

## Resources Conservation and Enhancement in Nam Houm Reservoir, Lao PDR

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### **Abstract**

In 2010, the Training Department of the Southeast Asian Fisheries Development Center (SEAFDEC/TD) in cooperation with Department of Fisheries of Thailand and Department of Livestock and Fisheries of Lao PDR embarked on a five-year project on Rehabilitation of Fisheries Resources and Habitat/Fishing Grounds for Resources Enhancement funded by Japanese Trust Fund 5 (JTF-5). The selected project pilot site was Nam Houm Reservoir in Lao PDR. Mainly used support agriculture, Nam Houm Reservoir has water serving capacity of 60 million m<sup>3</sup> in wet season. The total population from four villages near the Reservoir is 3,300 and as reported there are 36 species of fish in Nam Houm Reservoir. The main valuable and market species are tilapia *Oreochromis niloticus*, featherback fish *Notopterus notopterus*, and common silver barb *Barbonymus gonionotus* (Bleeker, 1849). The Project carried out various activities including improvement of fisheries information and data collection, promotion of sustainable fisheries and the concept of community-based and co-management in inland fisheries, strengthening of critical habitat protection measures by installing 50 pieces of highly effective fish shelter with fishing gear prevention tools in the conservation area to protect broodstocks from illegal fishers, technology transfer of mobile hatchery to the fishers group at Nam Houm Reservoir, as well as promotion of breeding techniques for common silver barb by injecting hormones to broodstocks and juvenile fish releasing techniques. All activities were successfully undertaken with the cooperation of Nam Houm Reservoir Fishery Management Committee (RFMR) and local fishers. The Project also demonstrated a good practice of co-management between local people and government in the inland fishery sector. Moreover, the technical knowledge and techniques from the team of experts had been transferred to local officers and local people during the Project period. Now, the local people can apply and develop more techniques appropriate for reservoir fisheries in the country to achieve the goal of sustainable inland fisheries management in the future.

**Keyword:** Resource Enhancement, Reservoir Management

### **Introduction**

In 2013, fisheries production of Lao PDR was recorded at 164,228 metric tons (MT) of which 76% came from freshwater aquaculture and 24% from inland capture fisheries. Most of the fisheries activities are concentrated in the Mekong River and its tributaries as well as in reservoirs and small water bodies, e.g. lakes, small natural pools, swamps and wetlands used for fishing activities. Most reservoirs in Lao PDR are used not only for irrigation purposes but also for fisheries activities.

### **Project Activities**

In 2010-2011, the Project conducted an activity aimed at improving fisheries information and data collection in Nam Houm Reservoir. This was done through proper recording of catch landing, including recording of juvenile fishes caught by seine net, catch from gill net fishing,

The Fisheries Law of Lao PDR provides that communities have the right to management the resources through the establishment of community management systems. Nam Houm Reservoir was commissioned in 1981, and of the 3300 people inhabiting the four villages near the Reservoir, only 82 are registered fishers who use traditional fishing gears such as gill net, cast net, longline, and fish traps. Fish production from the Reservoir is reported to be about 57 MT per year.

and updating of the over-all fish landing information from the Reservoir. In addition, fishing ground mapping was conducted by local fishers to determine the areas that need to be declared as close season, especially during the spawning season.





Samples of mobile hatchery (*left*) and training on fish hatchery techniques (*right*)

Another very important activity in the Reservoir is the construction and installation of fish shelters. In August 2012, twenty pieces fabricated concrete box molds were installed by the fishers' groups in the Reservoir's conservation zone. Each mold weighs 150 kg and measures 40x40x50 cm.

Another design was introduced using gypsum concrete molds, of which 30 pieces were installed in July 2014. Each mold weights 200 kg and measures 50x50x50 cm. The fish shelters are meant to protect the broodstocks from illegal fishers and to serve as refuge areas during the dry season.



Concrete box mold (*left*), gypsum box mold (*center*), installation of fish shelters at the conservation zone of the Reservoir (*right*)

### Lessons Learnt

Through training and demonstration, technical knowledge and techniques from experts on resources conservation and enhancement had been transferred to local officers and fishers. Now, the local officers and fishers are able to conduct enhancement activities by themselves.

In addition, the awareness of local officers and fishers had been enhanced, especially on the importance of conservation and management of inland ecosystems for the sustainability of inland fisheries.