BEST PRACTICE -2 adopted by Department of Zoology under the aegis of Pravabati College, Mayang Imphal

Objective: To provide students with the scientific methods of fish farming and to motivate them for self employment and entrepreneurship and Demonstration of Pisciculture and Imparting Knowledge to Students and neighboring local Fish Farmers

The Practice: It involves composite culture, captive breeding using synthetic hormone, fish nutrition, pond management and farming activities.

With the approval of college authorities, the pisciculture practice began in the 1st November, 2019. Carps and tilapia were stocked in the pond at normal densities. The carps species included common carp (*Cyprinus carpio*), rohu (*Labeo rohita*) and mrigal (*Cirrhinus mrigala*), silver carp (*Hypophthalmichthys molitrix*), grass carp (*Ctenopharyngodon idella*) and Tilapia (*Oreochromis niloticus*).

In addition to the present culture pond, two more ponds (about 0.75 hec. in size and average 5.0 ft. in depth) have been expanded, which would help boost further fish farming practices. These two ponds are surrounded by the present practice pond on the west ; neighboring fish farm on the east; swimming pool on the south and neighboring agricultural land on the north. So far, these ponds are now used for stocking and rearing, but they could be transformed into other kinds of ponds, including spawning ponds or nurseries.

Feeding and monitoring of fish health: The fingerlings and brooders are to be fed with supplementary feeding such as freeze dried tubifex, grinded dry small fish (powder), and small fine floating pellets for 2 or 3 times daily, and sometimes mosquito larvae, trash fish, and live earthworms are also provided for tilapia species. Neither manuring nor pesticides were to be applied while fish were reared in the culture pond. However, the removal of unwanted plants has to be done regularly. Also, netting of fish, at least once a month, has to be done to monitor the growth and general health of the fish. So far, there has been no outbreak of fish diseases since the cultural practice. It may be mentioned that before transferring into the ponds, the fish were treated with 4 g of NaCL or 2 to 3 drops of KMnO4 solution mixed with 6 liters of water.

Breeding practice and seed production: The induced breeding trial of certain carps has been taken up at the Heiningsoi Aquafarm, a private fish farm that has already signed a MoU agreement with our college in 2019. Intramuscular injection of 'ovaprim' @ 0.2ml and 0.4ml/kg body weight of male and female, respectively, is recommended for gravid fish. In in-situ breeding, the trial was moderately successful. The ovaprim has been found effective in inducing ovulation for the species and could be recommended for breeding programs. The outcomes clearly demonstrate the possibility of using synthetic fish hormones for effective spawning and seed production. Since, the breeding protocol does not require higher investment, it can be taken up and followed by fishermen and farmers for seed production. After the hatchling, seed and fingerlings were collected and transported to the rearing pond of the college.

Principal
Pravabati College
Mayang Imphal

Harvesting of carps/ tilapia: Harvesting of fish is to be done by November-December (before the extreme cold), and some of the brooder species are transferred to the stocking pond where the water level is relatively low. Harvesting of fish may be done manually or by simple netting.

Evidence of success:

- Based on the students and farmer's feedback, they agreed that this is very informative and skill-oriented.
- They also readily agreed that pisciculture is a source of income generated through fish harvesting.
- Fish culture in the college campus is a good source of income for the institute.

Cost and Return of the culture practice

Sl.No.	Head of expenditure	Qty/No	Approx cost (Rs.)
1	Earthwork (pond dyke)	--	10,000/-
2	Agriculture lime & cowdung	150 kg & 20 kg	5000/-
3	Fish seed	2000 Nos	1,00,000/-
4	Fish feed	25-30 Bag	45,000/-
5	Harvesting cost	--	7,000/-
6	Misc. expenditure	--	1,000/-
		Total Expenditure	**Rs. 1,68,000/-**

Return (profit)

Sl.No.	Product	Qty (Kg)	Rate (Rs/Kg)	Sale proceed (Rs)
1	Fish (all culture fish species)	1,120-1125	200/-	2,24,000/ to 2,25,000/
			Total (approx.)	**Rs. 2, 24, 500/-**

NET PROFIT: Rs. 1, 68, 000 - Rs. 2, 24, 500 = Rs. 56, 500/-

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Training cum demonstration programme on Scientific Fish Farming

Fishing activities in the practice pond

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