

# Ornamental Aquaculture Field School: A new extension approach

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The first ever Ornamental Fish Farmer Field School was inaugurated on 7 February 2021 at the fish farm of Shri Bhagirathi Roy of Prabhupara Village, Sadar block, Jalpaiguri, West Bengal

## Aquaculture Extension – the vital link between research and farmer

Aquaculture extension services worldwide have laid emphasis on transfer of technologies, imparting training and promoting good practices in technical areas e.g., site selection, breeding and seed production, feeding and fish health (FAO, 2017). Effective extension services have had a role in increasing aquaculture production and may result in improved economic development of rural fish farmers (Tu and Giang, 2002).

Extension systems have undergone sea changes over time with an increasing scope in terms of both contents and recipients (FAO, 2017). While agricultural (including aquaculture) extension is often narrowly defined as “technology transfer”, it should be broadened to encompass human resource development that focuses on learning and building farmers’



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Innovations in extension and advisory services have been the focus of discussion in regional as well as global fora. Horizontal, inclusive, farmer led, and participatory extension is felt as need of the hour. A field school approach aims to increase the capacity of groups of farmers to test new technologies in their own fields and to assess the relevance of results to their particular circumstances (Braun et al. 2000). It is required to integrate the curriculum of scientific method of aquaculture like where to rear, how to rear, how to market the fish etc. These field schools cover a wide area where the progressive farmers are there and through them the technologies of fish farming viz., seed production of carp, catfish, and air breathing fish, ornamental fish etc. are disseminated.

## ICAR-CIFA promotes farmer to farmer learning

The Farmer Field School (FFS) approach was promoted by FAO as an alternative technology dissemination mechanism to the top-down extension methods in south-east Asian countries. In order to utilise the potential of the FFS approach for aquaculture, ICAR-CIFA has piloted the Aquaculture Field Schools (AFS). AFS is a school without walls for improving the decision-making capacity of the farmers and facilitate cross learning opportunities. It is a participatory extension approach whereby fish farmers are allowed to choose the methods of aquaculture production through discovery-based approach. AFS is composed of a group of like-minded farmers who regularly meet and discuss the technical aspects of fish farming. Ideally, 20-25 farmers make an AFS.

Aquaculture Field Schools promote farmer to farmer extension. It eases the pressure on an already overstressed public sector aquaculture service delivery system. It is a participatory extension approach where one fish farmer learns from the other. The vision inherent in aquaculture field schools is that the trainers work alongside farmers as advisors and facilitators, encouraging independence, analysis and organisation. This method promotes exploration, discovery, and adaptation under local conditions. The researchers and



The second Ornamental Aquaculture Field School was established by ICAR-CIFA, Bhubaneswar, on the farm of Sri Rajesh Ranjan Mohapatra on 4th Sep 2021.



workers are looking to help them where they are unable to solve a specific problem amongst themselves.

## Aquaculture Field School piloted

The ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar has established seventeen aquaculture field schools - eight in Odisha, six in West Bengal, one in Arunachal Pradesh, one in Assam and one in the state of Chhattisgarh, to promote farmer to farmer extension. The AFS piloted by ICAR-CIFA is the first of its kind in the field of aquaculture. Several field days and workshops on community-based aquaculture have been organised at the AFS which were attended by farmers from neighbouring villages. Post-

graduate students in the fishery are also regular visitors to these field schools for gaining practical exposures. Several other researchers have documented the positive impact of field schools.

AFSs have proved to be the ground for new, meaningful, and participatory learning about scientific practices in aquaculture. Farmers' practical problems are regularly being analysed, their capacity enhanced and quality decision making ability strengthened through these field schools. The AFS approach relied heavily on non-monetary inputs with technical advice and interaction as the primary intervention. This approach of 'farmer to farmer' extension with no physical input would certainly be sustainable in the long run (De et al. 2016). The AFS initiative was started as an institute funded project during 2008-09.

## **Ornamental Fish Farmer Field School**

The first ever Ornamental Fish Farmer Field School was inaugurated on 7 February 2021 at the fish farm of Shri Bhagirathi Roy of Prabhupara Village, Sadar block, Jalpaiguri, West Bengal. It is a unique Farmer Field School that had been established by CIFA for the farmer to farmer learning and dissemination of ornamental fish culture techniques for the first time in the country. The field school was virtually inaugurated by Sri Sagar Mehera, Joint Secretary, Ministry of Fisheries, Government of India. He appreciated the efforts made by ICAR-CIFA in helping the farmers of remote North Bengal for adopting scientific aqua farming systems. Dr Saroj Kumar Swain, Director of ICAR-CIFA, was present along with a team of scientists. Farmers and their households will be enabled to take up ornamental fish farming with technical support from the institute. The school envisages empowering over 500 ornamental fish farmers in 20 nearby villages of North Bengal, contributing greatly to the extension and advisory services delivery.

This is a major intervention by ICAR-CIFA to popularise ornamental fish breeding and developing entrepreneurship in North Bengal districts. Under the flagship Prime Minister Matsya Sampada Yojana scheme (PMMSY) this sector is being given lot of emphasis. With active involvement of farmers, farm women and related stakeholders the sector will witness growth given the congenial agro-climatic condition prevailing in this part of the country.

### **Odisha's first ornamental aquaculture field school opened**

Sri Rajesh Ranjan Mohapatra (42) is a progressive ornamental fish farmer of Kochila Nuagaon Village, Dasasahi, Cuttack District. He is an adopted farmer of the ICAR-Central Institute of Freshwater Aquaculture, Bhubaneswar. He had come in contact with CIFA in 2006 and received training. By dint of his sheer efforts and hard work he has been able to establish himself as a well-known figure in the ornamental fish seed business in Cuttack and neighbouring districts. He owns a farm of 2 ha comprising 21 ponds spread over 1 ha, 78 cement tanks, and four ornamental fish breeding hatcheries.

The farmer is dealing with several exotic and high value ornamental fish. Important ones are zebra fish (yellow, red, pink); koi Carp; angel fish; cichlids (blue); sword tail (pink, red); lion head, red cap, fan tail and telescopic eye goldfish; honey gourami; kissing gourami; Amur carp; discus; fighting fish (deep red, maroon) and others. He has a clear vision – attractive colour and quality product. With the proper guidance and training by Dr Saroj K Swain, Principal Scientist of ICAR-CIFA, Sri Mohapatra can produce around 100,000 colourful fish per year. His annual turnover is around Rs 3,000,000. He makes a profit of over Rs 750,000. He is planning to bring in more varieties of ornamental fish, intensify production involving women, utilise a 'hub and spoke' business model and launch online trading. The Ornamental Aquaculture Field School was established in his farm by ICAR-CIFA, Bhubaneswar on 4th Sep 2021. This is the second such school piloted by ICAR-CIFA to facilitate horizontal spread of technology and advisory services.