

Monitoring and Facilitating the Community-based Resources Management/Co-management: Pilot site in Vientiane, Lao PDR

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Introduction

Co-management/Community-based fisheries management approach is being considered with inclusion of local fishing communities in managing the fishery as part of a participatory management body involving all stakeholders which should be applied to ensure participation by and empowerment of local fishing communities and other primary stakeholders in implementing management measures. The Department of Livestock and Fisheries (DLF) of Lao PDR had promoted the fisheries officials, fishing communities, and institutions as the leaders or core persons to encourage fishers and farmers through transferring knowledge and activities on sustainable fisheries development and Co-management in Inland fisheries.

In 2012-2016, SEAFDEC conducted the Training for Trainer (TOT) on Facilitating Fisheries Information Gathering through Introduction of Community-based Fisheries Management for Provincial officers in the Northern, Central and Southern part of Lao PDR to expand Co-management and Community-based Fisheries Management to expand the area of Lao PDR. Regarding to strengthen the sustainable fisheries management by Co-management and Community-based fisheries management, SEAFDEC will support to implement pilot project in Nam Xouang Reservoir, Vientiane Prefecture, Lao PDR. The three (3) years project (2017-2019) was developed and cooperates with SEAFDEC/Inland Fishery Resources Development and Management Department (IFRDMD).

Background of Nam Xouang Reservoir

The Nam Xouang reservoir was completely constructed since 1978 and located at the administrative area of Nasaythong district, Vientiane Prefecture (**Fig. 1**). The reservoir is used for irrigation, particularly for the rice paddy field. During the wet season, the area is up to 3,300 hectares and in dry season about 1,500 hectares (12.41 km²). The water storage capacity is about 255.5 million cubic meters. This reservoir covers two (2) Districts, namely: Phone Hong and Naxaythong. Phone Hong is located in the upper part of the reservoir and covers three (3) villages adjacent the reservoir (Ban Nathep, Ban Jangsavang, and Ban Phoxay), while Naxaythong is located in the lower part of the reservoir and covers five (5) villages (Ban Sriwilai, Ban Phothai, Ban Phosri, Ban Thum, and Ban Phothong). Nam Xouang reservoir has two (2) conservation zones. The first conservation zone is located at Phone Hong with the area of 0.7 km². The second is located at Naxaythong and the area was estimated as 0.4 km². The fishing gears mainly used by villagers in this area are: gill net, cast net, lift net, hook, spear, and others. Due to lack of strong enforcement and inappropriate fisheries management measures, as well as, lack of fund and budget for the management of this reservoir, illegal fishing gears existed such as blast fishing, poisoning, and electro-fishing.



Figure 1. Nam Xouang reservoir

Project Design Matrix for Nam Xouang Reservoir

The work plan for fisheries management in Nam Xouang reservoir was developed by conducting the meeting with the local fishers, local officers and DLF to identify the problems and needs. The work plan comprised of the goal, objectives, outputs, and activities by using the Project Design Matrix (PDM) as shown below.

Goal : Sustainable utilization of fishery resources and fishers' livelihood security in Nam Xouang reservoir.

Objectives : The abundance of fishery resources and improvement of fishers' livelihood in Nam Xoung reservoir.

Outputs : 1. Fisheries Management Committee (FMC) in 2 Districts were established,
 2. The fishery rules and regulations in Nam Xouang reservoir were improved and strengthened,
 3. The fisheries management in conservation zone was improved,
 4. Fishers' income was improved by promoting fish processing.

Activities : **1. Establishment of Fisheries Management Committee (FMC)**
 1-1 Conduct meeting for establishing FMCs at Phone Hong district,
 1-2 Develop the fisheries management rules and regulations in Nam Xouang reservoir.

2. Promote fisheries management rules and regulations

2-1 Conducts training/meeting for information and dissemination of fisheries management rule and regulation for fishermen by the local government staff,
 2-2 Produce extension media such as poster and booklet,
 2-3 Implement practical surveillance activities at the conservation zone.

3. Strengthen fishery resources management

3-1 Evaluate the fishery resources (CPUE, stock assessment) (implemented by IFRDMD),
 3-2 Demarcation and mapping fish conservation zone,
 3-3 Fish restocking program (*e.g.* releasing juvenile).

4. Improve of fish processing technique and value added

Project activities implemented



Fig. 2 FMC establishment at Phone Hong District

The FMC started to do the surveillance of their own area and have a meeting every month to discuss on the fishery situation, the illegal fishing and so on. However, there is no boundary of conservation zones; therefore, this was the big gap for the illegal fishing in the conservation zones. The fishers requested to make buoys for demarcation of conservation zones in both districts. Hence, the seven (7) and three (3) buoys were installed in Phone Hong and Naxaythong districts, respectively. Moreover, the conservation zone signboards were installed in the conservation zones to announce with fishers about the area of the zone. Furthermore, there are seasonal closings for the spawning area in the reservoir, so the seasonal signboards were installed at the river mouths with three (3) and four (4) signboards in Phone Hong and Naxaythong Districts, respectively (**Fig. 3**). Moreover, the rules and regulations signboards were installed at the points where fishers would enter around the reservoir..



Fig. 3 The conservation zones in Phone Hong District (upper) and Naxaythong District (lower)

SEAFDEC implemented the project step by step following the work plan. The first activity was the establishment of FMC in Phone Hone District (**Fig. 2**) while Naxaythong District had formed the FMC through the support of the Mekong River Commission (MRC). The 25 members of FMC from the five (5) villages of Phone Hong District were established including the position and responsibilities of the members were set up. After that, the FMC revised the fisheries rules and regulations to be more effective in both two (2) districts.

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In addition, the mobile hatchery system was set up in Phone Hong and Naxaythong District, as well as the training on mobile hatchery technique was introduced to the fishers and local officers for capacity building in order to increase their knowledge on fish hatchery. The fishers' learned the technique for artificial breeding, hatchery, and nursery. The mobile hatcheries were move to their respective district. The fishers could also use the mobile hatchery for fish releasing day in Lao PDR.

In addition, in order to know the fishery situation, fish composition, and socio-economic, the survey of fishery resources was started since June 2018 to December 2018 and it will probably extended to May 2019. This activity cooperated with IFRDMD and provided the data sheet, measurement boards, scale, one personal computer and the enumerator fees every month to collect the data on fisheries and socio-economic, fish species identification, and stock assessment. There were two (2) enumerators who conducted the fisheries biology survey, one (1) enumerator collected the data at Phone Hong, and the other one at Naxaythong. For the fisheries and socio-economic, there were a total of six (6) enumerators; four (4) enumerators in Phon Hong and they collected data from 60 fishers, while two (2) enumerators in Naxaythong, and collected data from

40 fishers. The local officers used to input all data from both districts and sent to central officer for English translation and rechecking, and then sent to SEAFDEC/TD and IFRDMD for data analysis.

Next activities in year 2019

There are two (2) main activities remaining for year 2019, namely: 1) Awareness building on fisheries co-management including the community rules and regulations to fishers and local authorities, and 2) Improvement of fish processing technique and value added fishery products. The first activity will focus to produce the publication such as booklet, poster, *etc.* for public announcement in the communities around the reservoir. The publication aims to encourage the local people to be aware on the fishery resources and co-management. The contents of the publication will be easy to understand and focus on the importance of fishery resources and management including the rules and regulations in Nam Xouang reservoir. The second activity aims to improve the fishers' livelihood especially the fisher's wife by introducing the techniques and sanitation for processed fish products. The processing group will be established and trained for fish processing techniques and household accounting.

Conclusion

Since the project on fisheries Co-management and Community-based fisheries management started at Nam Xouang reservoir, Lao PDR, many activities implemented with the active participation from both fishers and fishery officers of DLF. Now, the FMC was established in two (2) Districts with the revision of the fishery rules and regulations. Furthermore, the demarcation of conservation zone and regulations signboards set up including the strong surveillance activity by FMC led to reduce the illegal fishing at the conservation zone. The data analysis for fishery situation and socio-economic will be analyzed in year 2019 in order to evaluate the whole project. Finally, the proceeding of the project will be published within next year.