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Mekong Dam May Cause Food Security Threat, Study

The planned hydropowered dams on the Mekong River could jeopardize food security for 60 million people, according to a study.

Prime Sarmiento | December 3, 2012 | In the Lab

AsianScientist (Dec. 3, 2012) - The planned construction of hydropowered dams on the Mekong River in South-East Asia could jeopardize livelihoods, water access, and food security for 60 million people across Cambodia, Laos, Thailand, and Vietnam, according to a study.

The study reports that dams will block fish migration routes and decimate fish supplies in the lower Mekong region.

As fish dwindle, communities will have to look for alternative sources of protein, such as livestock and poultry. Raising these will require more land and water, and be prohibitively expensive.

"People talk about food security in relation to dams but we need to put the numbers to what that really means," says Stuart Orr, freshwater manager at World Wide Fund for Nature (WWF) International and co-author of the study published in the October issue of *Global Environmental Change*.

Orr presented the study at the Third Mekong Forum on Water, Food and Energy, convened by the Consultative Group on International Agricultural Research's (CGIAR) Challenge Program on Water and Food (CPWF), in Hanoi, Vietnam, this month (November 13-14).

Orr says that if all 88 planned dams were developed, Mekong communities would be faced with sourcing close to 40 percent of lost fish protein from other sources.

And to replace fish protein with domestic livestock protein would require up to 63 percent more pasture lands and up to 17 percent more water, the study says.

The Mekong is one of Asia's longest rivers, running from its source in China through Myanmar, Laos, Thailand, and Cambodia, to the Mekong Delta in Vietnam. It is home to more than 850 freshwater fish species, a livelihood source for some 60 million people living in the river's environs.

The study comes amid ongoing debate over the environmental and social implications of construction of the Xayaburi Dam on the Lower Mekong in Laos. The US$3.5 billion funded dam is expected to be completed by 2019, and will export 95 percent of its electricity to Thailand, which is funding its construction.

While there are four dams in the Upper Mekong basin in China, Xayaburi is the first of 11 planned dam projects on the main stem (downstream river segment), and there are plans to construct another 77 dams in the basin by 2030.

Larry Harrington, CPWF's research director, tells SciDev.Net: "It's one thing to build one dam and understand its consequences. But if you have several in different locations, that's another matter entirely."

Orr acknowledges that countries in the Mekong area need hydropower to drive growth. However, he also suggests that policymakers in the region should consider food security losses and how this will squeeze natural resources.

Kam Suan Pheng, a senior scientist at the WorldFish Center, Malaysia, agrees with the study's findings.

"There will be repercussions [from building the dam] and they are going to cost money," says Kam, alluding to the higher prices that people will have to pay for alternative protein sources.

Given this scenario, the WWF has urged the Lower Mekong countries to delay a decision on dams in the area for ten years - enough time to gather and analyze critical data. It also advises them to prioritize dams on tributaries that will have lower impacts and risks.

Harrington says the challenge is for researchers to provide evidence that the dams will not hurt ecosystems and communities of neighboring countries in the Mekong.

The article can be found at: Orr S et al. (2012) Dams on the Mekong River: Lost fish protein and the implications for land and water resources.

Source: Science and Development Network; Photo: Matty Bishwam/Flickr/CC.
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