

THE KAMCHAY HYDROELECTRIC DAM



*A brief paper on Kamchay Hydroelectric Dam
From The NGO Forum on Cambodia*

*By Sam Chanthy
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Key messages

- If this dam is built, it is going to be the first biggest dam in Cambodia. It is also the first dam being built in the national park where it enriches in natural and cultural resources.
- 2000 hectares of forest land will be cleared and great loss of biodiversity and cultural values is extreme and non-recoverable.
- Social and Economic Cost would be an extreme.
- Water supply would be affected as the main source is going to be polluted and the widened.
- Agriculture would be disadvantageous as the water flow may not be regulated regularly and as a result, Stalination would increase, dropping down the yield of agriculture.
- Standardized ESIA is not conducted, and only IESIA is done but not really participatory.
- The inter-ministerial committee is only in the paper and the real practice is often absent.



INTRODUCTION

Development is seen to be a tool for prosperous society and the welfare of human being. Dams are the most preferable option for energy alternative and development. For economic and social benefits, dams are very crucial and beneficial. They provide the positive impacts, and also lots of negative damages are reported. Natural resources and the livelihoods of the local people are the most vulnerable and fragile. Forests and other biological resources would be threatened. This paper would entail briefly about the history of Kamchay Dam, the approval process, and the positive and negative impacts of the proposed dam in Kamchay River.

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The Approval of Kamchay Dam

International bidding for Kamchay Dam was held between June 2004 to January 2005 with at least 17 companies from Cambodia, Korea, Japan, and China. Finally, Sinohydro Corporation was awarded and contract with Ministry of Industry, Mines and Energy (MIME) on April 27th, 2005.

A further agreement between China, Sinohydro and Cambodia's MIME was signed on 4th July 2005 to consolidate the deal by Chinese Premier Wen Jiabao and Cambodia's Prime Minister Hun Sen.

On 23rd February 2006, MIME and Minister of Finance signed the Build-Operate-Transfer (BOT). The Kamchay Dam is financed as part of a US\$600 million aid package to Cambodia that was announced by the Chinese Government in April 2006.

Cambodia's Government would compensate Sinohydro if the project underperforms, and agreement was signed on July 26th 2006.

Importance of Kamchay River and the National Park

Physical Characteristics

Area: 140,000 ha

Altitude: 1079 m

Soil: Lithosol and acidic

Climate: November - May: Dry and hot

May - October: Rainy season -
1813 mm

Temperature: Max. 37C Min 14.7C

Wind speed: January - June average 9.4 - 10
m/s for 75% of the year.

Biological diversity

- 38 rare plant species
- 47 Non-timber forest products
- 249 bird species
- 29 mammal species
- 9 critically endangered worldwide
- 11 frog species
- 9 reptile species

Forest types

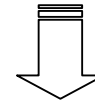
- Deciduous forest
- Semi-deciduous forest
- Evergreen forest
- Semi-evergreen forest
- Dwarf mountainous evergreen forest (800m)

Pressures on Bokor National Park

- Military training school to the north
- Oil palm plantation to the west
- Land encroachment for fruit tree plantations in the south
- Illegal logging and hunting in the south
- Previously controlled by ex-Khmer Rouge in the east
- Large-scale logging 1998-1999 using heavy equipment for Long Day Concession Company (cancelled 2000)
- Yellow Liana refinery



Previous Path before construction (October 2006)



Current Renovated Road During Construction (April 2007)

Positive Impacts of Kamchay Dam

1. Cambodia will exist the greatest hydroelectric dam (193 MGW) and produce energy 488 GWh which equal to the energy had been produced in 2004. This hydroelectric dam will retain sustainable electricity supply for industries, households, public station and economic development to help reducing poverty both in project locality and a whole Cambodia.
2. This project would employ Cambodia around 800 during the construction and some other during operation. Local people will be prior selected to work in the project; and it is the opportunity to improve their live hood.
3. Kamchay hydroelectric dam could help controlling flooding in the area, especially during early raining season. If the project releases water regularly at the second dam 5m³ per second, It will help

reducing Stalinization at Tek Chhou; and this large reservoir will become a qualified condition for aquatic biodiversity in Prek Kompongbay.

4. The project develops infrastructures like road, bridge, reservoirs, garden and resorts which motivate high price of land in the area, especially industrial sites. The infrastructures from the project also attract nation and international tourism to visit Tek Chhou, Bokor national park and the reservoirs.
5. The project will pay tax directly to the government comply with the agreement between company and the government. The tax include tax on fuel-diesels importation, tax on profit, and other tax during operational term.

Negative Impacts of Kamchay Dam

1. The project is situated in Monivong National Park “Bokor”, which is protected by the nation and recognized by Royal decree in 1993. The National Park has many verities of natural resources tremendously, which demands to preserve highly. This hydropower project will greatly affect natural resources; in particular, 2000 hectares of forest land will be severely affected.
2. Affect to the protected zone of Mortpeam (torrentially-rainy zone), subordinate protected areas and special zone for bio-diversity protection in Bok Kor National Park. The salty of wetland and Mortpeam-forest claimed above will slightly evaporate.
3. This hydropower project will produce negative impact to all activities of tourism in Teouk Chhou waterfall. As a result, a number of tourists will be drastically decreased. Therefore, there will be much loss of small business to the people their business mainly depends on the tourism sector, of particular in this recreation resort and other places in Teouk Chhou areas, including tremendous reduction of income in tourism sector for Kampot provincial government.
4. The project has never been studied by EIA thoroughly. It only studied primary impact on social and environmental issues. The results of the study have never been so far recognized, whilst the process of the project implementation is underway straightforwardly. It is contradictory to the process of study by EIA as enshrined in the Royal decree and guidelines on the evaluation of environmental issues.
5. This hydropower project affects sanctuary of wildlife greatly because of deforestation, annoyance of sound, hunting, encroachment into and their peripheral of the project (which is a conservative forest zone and sanctuary of wildlife in Bokor National Park) of employers, workers that are implementing and maintain the project or outsiders. This will cause a great loss of endangered species which is conserved by the National Park Institution. On the other hand, the hydropower project will all greatly affect 37 aquatics, of particular an aquatic species, which are being severely endangered, popularly Asian bony tongue (*Osteoglossidae*), popularly called Chpoart, 39 varieties of mammal wildlife, 68 varieties of birds, and other crawling/creeping animals will be greatly lost.
6. The hydropower project will affect tradition, culture, religious belief, and the custom of local people, because the company brings workers from outside (expatriates) to this area. Also, the construction of the dam will affect sacrificial places, such as holy forest, guardian spirit places, dwelling places in the regions, such as Balang spirit’s dwelling place, Kamchay spirit’s dwelling place, Kraham Ka spirit’s dwelling place, and Konphnom Spirit’s dwelling place. The value of loss is greatly sky-high and cannot be calculated.
7. Also, this hydropower affects land use, and land title of people in Teok Chhou area. On the right side of the river, there

are 19 plantations, and therefore, 50 hectares of direct land are affected. While on the left side of the river, which is located in Moatpeam village, 13 plantations are affected by the construction of in and outgoing road.

8. This hydropower will affect the occupation of people that make their living in the development project area, such as sale business in Teouk Chhou, bamboo cutting, rattan, fire wood, and other sub-product explorers, for the company close the road, and forbid them to make business as before when the process of the project implementation is conducted. Unintentional resettlement or relocation of 15-30 families is in the second basin.
9. Great loss of precious ecology caused by farm flooding, forest, wildlife sanctuary, annoyance of fish to lay eggs, giving birth and obstacle to the movement of fish (Forest enunciated, including other wildlife sanctuary in the first basin). Decrease or water-products in the down stream of basin by the slowing of the water current, maximum flooding, and transformation of quality of water.
10. Increase of incidence of aquatic diseases or aquatic-related diseases (in the first basin) by spoiled plants, shelters, which, therefore, subsequently produce mosquitoes, snails, and some other evil insects). Source: SAWAC IESIA Report 2006.

OUR CONCLUSION

- The dam construction does not fully abide by the international standards or WCD guidelines as the public participation and hearing are not properly included in the processes of EIA, and the whole information of this dam is not fully disseminated to the relevant stakeholders, especially the local communities and authorities.
- We found out that the final EIA does not cover the large scale of impacts and

the geographical of the future damages. The study only included the impacts from the railway up to the top of the mountain where there are less affected communities if compared to those living in Kampot town where the EIA does not detail.

- The awareness of the dam impacts are not informed to the local communities, and in stead to our experience local people are convinced and persuaded to see the benefits of the low-priced electricity that is not sure to be guaranteed or authorized in the future after the dam is finished.
- Some of government department lines hesitated to view their negative stands of this project as we researchers realized the political pressures from the ruling party. Thus, as observed and quested, some seemed to be delighted and looking forward to implement this project as it is the first prioritized energy development plan for this 3rd political term.
- We are really concerned about the losses of the livelihood alternatives for the local communities. After the construction, people are not allowed to go and traditionally make uses the natural resources which they have done so far. Most the poor local people downstream in Mak Prang commune are mainly generating their incomes from these resources upstream. For those who used to rely on the service providing for local and international tourists will find hard to survive as the e-flow of this stream [Tek Chhou] will be changed and limited unavoidably.
- We are worried about the clearance of the natural forest land where there is rich of biodiversities and other potential conservative areas within the national park—Bokor recognized by the Royal Decree in 1993. More precise species will be lost and removed unsatisfactorily which this cannot be covered in a couple of years.

- We are also interested in the resettlement of the downstream communities. Are there any plans to safely relocate the future affected people? Where and what is the conditions of the planned resettlement area?
- What about the compensation policy of the project? Does the project compensate properly and fairly the damages of the losses? How will they apply this policy for everyone?

RECOMMENDATION FOR ACTIONS

- Documentation of the present situation of the socio-economical and environmental aspects should be done to compile and document before the upcoming negative changes after the dam construction.
- Provincial Monitoring Committee should be more active and well-structured and managed to ensure its functioning of monitoring the project. This committee should be open and get LNGOs or IOs involved. Do not act just as their names.
- Dam impact awareness should be promoted, disseminated and shared among the local authorities and

communities in order they have more understanding and select the right thinking for their lives.

- A full ESIA or EIA must be conducted by the independent consultants to ensure the minimized impacts from the project.

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For more information, please contact:

Mr. Sam Chanthy

Environment Program

The NGO Forum on Cambodia

Telephone: (855) 11 931 982/017 560 601

E-mail: chanthy@ngoforum.org.kh



♣ The proposed biggest reservoir for Kamchay Dam

☞ The underneath tunnel, maybe for water detour during the construction