

# SPECIAL REPORT

## INLAND FISHERIES MANAGEMENT: Potentials and constraints for securing sustainable livelihood

By SEAFDEC Training Department

Inland fishery resources are the main sources of protein and employment for peoples in agricultural sectors surrounding the Mekong River Basin as well as around natural lakes, man-made reservoirs and irrigation systems. The Southeast Asian Fisheries Development Center (SEAFDEC) is taking major role to develop and promote sustainable fisheries management for securing food, livelihood, poverty alleviation and sustainability to both marine and inland fisheries sectors in Southeast Asia. Recognizing the importance of inland fisheries to food security in rural fishing communities, SEAFDEC formulated a three-year project (2008-2011) on “Promotion of Inland Small-scale Fisheries Management through Rights-based Fisheries and Co-management towards Institutional Building and Participatory Approaches”.

Implemented in Lao PDR and Myanmar, the project secured the cooperation of the Department of Livestock and Fisheries (DLF) of Lao PDR and the Department of Fisheries of Myanmar as counterparts of SEAFDEC. The concept of rights-based fisheries and co-management approaches were promoted through the project. These approaches, which was first introduced in the Regional Guidelines on Responsible Fisheries in Southeast Asia: Responsible Fisheries Management, are new but challenging means of promoting limited access regimes in the waters of the Southeast Asian region.

### Project framework

The project activities aimed to encourage the local people to recognize the significance of participation in decision-making processes and define sharing functions and responsibilities between community-based organizations and government-based agencies. While promoting co-management and rights-based fisheries approaches for sustainable inland fisheries management, the project also advocates the practice of demarcation conservation areas which should be coupled with the establishment of relevant community rules and regulations. Activities to improve the capacity of local people in accessing alternative sources of income were also conducted through training on fish processing and fish culture. As planned, the project envisaged to enable the local communities to secure job opportunities, create alternative livelihoods, and utilize the resources in sustainable manner, and accordingly, alleviate poverty and acquire social safety net.

### Technical assistance

Technical assistance provided by the project was mainly on institutional building, area selection and demarcation, fish processing, and fish culture techniques, and the knowledge acquired were transferred to the stakeholders in Lao PDR and Myanmar. Institutional building was conducted by organizing a workshop for local representatives to take part in discussing and defining the functions and responsibilities in controlling and managing the demarcated areas for conservation. This technique has been integrated with rights-based fisheries approach to limit fishing activities in the conservation areas. Additionally, institutional building was also introduced to fishers and women’s groups who were trained on fish culture and fish processing to enable them to take leading role in handling group activities.

### Implication of technical assistance

#### Demarcated areas for conservation

In Lao PDR, SEAFDEC and DLF organized two national workshops attended by local representatives of twenty-three villages to discuss the functions, responsibilities and responsible persons/agencies in managing and controlling the demarcated conservation areas in Nam Ngum Reservoir, Vientiane Province.



Conservation area  
and fish releasing at  
Nam Ngum Reservoir



As a result, the draft functions, responsibilities and responsible persons/agencies were completed. In addition, water areas of four villages, namely: Ban Donxaiudom, Ban Sangsawang, Ban Huayprung and Ban Mai were identified as pilot sites for the project's conservation area management.

SEAFDEC and DLF installed twenty-eight buoys to mark and let the local fishers and residents know about the conservation areas. Moreover, the identified four villages had been declared no-fishing zone and that fishing is not allowed in the areas in order to enhance new recruitment of the fish stock. To further strengthen the enhancement of new recruitment of stock, SEAFDEC distributed brochures containing information on the importance and benefits of practicing conservation areas to the local residents.

In Myanmar, similar national workshop was organized to educate local residents and enhance their understanding of the concept of co-management and rights-based fisheries approaches taking into consideration the demarcation of areas for conservation purposes. After the workshop, SEAFDEC and DOF Myanmar installed sign boards to notify the public on the area demarcated for conservation in Duya Inn Lake. Furthermore, another two activities such as topographic survey and responsible fishing were also conducted to strengthen the rationale and importance of the conservation areas. The result of the topographic survey was used to select a proper demarcated area for conservation. Thus, an area in the Lake with 5-10 meter water depth had been appropriated as conservation area and designated by a floating raft to notify the fishers. This area is known to maintain its water level even during the dry season ensuring a well-circulation of water and water quality in the Lake. Responsible fishing was also promoted to be practiced beyond the conservation area to secure stock recruitment in the Lake.



*The Conservation zone established in Myanmar*



### Alternative and additional source of employment

Fish culture was of interest to fishing communities in Lao PDR as it could provide the local people with alternative source of employment opportunities. In this regard, SEAFDEC organized a training on fish culture in Udonthani Province, Thailand with representatives from the four pilot villages of Lao PDR participating. The representatives were then able to gain knowledge and skills in tilapia and frog culture and management. After the training, the participants indicated that the knowledge they gained would be useful in their effort to enhance the promotion of fish culture as means of alleviating poverty, improving access to market channels, and conserving the environment through sustainable use of natural resources.



*Training on fish cage culture in Udonthani Province, Thailand (above); and*

*Training on fish processing in Myanmar (right)*



In Myanmar, fish processing was introduced to women's groups in Hinthada Township, Ayeyarwaddy Region. Training on fish processing was organized to enable the local women to utilize low economic value fishes for value-added products. The training, which strongly emphasized on making use of low economic value species and small-size fishes, aimed to come up with dried seasoned fish which is a traditional product and crispy fish that needed a new technique. During the training, the local women worked in groups of four to five members to continuously produce dried seasoned fish products that would match with local preference. One-day training on accounting management system was also conducted for the local women's groups. Consequently, such fish processing activity enabled the women's groups to acquire incentives and generate additional income for the groups.

### Major constraints

- **Resources management:** In Lao PDR, the government was not yet ready to enact national fisheries laws. Thus, the draft functions, responsibilities and responsible persons/

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## Strengthening of the Gulf of Thailand sub-regional cooperation

SEAFDEC-Sida project organized the 3<sup>rd</sup> Sub-Regional Meeting on the Gulf of Thailand during 20-22 September 2011 in Siem Reap, Cambodia.

The Meeting aims to review the actions undertaken based on recommendations given during meetings previously organized under the project and provide platform of discussion among representatives from four countries bordering the Gulf of Thailand, namely Cambodia, Malaysia, Thailand and Vietnam, to address issues on IUU fishing, fisheries habitat management, fishing capacity, port monitoring, etc.

During the Meeting, Dr. Chumnarn Pongsri, SEAFDEC Secretary-General

reiterated the successful conduct of the ASEAN-SEAFDEC Conference in June 2011, particularly the adoption of the Resolution and Plan of Action to serve as basis of the region's sustainable fisheries development for food security towards the coming decade, which is in-line with the direction of the SEAFDEC-Sida project. He also expressed views that this Meeting would provide good opportunity for countries in exchanging views and strengthening close cooperation within the sub-region in various areas.

Discussion and recommendations were then made on possible issues/actions for sub-regional cooperation, such as those on conservation and management of fishery habitats/



resources particularly the critical habitats during the critical stages of life cycle; strengthening of cooperation in combating IUU fishing and management of fishing capacity including MCS network, community-based management and vessel registration/licensing; and improving collection/sharing of data and information towards better management of fisheries in the sub-region.



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agencies developed through the project could not be fully practiced. In Myanmar, fish leasable holders with concessions to utilize the inland fishery resources participated in decision-making process, but other users did not. Nevertheless, all users agreed to use responsible fishing gear and to fish beyond the areas demarcated for conservation.

- **Access to finance:** lack of financial access is a common issue in rural areas. Hence, the fish culture and fish processing activities in Lao PDR and Myanmar, respectively, are facing difficulties in the development and improvement of the capacity of rural people.

- **Uncontrolled and natural condition:** In Lao PDR, local residents could face a problem of the uncontrolled conditions of Nam Ngum Reservoir II when the plan set for managing water level to produce electricity would be implemented. This plan had not considered the inland fisheries in Nam Ngum Reservoir I which is lower than Reservoir II. As a consequence, local residents could

encounter hardships to manage the conservation area and promote fish culture activity. In Myanmar, severe dry season could affect the areas demarcated as conservation zones, which could probably result in smaller conservation area.

- **Preference attitude and processing technique:** The people of Myanmar prefer to consume oily fish products. Hence, the dried seasoned products of the local women in Hinthada Township should be oily. Furthermore, inadequate knowledge and materials for good packaging could turn the oil of the fish products smelly which could also result in short shelf-life.

### Conclusion

The project framework implemented in each country varies due to differences in problems, needs, culture, and government regulations. Nevertheless, the implication of the project activities towards poverty alleviation was certainly similar. From the project implementation, it could be observed that inland fishery resources have

high potentials to create job opportunities for local residents especially those living along man-made reservoirs and natural lakes. Fish processing and fish culture are credible activities that could provide alternative and additional sources of incomes to local residents. However, such activities could encounter problems related to limited access to finances/capital for investment and market for products distribution.

In fish processing, culture and consumers' preference, as well as healthy nutrition and hygiene should be the highest priorities to be taken into consideration. Meanwhile, local users' participation in decision-making and resource management should be made continuing practice until the local people are able to establish management bodies that would lead the communities and local residents in the management of the inland fishery resources. In addition, governments should support and provide technical assistance to the said management bodies to enable them to properly handle local resource-based management for sustainability and food security. 