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THE MEKONG IN PERIL

Concerns mount as decision on first dam project nears



Development, or Destruction?

STAKES ARE HIGH AS DECISION ON FIRST MEKONG DAM DRAWS CLOSER



REUTERS
A Cambodian boy pulls in his catch on the Mekong River.

THE CLOCK IS TICKING for the Mekong River and the tens of millions of people in the region who depend on it

In about two months, Cambodia, Laos, Thailand and Vietnam are to make a decision of epic proportions: whether to preserve the free-flowing Lower Mekong, one of the world's most productive river systems, or to go ahead with the first of 11 hydropower dams that could help power the region but would devastate the Mekong and change its basin forever.

In October, the Lao government notified the Mekong River Commission of its plan to build the 1,260-megawatt Xayaburi dam on the Mekong, starting an official MRC decision-making process that is to conclude on April 22.

The 1995 Mekong Agreement requires MRC governments to jointly review and agree on any project that affects the mainstream Mekong, while consulting the region's public and other concerned groups about such projects.

The 32-meter-high dam in the mountainous and remote province Xayaburi in northern Laos would cost approximately \$3.5 billion and take eight years to build, according to environmental group International Rivers, which said the project was driven by Thai businesses interests.

"It's a Thai company that will build it. Its four Thai banks that will finance it and 95 percent of the energy goes to Thailand," Ame Trandem, Mekong coordinator for International Rivers, said in an interview last week.

From the start, the MRC process for the Xayaburi project has been surrounded by controversy, as the proposal was submitted to the MRC three weeks before the anticipated release of the MRC's Strategic Environmental Impact Assessment.

This comprehensive 18-month study researched the cumulative impact of 11 planned dams on the Lower Mekong. It concluded that



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mainstream Mekong projects should be deferred for at least 10 years, advice that was not taken up by the MRC governments. "The MRC knew the SEA was coming out with a strong recommendation of deferring all projects for 10 years. So the government of Laos just wanted to quickly initiate it" Ms Trandem said.

The surprise submission of the first proposal for a Mekong dam immediately raised concerns. Save The Mekong, a coalition of regional NGOs that includes two Cambodian groups, called on the MRC in October, and again on Jan 23, to halt the decision-making process, saying it lacked public accountability and transparency.

THE MEKONG FISHERIES' HYDROPOWER THREAT

ERIC BARAN, senior scientist at the World Fish Center, who authored the fisheries chapter of the MRC's SEA study, outlined its main findings in a recent interview.

Mr Baran explained how the Mekong River's unique annual flood pulse has given rise to a very productive river system, in which many fish species undertake long-distance migration. According to the MRC, the Lower Mekong Basin has a total fish catch of about 2 million tons—up to a fifth of the world's fresh water fish catch—and is valued at \$2 billion per year.

But this same feature makes the river's fisheries vulnerable to the 11 dams planned on the mainstream Mekong. "Fish migration is more important here than anywhere else in the world because it's the river that varies most in

the world," Mr Baran said, adding that about 35 percent of this total fish catch could be obstructed by dams.

The dams that are built farthest downstream on the Mekong River will have the most devastating impact as they cut off key fish migration routes at the start, Mr Baran said. This makes the two most southern Mekong dams planned in Cambodia the most damaging of all proposed Mekong projects.

By 2015, 45 dams are expected to be operational on Mekong tributaries, rising to 77 dams in 2030, according to the SEA study, resulting in an expected loss of fish catch in the basin of 550,000 tons. If 11 planned Mekong dams are built, losses would increase to an approximate 880,000 tons, the study said, adding that this was "a very conservative estimate."

Mr Baran said, "A decline is expected, but...the [Mekong] dams would radicalize the decline. "If all planned Mekong dams go ahead, you would move...to 81 percent [of the basin] that gets blocked."

Under a scenario of six Mekong dams built upstream of Laos' capital Vientiane, the total loss of fish catch would drop with 600,000 tons in 2030, according to SEA study, the vast majority of which would be lost in Cambodia, Vietnam and Thailand.

Cambodia would stand to lose a whopping 210,000 tons of fish per year, which could spell disaster in a country where, according to government estimates, about 80 percent of people's protein intake comes from fresh water fish. Reservoir fisheries would only replace 10 percent of these losses, the SEA said.

The Xayaburi project also concerned foreign donors and in November the World Bank backed the SEA report and stated that MRC governments should wait 10 years before building Mekong dams. US Secretary of State Hillary Clinton, on a visit to the region, advised that countries take "a pause" before developing the Mekong River.

More recently, on Jan 24, the MRC's foreign donors, which includes the Asian Development Bank, increased pressure on MRC governments, asking for the public release of the Xayaburi project's environmental and social impact assessments and a six-month extension of the April 22 deadline in order to allow for more public consultation.

Nonetheless, the decision-making process has continued, and it remains unclear if the MRC governments are willing to be more open about the decision-making process or change their plans for large-scale hydropower development, which many in these governments deem necessary to develop the region in the 21st century.

This week the MRC conducted the first of two public consultative meetings in Cambodia on the Xayaburi project, at which Kratie communities and six NGOs were supposed to have a chance to voice their concerns.

Sun Mao, director of Kratie-based Cambodian Rural Development Team, said the meeting, however, had only provided general information on the Xayaburi project, without discussing its impacts.

"There was just a presentation about technical work and dam design," he said, adding that instead of inviting potentially affected fishing communities in Kratie, commune and provincial government officials were attending.

"In the [invitation] letter, they say they would invite communities, but I don't see them," he said.

NGO Forum director Chhit Sam Ath said he was concerned about the lack of public project information and the fact that the Cambodian

"No one has received the [Environmental Impact Assessment] of Xayaburi. This is an essential flaw because you need this project information on dams at least 30 days before the consultation starts, according to international best practices."

—AME TRANDEM, MEKONG COORDINATOR FOR INTERNATIONAL RIVERS

communities were kept out of the MRC decision-making process.

Mr Sam Ath said awareness among the Cambodian public about the project was also "very low."

"There is a lack of information-sharing from the Cambodian government to the public on the impact of the Xayaburi dam" he said.

At earlier public consultations in Thailand and Vietnam, participants were disappointed with the lack of information from the MRC, according to Ms Trandem.

"No one has received the [Environmental Impact Assessment] of Xayaburi. This is an essential flaw because you need this project information on dams at least 30 days before the consultation starts, according to international best practices," she said.

During a Jan 14 meeting in Vietnam's Can Tho province, the approximately 30 participants, consisting of officials and scientists, "complained

about a lack of the EIA report" and a "lack of studies on the [dam's impact] on the Vietnamese [Mekong] Delta," Ms Trandem said.

At a consultative meeting on Jan 22 in Chiang Rai province, Thailand, she said: "People there were very angry and said you can't call it a consultation because there was no information on the project"

MRC spokesperson Surasak Glahan said in an e-mail that the consultation meetings provided "information on the Xayaburi project, such as the planning and design information submitted by the developer through the Lao government, some preliminary findings of its review and the results of the Strategic Environmental Assessment"

The MRC did not say if findings of the project's environmental and social impact studies are made available to participants at the consultation

SINCE 2006, interest in hydropower among Dower Mekong countries has "escalated," according to the MRC's SEA report, and governments have now approved 77 dams on the river's tributaries, while investors and developers from China, Malaysia, Thailand and Vietnam were allowed to propose 11 mainstream dams that build on concepts of old projects.

Plans for damming the Mekong River have been around since the 1950s and 1960s but were scuttled by war.

The region's economic growth and fast-increasing demand for power in the past decade have led to a renewed interest in the projects, as they could help countries move away from the still-dominant fossil-fuel-generated electricity.

"Power demand is expected to grow at 6 to 7 percent annually to 2025 as LMB economies diversify and populations grow," the SEA report said.

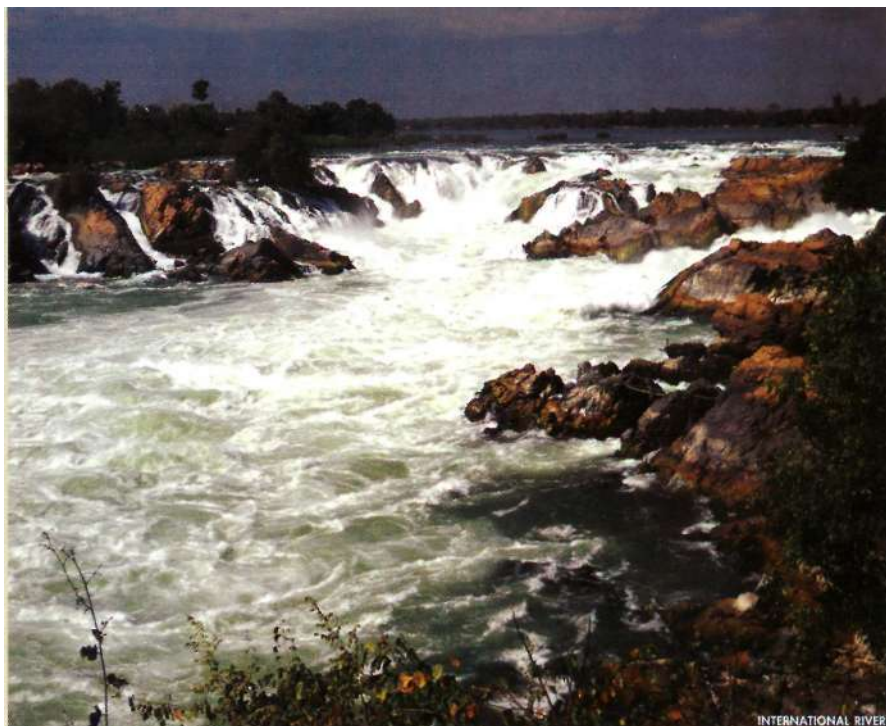
According to the report, the 11 dams would generate about 14,000 megawatts, or 11 percent of the expected increase of regional energy demand between 2015 and 2025. ••

"You could lose 30 percent of your current protein supply," Mr Baran said. "If you lose fish in the Mekong you are left with a big gap because there's no replacement, in particular for Cambodia"

The design and location of 11 planned Mekong dams are based on the old project concepts, first drawn up in the 1950s and 1960s, that are very damaging to the river, according to the SEA, which recommends that MRC countries defer their current plans and consider new dam technology instead.

Mr Baran said that, using new designs, hydropower plants could be built on diversion canals, which utilize only part of the river, leaving the natural stream intact for fish migration and other uses.

"You have these models in most places in the world," he said.



The Don Sahong dam is planned near the Khone Phapheng Falls just above the Cambodian-Laos border and is believed to be the second-most advanced Mekong dam.



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The Manwan dam in China is one the smallest dams of a massive cascade of eight dams the country is currently building on the Mekong. It plans for 11 more dams on the Lower Mekong go ahead, 55 percent of the river would be turned into dam reservoir, according to the SEA.

•• It said 90 percent of the energy generated in the projects would go to Thailand and Vietnam.

China is already completing four dams on the upper Mekong in China—where the river is called the Lancang—including the biggest dam in the world, while another four dams are planned to complete the cascade.

Like Burma, China is not a member of the MRC, and there have been fears in downstream countries that China might hoard water behind its massive dams, after Mekong water levels hit record-low levels last year. Concerns about the permanent changes to the river's annual hydrology patterns also abound.

China has guaranteed full cooperation with downstream countries. But so far it only disclosed dam operation data of its two smallest Mekong dams, according to International Rivers.

Downstream countries have been loath to criticize their giant neighbor. Prime Minister Hun Sen, in fact, came to the defense of China in April, declaring that climate change, and not Chinese dams, were to blame for the drought.

The alteration of the Mekong's hydrology by Chinese dams has further enabled downstream countries to develop hydropower, the SEA report said, noting that, "[T]he resulting changes in seasonal flows...has eased past reluctance to do so in the [Lower Mekong Basin] and made the mainstream projects more economically viable."

Cambodia has plans for two Mekong dams, and Chinese and Vietnamese developers have conducted feasibility studies for the 980-Megawatt Stung Treng Dam in Stung Treng province and the 2,600-megawatt Sambor Dam in Kratie, which together would inundate 950 square kilometers and displace 29,000 people.

Laos, meanwhile, has planned to build nine dams across the Mekong River as part of its pub-

licly stated goal of becoming "the battery of Southeast Asia"

If built, the 11 projects would be of particular importance for Cambodia and Laos, as they would help both impoverished countries build reliable power grids and push down electricity prices, which in Cambodia are among the highest in the region and widely viewed as a hindrance to the economy.

The report said that to reduce power costs, "mainstream projects are most critical for the Cambodian power sector, particularly in the long term when plants are transferred to national authorities" after the construction companies' 25-year lease on the dams end. The effects of the dams on Vietnamese and Thai electricity prices would be negligible, the report added.

However, the SEA outlined a myriad of negative environmental and social impacts that the 11 Mekong dams would bring to the Lower Mekong Basin, in particular through the fact that the projects would devastate the basin's rich fisheries upon which tens of millions of people rely (see box on page 6).

The report said the massive impacts of dams on fisheries could result in fish capture losses of up to a third or more in Cambodia and the region and "would contribute to a growing inequality." In Cambodia alone, the dam would disrupt the livelihoods of 1.6 million fishermen living along the Mekong.

"In the short to medium term, poverty would be made worse by any one of the mainstream projects, especially among the poor in rural and urban riparian areas," the report said, as the region's fishing communities are already among the poorest groups in society.

According to the SEA report, dams would cause "serious and irreversible environmental

damage" and push threatened fish species like the Giant Mekong Catfish into extinction. The projects would also block off up to 75 percent of sediment flow to the Cambodian floodplains and the Mekong Delta in Vietnam. This would stop nutrients from flowing downstream and reduce the stability of riverbanks and the Delta—considered Vietnam's agricultural heart and "rice bowl."

Tarek Ketelsen, a hydrologist with the International Center for Environmental Management and a contributor to the impact assessment report, said that because of this loss of sediment, the Delta would not be replenished, while the sea, expected to rise with climate change, continues to erode the Delta. This situation, he said, would put the Delta "at serious risk"

Due to these far-reaching consequences and the lack of scientific information about them, the report advises MRC governments to defer decisions on the Mekong dams by 10 years.

Eric Baran, a senior scientist at the World Fish Center who worked on the SEA report, said that "countries should use the 10 years they have ahead of them to analyze more, understand more, get better prepared, build their capacity to handle such dramatic and irreversible changes to the Mekong system."

HOWEVER, the governments of Cambodia, Thailand and Vietnam have given no indication about their positions on the project, or if they are considering stopping or extending the MRC decision-making process for the Xayaburi project.

The Cambodian government has so far been quiet on the issue and has only confirmed that it is studying project documents. Officials at the Cambodian National Mekong Committee were not available this week to comment.

Information Minister Khieu Kanharith refer-

THE OPPORTUNITIES AND THE RISKS

A summary of potential effects if the 11 proposed dams are built

CAMBODIA

- Serious adverse consequences for fisheries and fishers, food security and poverty reduction
- Significant benefits from power sector development, and secure and less expensive power for industry and economic diversification in the long term
- Fisheries losses likely to outweigh benefits of power production at least in the short to medium term

LAO PDR

- Likely significant overall economic benefit — this is likely to be unevenly distributed
- Negative impacts on vulnerable communities likely to be significant
- Government expenditure of increased net revenues could help ameliorate negative impact

THAILAND

- Overall economic benefit, although insignificant for national economy
- Economic risks to livelihoods for riparian communities in the basin

VIETNAM

- Likely overall economic loss
- Losses borne predominantly by poorer communities in the Mekong Delta

ADAPTED FROM THE STRATEGIC ENVIRONMENTAL IMPACT ASSESSMENT

standing or knowledge about [...] Mekong Dams."

Boun Inthabandith, first secretary at the Lao Embassy, said the Xayaburi project would be an important "contribution to our economy" but added it was too early to comment on a possible decision by the Lao government on the project "Until now, we don't have a reply from the MRC," he said.

Asked about the many concerns over the project and the dearth of information from the Lao government about its impact Mr Boun said, "The project can be explained and it will be careful about negative impacts. The governments can agree on this."

"Of course, some NGOs and agencies don't agree with the project With the Nam Theun [II dam] that was also like this," he said.

The 1,070-megawatt Nam Theun II dam was built on a Mekong tributary in Laos and came online in December. Environmental groups criticized the dam, but the World Bank hailed it as an example of sustainable hydropower development

It remains unclear how the population of Laos feels about the proposed dam projects, as there are no NGOs active in the country to criticize the project

Martin Stuart-Fox, a professor of history and a Laos expert at the University of Queensland in Australia said that due to the nature of the Lao political system it was difficult to assess how the government would deal with international or possible domestic concerns over the planned dams.

"[T]he Lao government is highly secretive, and because there is no press freedom, all one can do is speculate," he wrote in an e-mail. "Everything is decided by the political elite of the Lao People's Revolutionary Party. There is no public discussion of policy [...]. So there is no pressure for anything from the almost non-existent Lao civil society."

According to Mr Stuart-Fox, the Lao government had probably decided to push ahead with the Xayaburi project now, as "the Lao authorities are dazzled by the potential demonstrated by the Nam Theun II and want to get another major project up and running."

Fishing communities and fisheries NGOs in Cambodia meanwhile, fear the worst if Mekong dams go ahead, and they urged the government to defend their livelihoods and oppose the Xayaburi project

Minh Bunly, Tonle Sap coordinator for the fisheries NGO FACT, said word about the issue was slowly spreading among the approximately 2 million fishermen living on the lake.

"The fishermen in the Tonle Sap are very worried when the dams are constructed because they could change the natural regime of the water and could affect fishery resources," he said. "If the fish is depleted, where could they go to make a living?"

Kin Sok, a 60-year-old fisherman living in Vattanak village in Krafie's Sambor district said information about the Mekong dam issue was scarce in local communities.

"Some fishermen do not understand about the impacts of the dams, but some do," he said. "We think that our livelihoods will be affected, but we could not oppose dam building. But we ask them to consider between the benefits and the impacts on the fishermen."

—ADDITIONAL REPORTING BY VAN ROEUN

red questions to the Ministry of Industry, Mines and Energy, which declined to comment

CPP lawmaker Cheam Yeap said he was 'Very worried' about the proposed project

"I think it will be difficult especially for water uses. We ask or suggest that they open water supply regularly," he said.

But Mr Yeap said that ultimately, Cambodia's influence on upstream development was limited and that his country was at the mercy of other governments. "We could not protest against them because it is their right to construct the dams in their countries.... Who can dare to oppose China or Laos to prevent them from building the dams?"

SRP lawmaker Mu Sochua said the opposition party was "very, very worried about the Mekong dams."

"The studies show there are very clear indications of the impact not only environmental but also on people," she said. "The governments need to listen to the people's concerns."

"There are other ways of addressing this [energy] issue as other countries have shown," Ms Sochua said.

Ms Trandem, of International Rivers, said that in reports she had heard about a Jan 24 meeting of the MRC Council, the MRC governments seemed to take diverging positions on the project "Vietnam came out strongly against the dams, while Thailand was quite pleased with the progress Laos...had made in bringing the Xayaburi project to the regional decision-making process," she said, adding that "Cambodia took a position of no comment"

In Vietnam opposition against Mekong dams has increased among officials, scientists and the public, she said, as concerns over impacts on the Mekong Delta are growing.

She added that interest in hydropower development in Vietnam has also suffered a blow after severe rains hit the country in late 2009 during Typhoon Ketsana, forcing dam operators in the Central Highlands to suddenly release reservoir water and flood communities downstream.

An article in the Saigon Times Dairy, placed on the Vietnamese Ministry of Natural Resources and Environment website on Jan 18, said Vietnamese scientists "strongly protest the construction of the Xayaburi hydropower plant' as "water flow [into the Mekong Delta] will dwindle and salt intrusion will increase, leading to the reduction of annual output of agriculture and aquatic products."

Vietnamese newspaper Thanh Men reported on Nov 12 that some Vietnamese lawmakers were proposing that the National Assembly vote to prohibit Vietnam from buying power from Mekong dams in order to prevent dam construction.

Premrudee Daoroung from the Thai NGO Towards Ecological Recovery and Regional Alliance, said concerned NGOs in Thailand were trying to put pressure on the Thai government to oppose the project adding that government forecasts overestimated the power the country will need. "The debate on whether we need as much electricity as we are being told by [...] our government or not is still going on actively in Thailand," she wrote in an e-mail.

Ms Premrudee said there were also Thai lawmakers who had set up independent committees working to question the government and other groups involved with Mekong dams over the necessity of the projects.

She said, however, that among the general public in Thailand, "there is still lack of under-