

In the Mekong Basin, an ‘unnecessary’ dam poses an outsized threat

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A dam being built in Laos near the border with Cambodia imperils downstream communities and the Mekong ecosystem as a whole, experts and affected community members say.

The Sekong A dam will close off the Sekong River by the end of this year, restricting its water flow, blocking vital sediment from reaching the Mekong Delta in Vietnam, and cutting off migration routes for a range of fish species.

Experts say the energy to be generated by the dam — 86 megawatts — doesn’t justify the negative impacts, calling it “an absolutely unnecessary project.”

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SIEM PANG, Cambodia — “I remember seeing a buffalo, its head tied to a floating barrel, drifting down the river,” says Pheng Sisuwath, gesturing to the Sekong River from his stilt house in Cambodia’s northeastern province of Stung Treng.

That was four years ago, when one of the auxiliary dams of the [Xe Pian Xe-Namnoy hydropower project collapsed on July 23, 2018](#), killing at least 49 people and displacing more than 7,000 people from 19 villages in Attapeu province, Laos. The wall of water unleashed by the collapsed saddle dam surged over the Cambodian border, destroying the homes, farms and livelihoods of another 15,000 people.

Now, in this village less than 40 kilometers (25 miles) downriver from the Laos-Cambodia border, news of a new “killer dam” nearing completion just outside Cambodia is prompting fresh fears of disaster.

Scarcely 2 km (1.2 mi) north of the Cambodian border in Attapeu province’s Sanamxay district, the [same district where the Xe-Namnoy collapse happened](#), Vietnamese state-owned Song Da 6 began construction on the 86-megawatt Sekong A hydropower dam (alternately known as the Xekong A or Lower Sekong A) around December 2020.

Hydropower on the Sekong River from Laos to Cambodia

Flowing 480 kilometers (298 miles) from Central Vietnam, the Sekong River flows through Laos and into Cambodia through Siem Pang district in Stung Treng province.



Map: Gerald Flynn for Mongabay • Source: Mekong Dam Monitor • Created with Datawrapper

Map by Gerald Flynn/Mongabay.

Experts have warned that the dam will close off the Sekong River by the end of this year, restricting when and how much water will flow from the 480-km (300-mi) tributary to the Mekong River, while blocking vital sediment from reaching the Mekong Delta in Vietnam and cutting off migration routes for a range of fish species.

Sisuwath, who heads up the fishing committee of Kang Speu village, in Siem Pang district, says the [district's estimated 25,000 residents](#) are already acutely attuned to the impact upstream dams. “Since the ’90s, Laos has released water from its dams and we’ve had floods every year since, we’ve lost a lot to the water,” he says, noting that the flooding stopped after the Xe-Namnoy collapsed. “If there’s no dam, the river’s waters flow naturally, but when they dam the river, they release water when it rains heavily and we’re flooded far beyond natural levels.”

An early-warning system established after the 2018 disaster, coupled with the distance between Sisuwath's village in Cambodia and the existing Laotian dams, has so far afforded Kang Speu residents time to escape, Sisuwath says. But experts warn that damming the Sekong so close to the Cambodian border imperils downstream communities and the Mekong ecosystem as a whole.

The IUCN, the global wildlife conservation authority, [appealed to Vietnam in September 2021](#) to terminate Song Da 6's work on the Sekong A dam in Laos for fear of "serious social and economic damage to downstream countries," as well as damaging Vietnam's reputation as a regional leader in sustainable development on the Mekong River.

[The IUCN then detailed the projected consequences in May 2022](#), noting that Cambodia's controversial Lower Sesan 2 dam has effectively blocked off the other two of the 3S rivers — the Sesan and the Srepok — leaving the Sekong as the last tributary flowing freely into the Mekong.

The damage the Sekong A is projected to wreak upon the Mekong's fisheries, along with the significant reduction in sediment flows that will follow could [drastically alter Vietnam's already threatened delta](#), the IUCN warned, adding that various alternatives would be less harmful.

"Halting construction of the Sekong A dam would have virtually no impact on regional energy security yet would form part of an energy planning and investment strategy that conserves the economically vital Mekong Delta," the IUCN wrote in May.

However, satellite imagery shows that construction has continued at the same alarming pace while the governments of the countries involved and affected have remained tight-lipped about the project and its impact.



Satellite imagery shows the Sekong A dam being built in Laos from December 2020. Source: Planet Labs.

‘Cambodians will feel it all the way down the Mekong’

For Sisuwath, this is deeply concerning. He says his understanding of the Sekong A hydropower project was limited, but that local authorities told him about it in June, warning him that the dam would likely have a devastating effect on his community’s livelihoods.

“During the closed season for fishing [June 1-Sept. 30], fish migrate up from the Tonle Sap Lake, traveling up the Mekong and then through the Sekong River into Laos, then they come back the same way in open season,” Sisuwath says, adding that fish used to migrate up the Sesan and Srepok rivers, but now can’t navigate these rivers due to hydropower dams.

The irregular shifts in the Sekong River’s levels, which Sisuwath attributes to climate change and hydropower dams, has seen fish catches in Kang Speu drop from roughly 5 kilograms (11 pounds) per day in 2018 down to less than half a kilogram (1.1 lbs) in 2022.

Migratory mega fish like the giant barb (*Catlocarpio siamensis*) were a common sight through Sisuwath’s childhood, but these [critically endangered fish](#) have “completely disappeared” in the Sekong River and haven’t been seen by Kang Speu residents since 2020.

“They probably disappeared because they’re big fish, they need room to travel and they lay their eggs in the water as it travels down to the Tonle Sap Lake, where they grow quite big and then they used to travel upstream toward Laos,” Sisuwath says. “I’m sure there’ll be many fish that will struggle to migrate when the Sekong is dammed, this will have a big impact for many communities, not just ours.”

As hydropower development in Laos has ramped up over the years, [with 78 dams operational as of the end of 2021](#) and a further 246 in various stages of planning, Kang Speu residents have seen their fish catches decline and have reluctantly shifted to agriculture to bolster faltering earnings from the water.

“I’m worried,” Sisuwath says of the Sekong A dam in Laos. “It’s another pressure on our community. We fear floods, we fear another collapse like 2018, and even if it works safely then it will affect our crops by changing the flow of the water.”

Four years ago, Sisuwath says, there were maybe 90 fishing households in Kang Speu. But this has fallen to 20, with many former fishers going on to work on [rubber](#) and [banana plantations](#) to escape [the debt they accrued](#) as fish catches fell.

“We won’t leave though, we will be affected, but where else can we go?” Sisuwath says. “When they dam the Sekong, Cambodians will feel it all the way down the Mekong, they will feel it on the Tonle Sap Lake and so where else could we fish?”

For Sisuwath and his family, there are limited options, but he says he plans to move his house as far back from the water as he can in anticipation of the unpredictable hydrological change that dams have wrought upon the riparian community.

“It will probably flood more often and more severely when they finish, I worry our community will lose houses, motorbikes, crops and livestock,” he says. “Just like we did when the Xe-Namnoy collapsed.”



Pheng Sisuwath, head of Kang Speu village's fishing community, fears the new dam will devastate his community's livelihoods. Image by Nehru Pry/Mongabay.

Dams driving downstream food insecurity

Further downstream, in Stung Treng province's Siem Pang district, the residents of Rokay village share similar fears, even if fish have long since ceased to be a source of livelihood for the community in the wake of the region's dam-building frenzy.

Khoev Vann, 76, fled to Laos in 1979 when the genocidal Khmer Rouge regime was overthrown by Vietnamese forces. It was across the border, some 40 km from his home in Rokay, that Vann spent much of the Vietnamese occupation of Cambodia, returning only "once the communists were gone."

Neither Vann nor anyone in his family say they were aware of a new hydropower development further up the Sekong River, but while unsurprised, Vann echoes concerns raised by Sisuwath about flooding and fisheries.

"We had floods before because of the dams and extreme rains, here, on the wall," he says, pointing to a highwater mark that stained the inside of his home, standing roughly 1 meter (3 feet) off the ground. This, he adds, was a [reminder of deadly floods in 2014](#).

After returning to Cambodia, Vann lived largely off the river, settling in Siem Pang district and fishing. Over the years, this became less viable, and these days, Vann says, he only fishes for food and there are no professional fishers left in Rokay village.

When asked about fish catches, Vann's entire house erupts in shouting, swearing and anger that eventually subsides into laughter.

"We can't even catch enough to make prahok," he complains, referring to the Cambodian delicacy of fermented fish that typically only requires small fish. "Usually around June, we see fish coming up from the Mekong through the Sekong, but this year, I've been out every day and I've caught nothing."

Despite the closed season, Vann says he's been out on the water "day and night," working different spots in the river and still returning to land empty-handed.

"It's been five days now where I haven't even bothered," he says to a chorus of ridicule from his three children. "There are no fish in the water these days, we have relied on the river, but now we must go to the market for food."



Khoev Vann of Rokay village has already seen deadly floods linked to dams. Image by Nehru Pry/Mongabay.

The Sekong River serves as a key migration route for scores of fish species native to the Mekong region, according to Brian Eyler, director of the Southeast Asia program at the U.S.-based think tank the Stimson Center.

"Studies show that more fish are choosing to migrate up the Sekong River now that the Sesan and Srepok rivers are blocked by the poorly sited Lower Sesan 2 Dam," Eyler says, referencing updates to existing [research from the U.S.-funded Wonders of the Mekong program](#). "Even with a fish passage, this dam will decimate the Mekong fish population leading to an even more rapid decline in fish catches year on year compared to what we're seeing now."

According to Eyler, hydropower projects along the Mekong and its tributaries have so far proved ineffective at enabling sufficient volumes of fish to navigate dams in tropical rivers like the Mekong, but he described the Sekong A's planned fish passage — the first of its kind on a Mekong tributary in Laos — as “woefully inadequate,” further compounding the dam's impact on the downstream Mekong.

Kong Heng, director of the Inland Fisheries Research and Development Institute at Cambodia's Fisheries Administration, says the Sekong River is home to at least 1,000 recorded species of fish, 160 of which are long-migratory species for which the river is a critical habitat. But 36 of the species identified in its waters are still a mystery.

“We've still not been able to map the dry seasonal habitats of these species,” Kong says. “Some species migrate down from the Upper Mekong River into the Tonle Sap Lake, but land use change across Cambodia and the rise of agroindustry near the Laos border has led to a significant increase in sediment flowing into these habitats, along with agricultural chemicals — pesticides and fertilizers that are flushed into the river.”

The problems posed by agricultural development scaling up to industrial levels is not confined to Cambodia, where cycles of debt, poverty and low agricultural yields have seen [farmers grow increasingly reliant on chemical supplements](#) that eventually find their way into rivers.

“It's really hard to stop dams, based on my research,” Kong says, pointing to the sustained spate of hydropower development as the Lower Mekong Basin's population and subsequent energy demands continue to grow.

Meanwhile, across the border, the Sekong A dam's impact on Laotian communities has been played down by officials in Attapeu province, with [Radio Free Asia's Laos service reporting in 2020](#) that five villages would be affected by the Sekong A dam and then in [2021 reporting that 160 families would lose their farmland](#) as 3,342 hectares (8,258 acres) of land would be flooded by the project.

Historically, the Laos government's depiction of hydropower projects as positive developments for the country have been undercut by the social, economic and environmental problems associated with them — [most of which have been borne by rural, marginalized communities.](#)



The Sekong River is quiet as few in Siem Pang district feel they can rely on it anymore. Image by Gerald Flynn/Mongabay.

With the last of the 3S rivers set to be closed off in the pursuit of power by the end of the year, Eyler calls the Sekong A dam “a killer dam.”

“The Sekong A dam is an absolutely unnecessary project where the negative impacts outweigh any power generation benefit by magnitudes,” he says. “It’s a tiny dam that produces an insignificant amount of power.”

He cites the myriad alternatives that could have been harnessed without jeopardizing life-sustaining ecosystems.

The 86 MW dam, Eyler says, could have easily been replaced by floating solar built on any number of existing hydropower reservoirs — a move that’s already been [trialed in Vietnam by the Asian Development Bank](#) and, upon completion in 2019, was found to significantly bolster the capacity of hydropower dams and improve their sustainability.

Vietnam is reportedly [aiming to install some 9,900 MW of floating solar by 2030](#), while [Indonesia plans a 2,200 MW floating solar farm](#) to sell power to Singapore via undersea cables. But despite these trends, much of the region remains fixated on hydropower while ignoring its costs.

Eyler adds that, in a grim twist, the Sekong A dam will likely sell electricity generated back to Cambodia, while ravaging its fisheries.

“Cambodia should be selective and dictate from which projects it buys power from Laos,” he says. “Otherwise, Cambodia’s purchase of power from whichever projects Laos builds will drive a food security crisis in Cambodia.”



A lone sand pumping boat is all that’s left on the water of the Sekong River as hydropower development ramps up across Laos. Image by Nehru Pry/Mongabay.

Another failure of regional cooperation on the Mekong

It is precisely these sorts of transboundary crises that the Mekong River Commission (MRC) was established to avoid. But the MRC lacks veto powers under the [1995 Mekong River Agreement](#) and has been rendered powerless to stop the relentless march of hydropower on the Mekong and its tributaries.

The MRC declined to answer questions sent by Mongabay, nor did representatives from National Mekong Committees in Cambodia and Vietnam answer detailed questions about the Sekong A dam’s development.

When asked about the dam, Keomany Luanglith, director of governance and cooperation at the Laos National Mekong Committee Secretariat, said only that his office “is not the right agency to respond your questions,” and deferred questions to the Laotian Ministry of Energy and Mines. The ministry could not be reached for comment.

Keomany declined to answer further questions about the role of the committee or whether Laos had violated the Mekong River Agreement by failing to notify the MRC and downstream governments.

Mao Hak, director of the Department of Climate Change at Cambodia's National Council for Sustainable Development, also declined to discuss the Sekong A dam.

Ian Baird, a geography professor at the University of Wisconsin, says that while consultations between signatories to the 1995 agreement weren't necessary when building dams on the Mekong's tributaries, Laos was supposed to notify the MRC, which it didn't.

Vietnam's involvement in the construction of the Sekong A is something that Baird describes as a geopolitical move to counter [China's soaring financial and subsequently political influence in Laos](#), which has long been a key strategic ally of Vietnam.

As such, Song Da 6's role in the Sekong A could be to earn political credit in Laos, Baird suggests, partly explaining Vietnamese support for a project whose impacts will be felt as far south as Vietnam.

This lack of transparency — and subsequently accountability — [is characteristic of hydropower development across Laos, Cambodia and Vietnam](#), Baird says, adding there are those within each country's governments who understand the problems posed by damming the Mekong and try to avoid it, while other factions push for more dams for political expediency or personal profit, leaving the MRC little choice but to sit back and watch.

"Unfortunately, this is the best we get when it comes to this kind of thing," Baird says in regard to regional hydropower projects and the responsibilities of both developers and governments. "It's always so opaque, there is never anything that's really officially acknowledged — that's the problem."

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