

MUST THE MEKONG DIE? 1996

Recommended Citation

Nantiya Tangwisutijit, "MUST THE MEKONG DIE? 1996", Aprenet, January 01, 1996,
<https://nautilus.org/aprenet/must-the-mekong-die-1996/>

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Must the Mekong die?



The 4,200-kilometre Mekong River is the life-blood of Southeast Asia. Fed by melting snow on the Tibetan Himalayas and by monsoon rain, the river nourishes millions of lives from Southern China, Burma, Laos, Thailand, Cambodia to the delta in Vietnam.

Today only a small percentage of the Mekong flow is regulated by dams. But the pace of hydropower development in the region is accelerating. Cascades of 30 dams have been proposed on the mainstream with another 200 sites identified on tributaries.

An example of how people, fisheries and riverine ecosystems may be affected can be seen at the newly-completed Pak Mool Dam on the Mekong's largest tributary in Thailand. **Nantiya Tangwisutijit** reports.

Image: Illegal fishing near a crane sanctuary, Tram Nong, Vietnam. © Peter Charlseworth

At 66, Suthep Promyothin is very proud of being dubbed "the water butterfly of the Mool River". It is the name village folk give him for his swift expertise in his fishing boat. He knows the water, rocks

and rapids where fish seek shelter.

Suthep started travelling up and down Thailand's major rivers when he was a boy of 15. He finally settled along the Mool River in the Northeast because of the abundance of fish and the economic opportunity it has offered him. "But I fish with morality, never catch more than I need," he says.

If the Mekong is a royal river in terms of biological diversity, the Mool, which literally means "primary heritage", is close to the throne. Over 800 km long, it has been well fed by the mother Mekong for time unknown. Or so it used to be.

Everything has changed since 1992 when the Electricity Generating Authority of Thailand (EGAT) started blasting and re-routing the water channel for construction of the 136-megawatt Pak Mool Hydro-electric Dam at the mouth of the Mool River, about seven kilometres before it flows into the Mekong. Today, even at the peak of fishing time from May to July, the Mool is no longer full of migratory fish from the Mekong.

"Fish are wise and sensitive creatures," says Suthep. "The dynamite not only killed them, and destroyed their shelter and feeding areas, but its toxins also kept fish from the Mekong from migrating to feed and spawn into the Mool."

Local fishermen believe most of the fish travel seasonally between Southeast Asia's largest freshwater lake of Tonle Sap in the heart of Cambodia, the spectacular Khone Falls in southern Laos and the Mool River in Thailand. The route is also occasionally used by river dolphins.

When the World Bank-funded dam completely blocked the river in 1994, over 5,000 fishing families in three districts lost nearly all of their food and income sources. Their earnings dropped more than ten-fold, from about US\$4,000 to only \$350-400 a year.

First designed during 1970s by American engineers as one in the Mekong dam series, the Pak Mool project was scaled down to be a run-of-river type, which, engineers say, is more environmentally friendly than the original plan. But in the face of criticism that a 17-metre structure is still a high dam, EGAT installed a fish ladder to help migratory fish cross the dam.

Fisherfolk's immediate response when learning about the ladder was: "How can fish climb a ladder?" Then they joked: "Thai fish don't jump." The dramatic decline of wildcapture fisheries from the Mool River during the past few years showed that the villagers' observation was right.

"A few small fish and fingerlings are occasionally seen jumping over the steps," noted a villager living near the dam site. "But those big ones cannot make it. Some fish crushed their heads when they smashed into the concrete. I am sorry for them. I don't feel like catching fish anymore."

Fish ladders are a device widely built for dams on North American rivers to help salmon cross when the fish migrate from the sea to spawn in the rivers. But ichthyologists agree with the villagers that the technology, designed for a few temperate fishes, does not work in tropical rivers with diversified fish such as those found in the Mool and the Mekong, where up to a thousand species exist.

From a two-decade study of fish in the Mekong ecosystem, Dr Tyson Roberts, from the Smithsonian Tropical Research Institute, warns: "important migratory fish species are going to disappear from the Mool River because of the Pak Mool Dam."

People's struggle

As I am write this story in April, 1996, over 3,000 fishermen and women who have lost their

livelihoods from the Pak Mool Dam are still sitting in weeks-long protest in front of the Government House in Bangkok. Despite the lack of shelter, tropical downpours and lack of proper food, they vow not to give up until their demands for fair compensation for the loss of fisheries are met.

The protest is actually part of the villagers' continuing struggles from 1991 to save the free-flowing river and its biodiversity that supports them. It includes demonstrations by over 2,000 families who fought to keep their homes and farmlands. Unfortunately, instead of applying energy-saving measures, the Thai government looks to the Mekong as a future source of cheap power to feed industrial demand which grows by 1,200 megawatts each year. And that means more dams, reviving ideas which go back over 40 years.

Green light

Plans to generate 23,300 megawatts from the mainstream Mekong during 1950s by the Mekong Committee, a UN-founded organization to co-ordinate the Mekong development by Thailand, Laos, Cambodia and Vietnam, never materialized due to decades of political and social upheaval.

The new era for the Mekong hydropower dawned in 1992 with the signing of a peace agreement in Cambodia and the lifting of US- led embargoes on aid and investment. As recommended by its Norwegian energy consultant, Norconsult International, the Asian Development Bank (ADB) has identified 54 hydropower projects as high potential for economic development of the six riparian Mekong countries (including China and Burma).



Image: Fish ladder at Pak Mool Dam. © Peter Charlesworth

One of the projects, on the Mekong tributaries in Laos, was for a 210-megawatt dam at Nam Theun Hinboun. But construction of the upper dam, Nam Theun 2, has not begun due to controversies surrounded the project. The proposed dam would inundate a large area of primary forest in Nakai Plateau, a habitat of 17 internationally endangered species including the black gibbon, clouded leopard, sun bear, tiger, elephant, gaur and the Vu Quang ox, a species newly identified in 1992.

Nevertheless, Laos remains at centre stage of hydropower development. On the advice of the World Bank, the Lao government hopes to raise US\$25 billion in foreign capital for investment in up to 58 dams on Mekong tributaries over the next 15 years. Both the World Bank and ADB see Thailand as a major market for most of the power to be generated in Laos.

Mainstream dams

Meanwhile, the plan for grandiose mainstream dams from the 1950s was dusted off in 1994 when the Mekong Secretariat, the technical arm of the Mekong Committee, released a report which proposed a cascade of 13 run-of-river dams along the 2,400-km lower stretch of the basin from Chinese border to the delta in Vietnam.



Image: Catching the remaining small fish near Pak Mool Dam. © Peter Charlesworth

With funding from UNDP and the French Government, consultants from Canada and France carried out the studies based on previous large storage dam projects of the committee. The stated purpose of the report was "to determine to what extent viable hydroelectric power developments might be considered on the Lower Mekong River if the scale of development is deliberately constrained to avoid or to minimize impacts."

Of the 13 projects listed in the report, nine sites with a total capacity of 14,000 megawatts were selected by the consultants as "showing the greatest promise". Five projects are in Laos, two in Cambodia and the last two on the Thai-Lao border.

Soon after the report was released, Dr Phil Williams, president of the Berkeley-based International Rivers Network, a group advocating "wise management of freshwater resources", criticized it in his technical review: "No assessment of cumulative ecological and hydrological impacts is included in the study. The impacts of this plan, with its numerous large-scale projects will certainly not remain isolated and independent."



Image: Rice paddy in the Mekong Delta. © Peter Charlesworth

Lessons from the Pak Mool Dam in Thailand suggest that certain impacts on the environment and fisheries would be repeated on the Mekong. The dam structures would block migratory species from travelling up and down stream as well as between mainstream and tributaries (even with fish ladders). Wetlands or seasonal flooded forests would be forever inundated, destroying fish spawning and nursing habitats.

The nine dam projects would inundate an estimated 1,900 square kilometres of land and displace 65,000 people. Despite being "run-of-river" designs (with outflow generally equalling inflow), most of these dams would create extensive reservoir pools in low flow season. In some cases, back water areas would extend upstream to the next dam project.

Ichthyologist Roberts notes: "Impacts of two or more projects are likely to be multiplicative rather than mere additive. If several projects are built, the combined negative impact on fisheries and other environmental features could be as great or greater than that of a high dam with an enormous reservoir."



Image: Pak Mool Dam. © Peter Charlesworth

Downstream politics

On the surface, hydropower development in the region seems to have a promising future with the re-emergence last year of the Mekong River Commission (MRC), which replaced the Mekong Committee. The mandate of the new commission is to ensure co-operative water use throughout the Mekong River.

However, the spirit of 'co-operation' has not been much in evidence so far. While UNDP-led donor organizations would like to see the upper basin countries, China and Burma, included in the commission, Thailand does not wish to lose its status of "big brother" to China. Being the richest

nation among the four, Thailand dominates decision in the MRC.

Laos, Cambodia and Vietnam do not trust Thailand's plan to divert water from the Mekong to irrigate its drought-stricken Northeast. At the same time, they also look at the cascade of 15 hydropower projects on the Mekong stretch in China with "caution".

Being unable to express its concerns officially, Vietnam turns to the press, explaining that as the last country in the basin, Vietnam worries that the projects upstream would ruin its "rice bowl" and the lives of over a million farmers in the Mekong Delta.

As Thailand is Laos' major, if not sole, market for its hydropower, Vientiane has not openly expressed concern over Thailand's diversion scheme, although the project is seen as a threat to Laos' plan to develop its navigation potential in the Mekong.

In Cambodia, the biggest concerns is the ecological degradation of the Great Lake, which is the country's major fisheries resources. Five per cent of Cambodia's income is from the fish export industry and over 60 per cent of inland fish for local use and for export comes from the Great Lake.

The Ministry of Environment in Phnom Penh is worried that the regulation of the Mekong floods would lead to a reduction in water as well as biodiversity supply to the lake.

Although the Mekong supports the lives of so many people, those people have never been allowed to participate in voicing how they would like to see their river developed. The Mekong is in the hands of a few people in governments and dam building industries.

"Take away too much hydropower and a river will die," Roberts remarks. "What is left that is 'run-o-river' only looks like a river because it still flows within the old channel or what used to be a river."

Nantiya Tangwisutijit covers social and environmental issues for the Bangkok-based English language daily, *The Nation*.

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