

Role of Women in Small-Scale Aquaculture Development in Southeastern Cambodia

M.C. NANDEESHA
NGAN HENG
KUONG YUN

In Cambodia, women make up more than 65% of the adult population. They play a most important role in all spheres of social and economic activities. A recent investigation has shown that in small-scale aquaculture, women have been found to contribute more than men in almost all activities.

An NGO, Partnership for Development in Kampuchea (PADEK), is principally working in the areas of sustainable agriculture and community development. A program on fish culture was initiated in 1991 in Prey Veng and Svey Rieng Provinces of southeastern Cambodia based on need-assessment study results, wherein farmers played a key role in determining their requirements. Rice and fish being the common diet of Cambodian people, farmers hoped that by doing fish culture, the problem of fish scarcity could be solved. Unfortunately, due to lack of technical support, the program did not prosper. In 1993, the program was restarted through the establishment of a Fish Seed Production and Research Center at Bati on the banks of Mekong River in Prey Veng Province.

A baseline survey had been earlier conducted to find out the causes for failure of aquaculture, on-farm resources available with each farmer, their knowledge and level of interest. It was clear from the survey and group discussion that the level of farmers' knowledge in fish culture was very poor and most farmers

still believed that fish have to feed humans and not humans feed the fish. Most farmers felt that by just putting some fish into the pond, a large amount of fish could be harvested. Secondly, many considered pigs as the money earner, while fish were largely for family food.

On the technical side, two major factors were identified as the causes for failure: turbid (muddy) water and stocking of poor quality seed. Though there were many limitations, the strong interest of farmers in the PADEK areas served as the major source of inspiration to restart the program. Community

Development Committees (CDCs) which were created by PADEK served as an excellent linking mechanism between the beneficiaries and the Bati station. Within the CDCs, there were already credit committees to manage other programs and they were entrusted with the task of managing credit to the fish farmers for material inputs from Bati station (to be repaid if they harvest the fish) as well.

Heavy emphasis was laid on training. All the farmers were brought to the Bati station and were trained on



A Cambodian woman fish-farmer, having succeeded in fish production, now sells tlapia seed to other farmers. ALL PHOTOS BY M.C. NANDEESHA

all aspects of fish culture with practical demonstrations on ways to get rid of muddy water. Farmers were shown how a fish pond with green water can support the good growth of fish.

Some 77 farmers were supplied with fish seed, namely, silver barb, *Pangasius*, tilapia, common carp and silver carp during September and October. Great care was taken in choosing the species and stocking density based on the level of involvement of each farmer and on-farm resources. Some of the farmers from each area were encouraged to undertake fish culture on a commercial scale. The trial farmers were visited almost every month. Fish were sampled whenever possible and suitable guidance was provided. The trial farmers largely served as the lead farmers for each area and helped other nontrial farmers around their area.

Most of the farmers completed harvesting of fish by April since ponds started drying up then. During April - May, a survey was launched to find out the actual production obtained, constraints experienced and opportunities that exist for further expansion of aquaculture. It was noticed that most of the housewives played the major role in fish culture and the success rate and maintenance of data were better wherever there was more involvement of the housewives. Unfortunately, all throughout the planning and training it was only men who participated in the exercise. Though there were less than 20% women, they were either widows or their husbands were too busy in some other paid jobs. Hence, an attempt was made to understand the contribution of women and plan for future programs giving due consideration to the participation of women in the whole process.

Among the 77 farmers who ventured into fish culture in PADEK areas, 65 farmers were able to grow fish successfully, though the production rate varied considerably. Excepting about 16% of the people who faced the problem of losing fish or obtaining less than 10 kg/100 m² due mainly to predators, all other farmers could harvest about 10-50 kg/



Women actively participate in the trainings.

100 m² in 8 months. A few were even able to harvest more than 100 kg/100 m². All these farmers were very happy with the fish culture and only two farmers expressed dissatisfaction and the desire to discontinue. All the successful farmers had undertaken repair/expansion of their pond and some farmers had even constructed new ponds. Even those farmers who were not able to grow fish had expressed their desire to try once again. In all the areas where farmers were able to harvest fish, they had paid the seed cost to their CDCs. Interestingly, most of the fish grown (more than 80%) were consumed within the family; only a small percentage was sold within the commune.

Most of the farmers expressed greater satisfaction with fish culture; the reason being that they never thought that they would be able to grow fish in their pond and secondly, they could get fish for consumption for almost four months from their own backyard pond. Some of the farmers shared the fish grown in their pond regularly with neighbors for no cost, while others distributed fish to relatives and friends on the last day of the bulk harvest.

Housewife Managers

In almost all cases, ponds were managed by the housewives. During the survey, usually the husband and wife were interviewed together. Most farmers said that their wives managed the pond regularly for two reasons: most routine operations involved, like fertilization and feeding, could easily be managed by house-

wives; secondly, husbands were often busy in some other work which meant they were away from the house for long hours and hence it was the wife who had to take lead role in day-to-day operations. In several cases, daily harvest of fish for family consumption was also done by the female members with the help of children. Husbands helped only when they were at home or when the pond water was too deep requiring the operation of more specialized gear for catching fish.

When the housewives were asked whether their husband taught them how to grow fish, they said their husbands did try to educate them, but it was not clear, and secondly, it was expressed in some cases it was more like an order than teaching them with affection. In several cases, housewives had fed too much feed and wasted money, as they were not sure on how much to feed. When the housewives were asked at what stage of fish culture operation they would require the help of male members, in Prey Veng Province it was for procurement of seed and harvesting; in Svey Rieng Province, where large amounts of termites are used for feeding fish, the women wanted their husbands to collect termites as well, as it was felt not safe for them to go out to a far off place to collect termites. By and large, women felt that they could do most of the operations independently with only minimal assistance from male members of the family.

When the husbands were asked whether they would be willing to send their wives for training, they expressed their ready willingness.

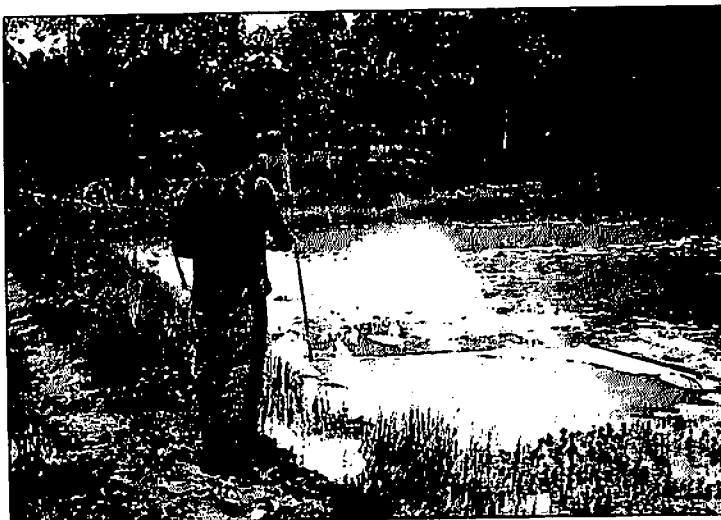
During the survey, the women were also asked their knowledge of the health benefits of eating fish. During the training period at the Bati Fisheries station, all farmers were taught the health benefits of eating more fish. It appeared that none of this knowledge was shared with wives or was not understood by them clearly. Although most were unable to answer clearly, they were aware of the fact that fish could be eaten by all age groups and was easily digestible. Some women suggested that young girls are

not encouraged to eat meat to avoid becoming fat and to keep the skin smooth. Others said that eating more fish would prevent pimples. Other major health benefits like reduction or avoidance of heart-related problems with eating more fish were not known to them.

Farmers identified the following requirements to continue fish culture during 1994-95: money, fish seed, training and marketing. Almost all families expressed quality seed as the first requirement followed by training as the second; finance was identified as the last requirement by about 70% of the respondents and the rest of the families said they could manage even without financial assistance. The technology advocated by PADEK during 1993-94 was largely based on the use of on-farm resources and hence most farmers felt no difficulty in carrying out fish culture without large financial support. In most cases credit has been found to be beneficial, particularly for the provision of seed and in some cases for the purchase of feed ingredients, mainly rice bran.

Using the survey as a basis, a fish farmers' meeting consisting of most successful, fairly successful and unsuccessful farmers was held at Bati Fisheries station on 15-17 June 1994, to provide a forum for the farmers from different regions to share their experiences and plan for future activities. The meeting was inaugurated on 15 June 1994 by His Excellency May Sam Oeun, Undersecretary of State for Fisheries. In a two-hour question-answer session between His Excellency and the farmers, the latter sought assistance or clarification from the Government for the promotion of aquaculture in the country and to help the poor families in having adequate food security.

Both the results of the survey and the subsequent fish farmers' meeting have provided valuable guidelines for further promotion of aquaculture in southeastern Cambodia in particular and the nation in general. Since the whole exercise had shown the tremendous contribution of women, a special session was held on



A woman takes care of the feeding of fishes.

"The Role of Women in Small-Scale Aquaculture Development in Southeastern Cambodia." The general consensus was that fish culture being fairly less labor-intensive and more recreational, day-to-day management can be done better by women than men. Most participants expressed the view that fish culture is less risky than rice and pig cultivation, in terms of return on investment, provided adequate care is exercised from the beginning to the end of the culture period. It was the common opinion that both men and women required training in fish culture to enable the operation to be carried out more effectively. It was agreed that future training should concentrate equally on both men and women.

From the working areas of PADEK, it is estimated that there would be about 400 farmers who would be attempting fish culture during 1994-95. Each family which has already gained experience in fish culture during 1993-94 has been given a task of helping three to four other farmers around their houses in the preparation of ponds. Bati station would provide them with seed; in addition, considering the future expansion, local seed production and nurseries have already been planned. Training will be organized in their own commune for both husband and wife. To obtain seed either on cash payment at their doorstep or on credit, attendance of both is required by the CDC. Also, record-keeping is stressed and it is hoped that wives would assist. We hope that this process will help greatly in the development of appropriate aquac-

ulture technologies through farmer participation.

While PADEK has now found fish culture as a good entry point in the new community development projects, Bati station has found community development philosophy as the most useful tool in the implementation of fish culture programs. With an average of six members in the family, owning a pond of 200 m² could help the farmers in growing at least part of the fish requirement of the family. In some of the PADEK areas, it is pro-

posed to encourage as many families as possible in each village to have fishponds and to provide technical support to use those ponds for growing fish.

A long-term study to look at the creation of nutritionally balanced food security and its benefits for the overall development of the families with emphasis on health is proposed to be taken up by PADEK. There is a great opportunity for the NGOs and the government to work in this area, however, to create food security for the poor people of Cambodia. Unplanned intervention in this area can cause more confusion and frustration, contrary to the pleasant experience narrated in this article. PADEK and the Bati station would be pleased to share their experience.

Recognizing the contribution of women in the fisheries sector, PADEK organized a national workshop on Women in Cambodian Fisheries in October 1994. During this workshop the scope, necessity and plans for holding a regional workshop during 1995 for the IndoChina region on the role of women in aquatic resource management were discussed. Those interested to attend the 1995 workshop or suggest ideas may contact the Director of PADEK (Tel/Fax - 855 23 26224).

M.C. NANDEESHA is the Fisheries Advisor of Partnership for Development in Kampuchea (PADEK) Phnom Penh, Cambodia. **NGAN HENG** and **KUONG YUN** are working as local counterparts to PADEK's fisheries project.