

Mekong dam threatens Cambodia's food security, expert says

FRIDAY, 29 APRIL 2011 15:00 STUART ALAN BECKER



AN ecological economics expert who wrote his doctoral dissertation on the Tonle Sap fisheries says that if the proposed Xayaburi Dam project in Laos is not stopped, Cambodia's food security will be threatened.

"If the dam in Laos is built – it sets the precedent for a cascade of other main-stream Mekong dams," said ecologist Taber Hand, who was praised for his expertise by a global environmental NGO called Conservational International.

Hand studied the ecological and economic dynamics of the Tonle Sap fisheries during the 1990s through the University of Maryland's Institute for Ecological Economics and found that "food security" was much more fragile than people realised around the Tonle Sap lake and river that joins with the Mekong at Phnom Penh.

Hand says scientists agree that the proposed dam will hurt fishing in Cambodia.

"The consensus among the scientific community is that it will have a significantly deleterious effect on the fisheries of the Mekong and the Tonle Sap. It is in the highest interest of Cambodia and its leadership to preserve the processes that produce this incredible source of protein and fatty acids – and this fish production is free," Hand said.

"If the construction of this dam is not stopped, it will likely move us farther into food insecurity as we are right on the edge of it, amongst a large regional population."

Hand said the Mekong Commission dates back to 1957 and is the oldest trans-boundary river commission in the world. Originally each signatory country had veto power over dam projects. But, according to the new Mekong Agreement of 1995, the signatory countries do not have veto power over each other, Hand said.

"If the Xayaburi Dam goes ahead, the Mekong Commission becomes irrelevant," he said. "Donor countries will fade away from paying for science-based information and planning that is willfully ignored."

According to the results of Hand's research, fewer fish are coming out of the Tonle Sap today than 10 or 20 years ago because of what he calls "total fishing effort", which describes the intensity of fishing tools that are used.



The Tonle Sap is recognised as a major source of protein food for the Cambodian population and is potentially threatened by Mekong dams.

“Today everywhere in the Tonle Sap we have 500 metre long nylon nets of very fine mesh enabling people to capture absolutely everything – including the fingerlings and even some larvae. The big fish are caught very easily – so they are the first to go – and so on down the food chain to the smaller, faster reproducing fish. The Tonle Sap has economically lost a number of fish species, like the silver barb fish, that were historically significant parts of the total catch,” he said.

The heavy fishing results in less available fish per person because about 40 percent of Cambodia's protein has traditionally come from the Tonle Sap, according to Hand.

“Moreover, what's not discussed at all is that the nutritionally essential omega-3 fatty acids also come from these fish, largely in the form of oils. Cambodians have always had a high protein, high carbohydrate diet, but one that is particularly very lean in fat. Oil-based fish fats are prerequisites for human nutrition in Cambodia and all the more so for pregnant women, babies and young children.

“With too little omega-3 fats, children have neuro-motor coordination problems, are intellectually impaired and have reduced immunological responses. But now with less fish there are less fats,” he said.

Cambodians consume far less fat than their neighbours, according to Hand – about 2.2 grams per person per day in the 1990s, compared with 35 to 41 grams per day in Thailand or Vietnam.

“The only place people here get the omega-3 fats they need is from eating fish.”

In addition to the threats of dam construction on the Mekong, there are about 20 tributaries to the Tonle Sap that have been very important for fish migration and what is called “dry season habitat” in the deep river pools. These tributaries face being dammed for irrigation in some cases as well as being over-fished and being polluted from agricultural fertilisers and pesticides.

“All dams change the hydrology and the sediment transport,” Hand said.

Luckily, some of the deep pools in the Tonle Sap's tributaries are regarded as sacred by Khmer people.

During his studies, Hand found that food security was much more fragile in areas outside the fishing lots around the Tonle Sap Lake than was widely realised.

Fish from Tonle Sap Lake provide millions of rural people with 90 percent of the essential protein in their diet – this in Cambodia, which has one of the lowest fat per-capita in the world.

“The value of oil-based fish fats to the welfare of Cambodian health is under-recognised, under-studied and a critical economically free resource from the Mekong-Tonle Sap system,” Hand said.

“It is time for the Lower Mekong Basin countries to cooperate and think of themselves as sophisticated world citizens. In this highly dangerous game of political challenge and Asian face-saving, Laos may end-up as the ‘world's poster-child’ for how not to be an international river basin player.”