

The Don Sahong Hydropower Project

The proposed Don Sahong Hydropower Project is located on the Mekong River's mainstream in the Siphandone area of southern Laos, less than two kilometers upstream of the Laos-Cambodia border. The Don Sahong Dam threatens the rich local subsistence and commercial fisheries in Laos and could also impact fisheries in Cambodia, Thailand, and Vietnam, with repercussions for food security and the region's economy. Furthermore, by jeopardizing the last remaining population of Irrawaddy dolphins in Laos, as well as diverting water from the spectacular Khone Phapheng waterfall, the Don Sahong Dam could undermine the area's increasing popularity as a tourist destination.

BACKGROUND AND PROJECT DESCRIPTION

At Siphandone (also known as the Khone Falls), the Mekong River drops some 20 to 30 meters through a maze of narrow braided channels and rapids that weave amongst the area's many islands. The proposed Don Sahong Dam would be located at the downstream end of the Hou Sahong channel, which runs about seven kilometers between the major islands of Don Sahong and Don Sadam (see map). The dam would be between 30 and 32 meters high and generate between 240 and 360 MW, mainly for export to Thailand or Cambodia.

The project's developer, Mega First Corporation Berhad (MFCB), is a Malaysian engineering and construction company. In March 2006, MFCB signed an MoU with the Government of Laos to prepare feasibility studies for the project. Subsequently, in February 2008, a Project Development Agreement was signed that authorizes MFCB to enter into advanced negotiations and finalize the project details with the Government of Laos and potential electricity buyers, to be concluded by September 2009.

PROJECT IMPACTS

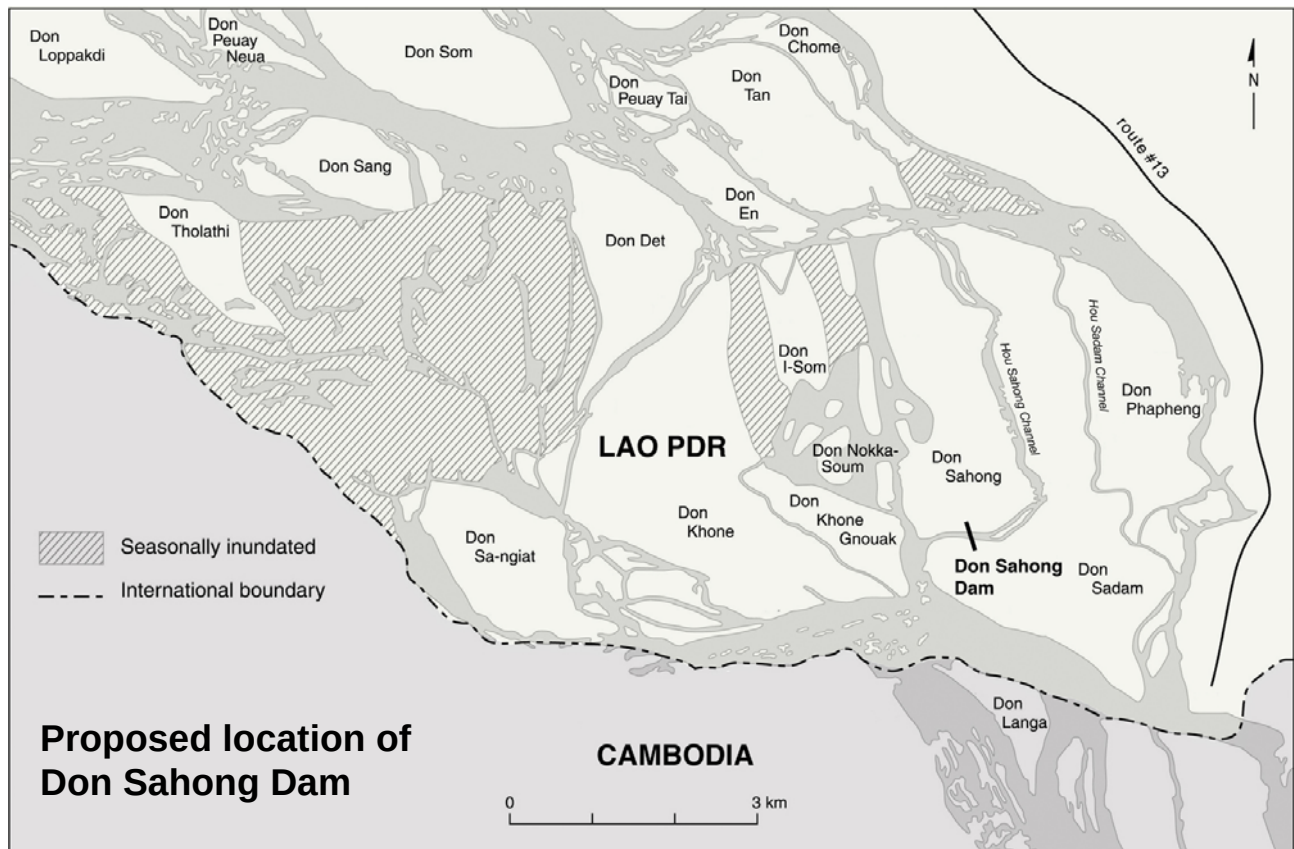
Fisheries

The Siphandone area is renowned for its rich fisheries, with at least 201 species known to reside in the area at least part of the year, many of which are of high commercial value. The area is recognized by scientists as a critical year-round bottleneck for fish migrating throughout the lower Mekong basin, which local villagers capitalize on to harvest an abundant fish catch.

While the Don Sahong project's final design has not yet been made public, the dam would reportedly form a barrage across the entire Hou Sahong channel. This channel is by far the most important through Siphandone for fish migration, especially in the dry season. The Don Sahong Dam threatens the migration, feeding, and breeding patterns of a diverse number of fish species -- including major migrations between Laos and Cambodia -- which would seriously impact most of the major fisheries of southern Laos (see box, page 3). The Don Sahong Dam's impact on fish and fisheries could affect hundreds of thousands of people living along the Mekong River and its tributaries throughout southern and central Laos, as well as in Cambodia, Vietnam and Thailand.



The Khone Phapheng Falls, a popular tourist attraction at Siphandone (Carl Middleton, International Rivers)



While design details have not been disclosed to the public, potential fisheries mitigation options include a fish pass structure or deepening neighboring channels through blasting. The likelihood of success of either of these options, however, is low. Citing ecological factors and the intensity of fish migration, the WorldFish Center states: “In the Mekong basin there are no examples of effective [fish] passes”.^a This view is shared by other concerned scientists, who assert “[t]here is no prospect that a fish pass could make a significant difference to the blocking effects of this dam”.^b

RAMSAR Status

Recognizing the global biodiversity value of Siphandone’s unique island-river habitat, the Lao government is considering proposing the area for accession to the Ramsar Convention on Wetlands of International Importance. A Ramsar designation would support efforts to protect the area and promote tourism, bringing substantial economic benefit to the local communities and the national economy. Just across the border in Stung Treng Province, Cambodia, the northern-most stretch of the Mekong River was designated a Ramsar site in 1999. The Don Sahong Dam, however, threatens Siphandone’s eligibility and the benefits that Ramsar status would bring.

Irrawaddy Dolphins

The Veun Nyang/Anlong Cheuteal deep pool, just downstream of Siphandone at the Laos-Cambodia border, is home to approximately 10 Irrawaddy Dolphins. In the dry season they live in the deep pool, where fish prey exists. In the wet season, the dolphins disperse from the deep pools, moving within just a few hundred meters of the proposed dam site. The Mekong’s Irrawaddy Dolphin population is endangered, and fewer than 100 individuals remain. According to WWF, the Don Sahong Dam could threaten the survival of the Veun Nyang/Anlong Cheuteal school of Irrawaddy dolphin, Laos’ only permanent dolphin population.^c

Known fish migrations through the Hou Sahong channel

The following are the main fish migrations in the Khone Falls area, all of which would be partially or fully blocked by the Don Sahong Dam. There are other less significant migrations that would also be affected.

December to February: A number of important species of medium-sized cyprinid fishes migrate from the Sekong, Sesan and Srepok Rivers in Cambodia and Laos to the Mekong River at Stung Treng, Cambodia and then upriver to Laos. They pass through the Khone Falls area via Hou Sahong and then migrate past Pakse and up the Mekong River to the border between Laos and Thailand. These fish migrations would be blocked by the Don Sahong dam. Other fisheries in the Sekong River in Laos would also be affected, since the fish there migrate back and forth between upstream of Khone Falls and the Sekong.

January to March: Very large and important schools of small species of cyprinid fishes, especially *Henicorhynchus lobatus* (*pa soi*), migrate upriver from the Tonle Sap Lake in Cambodia to Laos via Khone Falls and the Hou Sahong channel. Those fish – which like those described above, are very important to the livelihoods of people living along the Mekong River in southern and central Laos – would be blocked by the Don Sahong dam from entering Laos.

April: The important large cyprinid fish species, *Cirrihnus microlepis* (*pa phone*), migrates up the Mekong River from Cambodia to Laos, passing through the Hou Sahong channel.

April to May: The small Pangasiidae catfish, *Pangasius macronema* (*pa nyone thamada*), migrates up the Mekong River from Cambodia into Laos via the Hou Sahong channel each year.

May to June: Catfish in the Pangasiidae family migrate up the Mekong River in Cambodia to Laos via the Khone Falls area and the Hou Sahong channel. One of these fishes, *Pangasius krempfi* (*pa souay hang leuang*), even migrates all the way up the Mekong River from the Mekong Delta in Vietnam.

October to January: Threatened large carps, *Probarbus jullieni* (*pa eun ta deng*) and *Probarbus labeamajor* (*pa eun khao*) spawn in the Khone Falls area, near the proposed Don Sahong dam site.

Adapted from “Baird, I.G. (1996) Khone Falls Fishers, Catch and Culture, Mekong River Commission, 2(2):1-3.”

Tourism

The Don Sahong Dam would threaten Siphandone’s two main tourist attractions – the Irrawaddy Dolphins and the Khone Phapheng waterfalls. The project would reduce the flows to the Khone Phapheng falls by diverting water to the dam for electricity generation. There would also be significant short-term disturbance to the area during project construction and a lasting aesthetic impact caused by the dam’s infrastructure, which would also detract from the area’s tourist appeal.

Public concern about the Don Sahong Project

The proposal to develop the Don Sahong project has generated considerable concern amongst NGOs, academics, development professionals, and the general public within the Mekong Region and internationally.^d In April 2007, as plans for the project first came to light, 28 NGOs sent an open letter to the Government of Laos, the Mekong River Commission and its member governments calling for the project to be reconsidered.^e In May 2007, 34 scientists sent a letter to the Government of Laos urging decision-makers “to consider the weight of scientific evidence that will show the Don Sahong project to be

hugely destructive, such that even the economic (including livelihood) costs outweigh the net benefits – even before the environmental impacts are taken into consideration.”^b

The project’s sponsor, MFCB, has yet to publicly release key environmental and social project documents. To date, local people have received misleading and incomplete information about the likely negative impacts of the dam. People downstream in Cambodia have received even less information about the project and how it would affect them.



Fishing gear in the Hoo Sahong channel, immediately upstream of the dam site (Carl Middleton, International Rivers)

RECOMMENDATIONS

The Don Sahong Dam just doesn’t add up. For no more than 360 MW of electricity, the dam would threaten vital commercial and subsistence fisheries, as well as the area’s biological wealth and its tourism industry. Despite these serious threats, very little information has been released to the public. An evaluation of potential impacts of mainstream hydropower dams on Mekong fisheries published by the Mekong Secretariat in 1994 described Siphandone as “an ecologically unique area that is essentially a microcosm of the entire lower Mekong River”, and pointed out that “Such a site is so rare in nature that every effort should be made to preserve all of Khone Falls [Siphandone] from any development.”^f

Rather than build the Don Sahong Dam and undermine fisheries and fish-dependent livelihoods, plans to designate Siphandone as a RAMSAR site should be moved forward and ecotourism promoted that would provide regional, national and local benefits.

September 2008

REFERENCES

^a WorldFish Center (2007) “The Don Sahong Dam and Mekong Fisheries” *A science brief from the WorldFish Center*.

^b Letter from Scientists concerned for the sustainable development of the Mekong River to Government and international agencies responsible for managing and developing the Mekong River Re: Concerns about the Don Sahong Dam, planned for the mainstream Mekong River in the Khone Falls area, Khong District, Champasak Province, Southern Lao PDR, dated 25 May 2007.

^c WWF (2007) The Don Sahong Dam and the Irrawaddy Dolphin A science brief from WWF

^d See www.livingriversiam.org/mk/sub_lowerdam.html for a comprehensive record of media coverage

^e <http://www.internationalrivers.org/files/Don%20Sahong%20scientists%20May%202007.pdf>

^f Mark. T Hill and Susan A. Hill, 1994, Fisheries Ecology and Hydropower in the Mekong River: An Evaluation of Run-of-the-River Projects. Mekong Secretariat, Bangkok, p.90

For more information visit: <http://www.internationalrivers.org/en/southeast-asia/mekong-mainstream-dams/don-sahong>

*The **Rivers Coalition of Cambodia** is an alliance of civil society organizations working to protect and restore river ecosystems and river-based livelihoods in Cambodia. (info@ngoforum.org.kh)*

***International Rivers** protects rivers and defends the rights of communities that depend upon them. International Rivers opposes destructive dams and the development model they advance, and encourages better ways of meeting people’s needs for water, energy and protection from damaging floods. (internationalrivers.org)*