

# Management committee enforces Lao fisheries law at Khone Falls

BY KENT G. HORTLE AND SOMPHONE PHOMMANIVONG \*

**The Don Sahong Fisheries Management Committee was set up in 2016 to improve fisheries management at Khone Falls in southern Lao PDR. The committee comprises seven government officials, 88 villagers and leaders of three village groups in Khong District. The committee is supported by the Don Sahong Power Company, a Malaysian-Lao venture behind the 260-MW Don Sahong Hydropower Project on Sahong Channel for which construction was completed in 2019.**

**Compared with most other hydropower projects in the Mekong basin, this project is small and causes relatively minor local impacts. Unlike all other Mekong projects, it does not dam the entire river but blocks only one of seven Mekong anabranches at the site.**

**However, Sahong Channel was considered an important pathway for fish migration, so to mitigate any negative impacts of its closure two main activities were carried out.**

**These were the removal of large illegal gears which obstructed fish passage along other channels and physical improvements of other channels for fish passage. The management committee's work to remove the large illegal gears between 2016 and 2019 — its most significant activity — is summarised below.**

At Khone Falls, big gears used mainly in the early wet season traditionally included *lee* (inclined plane traps), *luang khang* (large funnel traps with fences) and *jib* (stationary trawls). These caught a wide range of species and sizes of fish, but in particular targeted fish migrating upstream just prior to or during the early wet season (May to July) when many species spawn. Targeting spawning fish, especially larger long-lived species, is a serious threat to the sustainability of fisheries. In the dry season, the channels at Khone Falls were obstructed by various kinds of fence traps, termed *ou*, *luang sai* and *ton sai*. These primarily caught small or medium-sized fish migrating upstream in search of food, particularly filamentous algae that grow when the river water becomes clear.

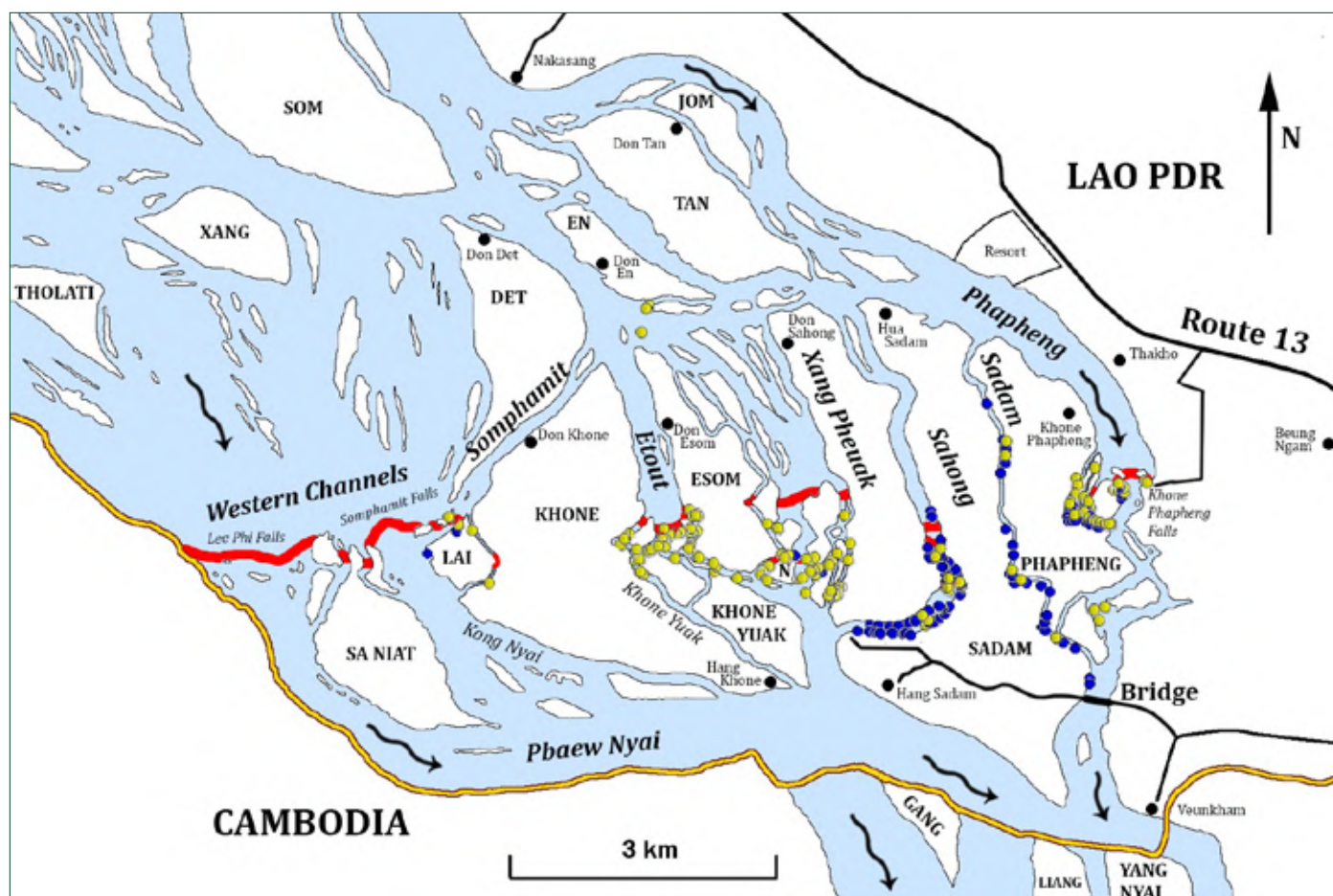
The largest gears, *lee* and *luang khang*, were built of wood and bamboo, fastened together with cane, rope, monofilament nylon and nails. During high flows, the big gears would usually be damaged with components broken and/or washed away. Some of the larger pieces of timber might be re-used the following season. But each year, significant quantities of new timber were required. As timber became depleted, wood was increasingly purchased to build the traps and accounted for about two-thirds of the cost. Much of the wood was from trees illegally logged in Cambodia and transported across the border by boat.

*Jib* nets are made of multifilament netting, nylon ropes and wire frames purchased from local traders. Large *jib* nets block several metres of river channel and are not easily demountable. Smaller *jib* nets 1-2 m wide can be set up and moved quickly and are commonly used at night to avoid detection.

The big gears based on traditional designs were originally deployed at well-defined sites informally owned by local families. But they had become more numerous and much larger in recent years, leading to competition for fish between their owners and increasingly obstructing fish passage through the channels at Khone Falls. Under Article 38 of the Fisheries Law passed in 2009, these big gears are illegal as they “unduly obstruct the passage or aquatic fauna” within a waterway, which is considered incompatible with the sustainable management of fisheries.

## Declining catches

For many years, villagers living in Siphandon upstream of Khone Falls had complained to provincial and district agriculture and forestry officers about declining fish catches. They blamed the declines on increased use of big gears catching more fish and preventing fish from migrating upstream from Cambodia. The Khong District Agriculture and Forestry Office had been collecting taxes every year from *lee* owners, based on the estimated value of the wood used in their construction, which was as-



Distribution of big fishing gear at Khone Falls in mid-2015 showing *lee* (inclined plane traps) in yellow and *luang khang* (large funnel traps with fences) in blue. Red lines indicate the main falls/rapids/cascades in each channel.

MAP: KENT HORTLE

sumed to be sourced locally. These payments implied quasi-legal status for the traps.

After the Fisheries Law was passed, the district office hosted several village-level meetings and co-signed agreements with the local villagers that they would reduce the numbers of big gears by 50 percent each year until all of the big gears were gone. However, the agreements were ignored and the number of gears actually increased significantly in the years up to and including 2015, especially in Sahong Channel, and they were being used in more localities every year. In 2015, a field survey by the Don Sahong Power Company and the Lao government recorded 356 big gears at Khone Falls. While virtually all families at the six villages nearest to the Don Sahong Hydropower Project had access to and/or partly owned one or more big gears, their construction was in many cases financed by fish traders who bought most of the catch but who charged high rates of interest on loans.

To mitigate any impact on fish passage from closure of Sahong Channel, the power company and government agencies considered it necessary to reduce the number of big gears (especially *luang khang*) which obstructed migration of fish attempting to swim upstream through alternative channels. In 2016, the company requested that the Don Sahong Fisheries Management Committee remove all big gears from Sadam Channel, which had been completely blocked in 2015 (and in earlier years) by fence traps in both wet and dry seasons. The company also requested selective removal of some gears from critical locations in Xang Pheuak Channel as well as prohibition of big gears in Hou Wai, a sub-channel of Xang Pheuak, to allow it to function as a fish passage. These requests were in accordance with the measures for mitigation outlined in the company's environmental impact assessment as approved by the Ministry of Natural Resources and Environment.

### Teaching local students about the importance of fish and fisheries

In addition to removing illegal fishing gear, the Don Sahong Fisheries Management Committee has been engaged in efforts to prevent destructive fishing by poisons, explosives and electro-fishing. Working with the Don Sahong Power Company, the committee has also been involved in teaching students about the importance of fish and fisheries for food and livelihoods to improve their understanding about the need for sustainable management. During 2018, at four local schools, 877 students were taught and engaged in hands-on learning activities. The main subjects were general environmental awareness and conservation, the importance of fish passage and habitat, illegal and destructive fishing, and protected species.



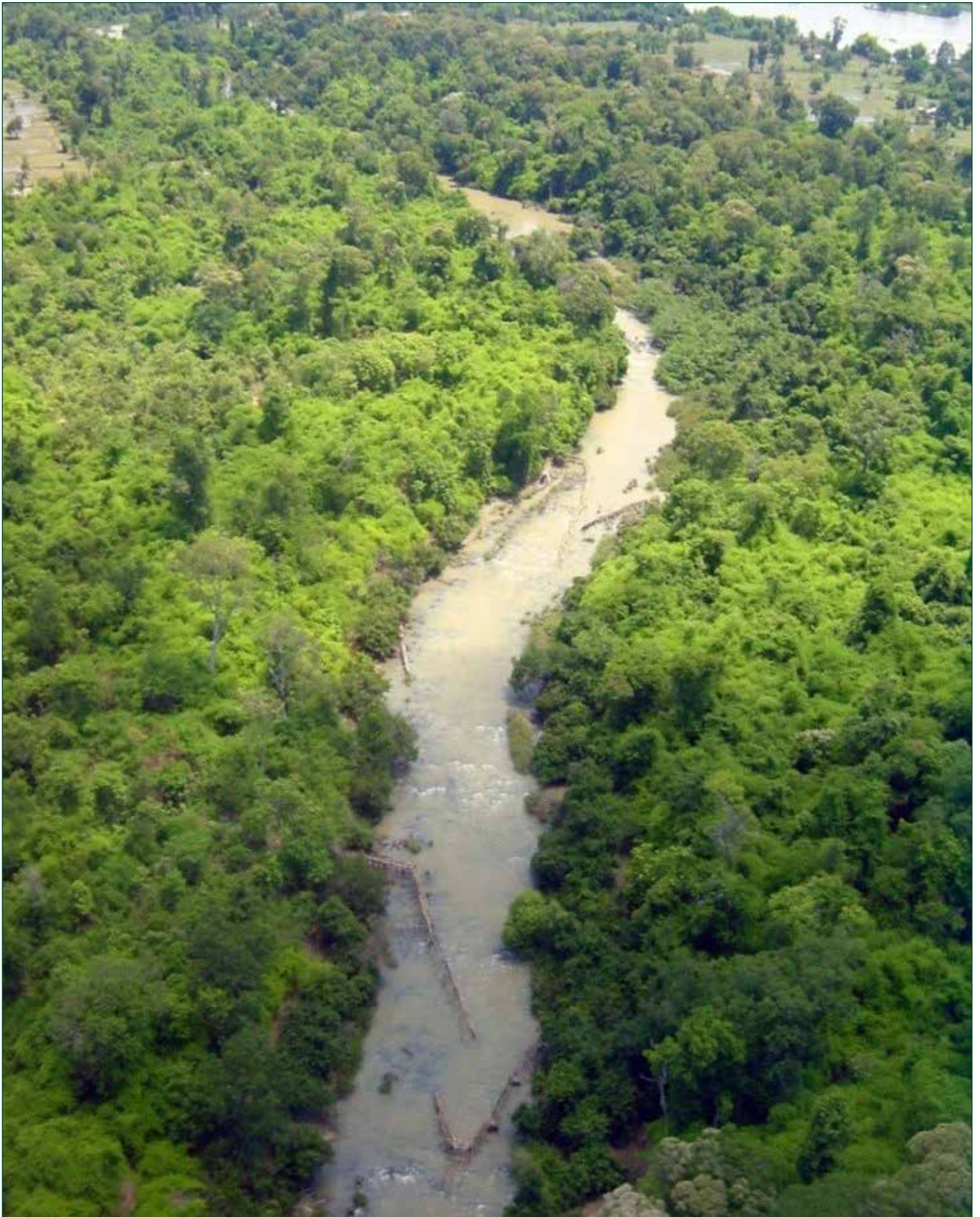
This class at Veun Som Village Primary School was held on 23 October in 2018. Students have also been engaged in field activities — which include replanting riparian vegetation along channels to stabilise banks and provide habitat — and fish passage works as learning exercises.

PHOTO: KEODOKMAI KHEMKHAM



Students plant seedlings along Sadam Channel to stabilise the river banks and improve fish habitats on World Fish Migration Day on 21 April in 2018.

PHOTO: SOMPHONE PHOMMANIVONG



Sadam Channel blocked by fence gears in 2006 (looking upstream). At the time, the 5-km channel had about 20 fences.

PHOTO: JOHN CHU

Company advice to the management committee was that impacts on catches should be reduced by allowing a certain number of big gears to be licensed — with conditions set upon their design and use, and with gear ownership rights to be tradable. Nevertheless, the committee decided that all big gears should be prohibited to comply with the law and because committee members believed that individual fishers would not tolerate other people using such gears if they could not.

### Removing large-scale illegal fishing gear

Following approval of the Don Sahong Hydropower Project and commencement of construction in 2016, the company provided funds and technical support for implementing the law. The management committee held meetings in all affected villages during early 2016 to explain that all big gears were not to be rebuilt for the approaching wet season (June to September) and existing frames of gears should be removed by their owners or they

would be destroyed. Some 323 big gears were removed in 2016 — about 90 percent of the number recorded the previous year — with a further 216 removed over the subsequent three-year period. Some gears were not removed until 2017, and others were removed separately during fish passage works by the the company in 2016. Over the period between 2016 and 2019, half the gears removed were *lee* traps, 22 percent were *luang khang* traps and 28 percent were *jib* nets. Since 2016, there has been limited reconstruction of the large fixed gears with attempts by some fishers instead to use large *jib* nets to catch migrating fish. Meanwhile, many fishers have also taken to using small portable *jib* nets at night in certain relatively inaccessible locations, such as Som Yai Channel.

In addition to the gears removed by the committee, 108 big gears were removed voluntarily by villagers employed by the company for fish passage construction from 2011 to 2016. Many villagers ap-



A *lee* in Sahong Channel during the early wet season in 2014 (looking upstream). At the time, *lee* were built mid-channel downstream of major obstructions. Fish which turned back downstream after failing to pass obstructions swam onto the *lee* platform. Don Sahong Power Company Fisheries Team Leader Somphone Phommanivong is holding a catfish *Pangasius conchophilus* in pre-spawning condition.

PHOTO: NAKHONE HOUMPHENG



A *luang khang* in Sahong Channel in 2015. At the time, such fence traps were built along river edges, where fish swim to avoid fast or turbulent water in the mid-channel. As water levels rise, fish swimming along the edge are directed into the trap (right). This fence was about 30 m long and 2 m high.

PHOTO: KENT HORTLE

peared to understand the benefits of fish being able to move freely along the channels near their home villages.

By 2019, a total of 647 big gears had been removed which has improved fish passage and should lead to improved survival, growth and spawning of fish. Increased production of wild fish should provide general benefits to legitimate fishers at and near Khone Falls, where anyone may continue to freely use small-scale gears such as gill-nets, cast-nets and traps.

The removal of big gears has caused a significant reduction in household catches at Khone Falls. As decided by a government Livelihood and Resettlement Committee, compensation has not been paid directly for the loss because the gears were illegal (despite long-term informal 'ownership' of sites by some families). However, various measures funded by the company for livelihood improvement as well as employment opportunities in project construction, trading and tourism are intended to compen-

sate for any negative impacts such as reduced fish catches.

Improving support for sustainable fisheries management will require ongoing education in all villages, as well as increased and consistent enforcement against destructive fishing activities at Khone Falls — and further upstream where fish catches appear to have increased since the big gears were removed. In the medium term, aquaculture may provide some alternative opportunities for Khone Falls households and may also help to take pressure of the wild fisheries, as well as increasing the availability of complementary fishery products.

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#### Further reading

Hortle K.G. and S. Phommanivong (2019) Don Sahong Fisheries Management Committee Activities during Construction of the Don Sahong Hydropower Project, southern Lao PDR, 2016 to mid-2019. Don Sahong Power Company, Vientiane, Lao PDR. 57 pages.