or other relevant organization on hygienic sanitation.
- Fertilizers and pesticides used in the low-land agriculture around the lake are polluting the water.
- Oil/ diesel discharges and spills from all sorts of boats directly in the lake
- Waste is discharged into the lake from the Chadraghona paper mill and Chadraghona rayon mill.
- Massive deforestation around the lake and increasing pressure of human settlement is causing soil erosion and the lake is silting alarmingly. Because of this, each year the amount of electricity produced decreases (Bangladesh is already in short of power) further exacerbating the Bangladesh's fragile economy.
- The introduction of non-indigenous varieties of fish is causing damage to local fish and fauna.
- There is a general lack of information and lack of public health awareness among the inhabitants.

¹⁴ Banglapedia.

¹⁵ The Daily Star, 11 March 2007, Mindless Waste Dumping killing the Kaptai Lake.

Aims and Objectives:

- To raise the living standard of the people around the lake by ensuring safe drinking water and hygienic sanitation (in line with the UN Year of Water and Sanitation, the MDG, the Second Decades of the Indigenous Population and aid themes of AusAID: Environment, Water and sanitation, and others)
- To improve Health through education by raising awareness about public health and hygiene.
- To reduce the poverty of the people around the lake by ensuring sustainable fishing, agriculture, horticulture and equitable trading practices (in line with the UN Year of Water and Sanitation, the MDG, the Second Decades of the Indigenous Population and aid themes of AusAID: Environment, Food security, Human Rights)
- To bring about reconciliation between the indigenous and non-indigenous inhabitants in the CHT.
- To enlist the Kaptai Lake into the Ramsar Convention on Wetlands as a Ramsar Site of International Importance in the immediate future, and to later extend this listing to include the natural Boga Lake in the higher altitudes of the CHT (its environment is currently threatened by many forms of exploitation by outsiders, including the threat of dislocation of the local indigenous Bawm community to build military and tourism facilities). Bangladesh is a signatory to the Ramsar Convention on Wetlands and became a contracting Party on 21 September 1992.
- To establish an Institute of Environment in the CHT (as it is the major district in Bangladesh which is still rich in forest, water resources and biodiversity) to monitor the local environment, as well as global climate change (it has the advantage of being geographically centred in the region, as it is surrounded by northern Burma, the eastern Indian states of Tripura and Mizoram and the shore line of the Bay of Bengal).

Methods:

- Create environmental Monitoring of the Kaptai Lake involving legitimate local and national NGOs, local, and regional bodies, Australian environmental institutions/ universities.
- Use the environmental expertise developed through the CHT AusAid scholars who have gained, or are currently gaining, degrees in environmental studies, tourism (and other related disciplines) for water and sanitation, forest and land management, eco-tourism etc.
- Create local 'Indigenous Environmental Leaders' by providing the opportunity and the support for indigenous environmental activists/ scholars to gain in-depth knowledge of the existing environment in and surrounding the lake, as well as knowledge on national, regional environment policies and ratified UN conventions in order to devise practical and workable methods, rules and policies to restore the Kaptai Lake environment.
- Install an integrated system of management of the lake and its surrounding lands, forests and settlements. Develop environmental awareness by involving the users, the locals, the local and regional bodies, government organizations, non-govt organizations, volunteers etc. Management of the Reserve and Protected Forests in the CHT could follow the Australian model of shared management responsibility between the appropriate governmental departments and the indigenous peoples (acknowledgement of indigenous knowledge is in line with the CBD)
- Ensure significant local indigenous participation at every level of the decision making process.