

sharing the profits amongst stakeholders, a certain proportion was used for community benefits such as the purchase of two hand tractors and repairing the village electricity transformer.

It was also evident that every community involved in the project has been contacted by neighbouring village communities with regard to the possibilities of their commencing CBF activities as well. In this regard two additional communities adjacent to Hoay Xi Village (Van Vieng District, Vientiane Province) have already commenced CBF in cages in the upper reaches of Nam Ngum Reservoir.

There are many factors behind the success of CBF in Lao PDR, which is likely to become a major extensive aquaculture activity in the country, providing significant subsidiary income to rural farmers, improving nutrition and contributing to the well being and harmony of communities. CBF activities in Lao have previously been undertaken in a somewhat under-developed form. The project has brought in some technical improvements, such as in the choice and ratio of species to be stocked, larval to fingerling rearing in hapas in the same water body as a means of reducing mortality of seed stock and engagement and organization of the community into fisher groups. The active participation of fishery personnel, headed by Mr Bounthong Saphakdy, Head of the Fisheries Division, Department of Livestock and Fisheries in the Ministry of Agriculture & Forestry, has facilitated better community organization for conducting the activity, for disseminating the principles of CBF and the benefits thereof, and for effecting inter-community exchange of ideas.

Envisaging the popularity of this activity, the project has begun to address potential bottlenecks in sustaining it. The foremost concern is to ensure that high quality seed stock is available to farmers. In this regard the project, in conjunction with the Department of Livestock and Fisheries, is proceeding to rationalize seed production in key hatcheries such as the Lao-Singapore Fisheries Station in Vientiane Province. In addition, the project is working closely with selected private hatcheries such as Mitsamphanh Hatchery. The seed stock utilized consists of indigenous species such as *Labeo chrysophekadion* (pa phia), which is much preferred by the consumer and commands a relatively high price (15,000 kip/kg) as opposed to exotic species such as silver carp (10,000 kip/kg). The project envisages in developing proper broodstock management plans for such key species in order to assure assist in maintaining seed quality.



Regular community dialogue is a key to success of CBF activities in rural Lao.



Temple improved using CBF earnings, Thong Van Village.

For more information visit the project web page at:

http://www.enaca.org/modules/inlandprojects/index.php?content_id=2.

Revival of abandoned shrimp farms in Krishna District of Andhra Pradesh

National Centre for Sustainable Aquaculture (NaCSA)

Chinnapuram Village in Machilipatnam Mandal of Andhra Pradesh is one among the many villages with a large number of abandoned shrimp farms in Krishna district. Out of the 1200 ha of pond area in the village around 800 ha is abandoned while farmers continue farming shrimp in the remaining area, where average productivity is very low due to poor farming and management practices. Farmers feel lucky if they harvest 50 kg shrimp/ha after four months of crop.

The National Centre for Sustainable Aquaculture (NaCSA) invited Chinnapuram farmers to a field day organized in Penduru (Bantumilli Mandal) during June 2008 (see NACA Newsletter, page 47). After witnessing the success of the Penduru society farmers during the field day, the farmers of Chinnapuram formed a society comprising 39 farmers (65 ponds, 38 ha) and for the first time purchased quality seeds through a joint contract hatchery system where they placed

bulk orders to a hatchery, 45 days in advance of the planned stocking date, for production of required quantity and quality of seeds.

All the farmers in the new society agreed to use a uniform stocking density of 20,000 PL/ha and stocked their ponds at the same time thus avoiding any cross contamination. Farmers followed better management practices (BMPs) during grow out, avoided unwanted chemicals and kept their production cost to minimum through better feed management and by making use of amphipods grown in the ponds. Amphipods play an important role as source of nutritious food in the shrimp pond when the stocking density is low. Some of the Chinnapuram farmers have achieved a count of 20 tails/kg (50 g) in less than 100 days where amphipods are abundant in ponds. We have taken up amphipod culture demonstration in societies; more and more society farmers are interested to learn about this low cost and highly beneficial technology which can help small farmers immensely in reducing production costs. The society coordinator who was trained by NaCSA monitored all society ponds for water quality and ensured that best of the conditions were maintained.

Twenty farmers of Chinnapuram have harvested their crop so far. The average production per ha is 300 kg of 30 to 55 gm shrimp. The average FCR of harvested ponds is <1.0. The harvested farmers have made a profit of Rs. 45,000/ha/crop (in less than 100 days) which is five times the profit they use to make prior to intervention of NaCSA. We expect better profit for remaining ponds which are yet to be harvested. More than 80% of society farmers will make very good profit and all of them are very happy with the successful outcome. All the society farmers are willing to invest some part of the profit to deepen their ponds, strengthen the bunds and repair the common inlet and outlet canals which could further increase the productivity of their ponds in the coming summer crop. The detailed economic analysis of crop outcome will be prepared after complete harvest of all the ponds.

In order to create a wider awareness on the revival of shrimp farming, NaCSA organized a "Farmers Field Day" on 16th October, 2008 at Chinnapuram, Krishna District to allow others to witness the successful harvest of society farmers and also to discuss "the success of farmer societies through participatory approaches" on the occasion of the Kesavaswamy Aquafarmers Welfare Society's successful crop outcome. More than 200 farmers participated in the event from Krishna and neighbouring Guntur District of Andhra Pradesh. The function started with welcoming of all the farmers by Sri. Rajkumar, Project Coordinator followed by brief introduction by Umesh N.R., CEO, NaCSA. Sri. Saifuddin Anis, Deputy Director of MPEDA urged participants to follow the example of the Chinnapuram farmers and achieve success in each and every society of Krishna District. Sri. Venkateswara Rao, president of Kesavaswamy Aquafarmers welfare society, sharing his society success with the invited farmers, explained in detail the better practices followed in the society starting with contract hatchery system. He mentioned that most of the Chinnapuram farmers had previously abandoned shrimp farming and remaining few had been on the verge of abandoning it completely due to failings in successive crops that had devastated their lives for almost 14 years since the outbreak of white spot disease in 1994. This successful crop is a turnaround in their lives which has

provided a ray of hope for better future, and a motivation for other farmers in the village to organize themselves as aquaculture societies.

There was a very good direct farmer to farmer interaction during the meeting which made this field day a very successful event. Participant farmers were also keen to know more about the procedures for registration of their farms with CAA, procedures followed in contract hatchery system etc. which were explained in detail by Sri. A.B. Chandra Mohan, Regional coordinator of NaCSA.

The success of Chinnapuram farmers is being widely published through print and visual media for the benefit of rest of the farmers in the district. So far six societies have been formed in this village and many more farmers are coming forward to follow suit. More than 200 farmers (eight to ten societies) of Chinnapuram and about 1,000 farmers (40 societies) from other parts of Krishna district directly benefit through society concept in summer crop of 2009. This could be the beginning of revival of shrimp farming in abandoned areas of Krishna district. With some policy support most of the abandoned farms in Krishna District can be revived within next two years.

Positive impact and outcome of this demonstration:

- Chinnapuram Society farmers have achieved a successful crop for the first time in more than 14 years.
- Farmer unity and procurement of good quality seed through a contract hatchery system were the key reasons for the success.
- Reduced cost of production through efficient use of resources and no use of chemicals.
- Low cost amphipod culture techniques will be made popular among farmers in societies during coming summer crop.
- Farmers from neighbouring villages and other parts of Krishna District who have abandoned shrimp farming for some time are getting encouraged by the success of society farmers.
- Farmers from neighbouring district of Guntur who participated in the field day were also keen to follow the society concept in summer crop of 2009.

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