Title: Indian major carps seed production and rearing in Thanjavur district – An Economic Analysis

Research Findings

1. Socio-economic profile

1. Socio-economic profile of IMC seed producing farmers

Most of the respondents (40%) were in the age group of 41-50 years and around 36% were under 51-60 years age group. A majority of the respondents (40 %) had their education at high school level, followed by collegiate (28%), middle school (16%), higher secondary (12%) and primary school level (4%), respectively. While 80% of the respondents had farming experience of up to 10 years, 12% of the respondents had an experience of 11-20 years and about 8% of the respondents had 21-40 years. Major part of respondents had IMC seed production and rearing as their secondary occupation (56 %) but, minor contribution in agriculture (44%) as primary occupation. Majority of IMC seed production farmers had medium size family (52%) and the dependency ratio was 1: 1.14.

1.2 Socio-economic profile of IMC seed rearing farmers

Majority of the respondents (40%) were in the 41-50 age class followed by 51-60 age groups (25.33%) and about 53.33 % of the IMC seed rearing farmers were educated up to high school level and followed by collegiate education 21.33%. About 60 % of the IMC seed rearing farmers had an experience of up to 10 years and around 26 % of them had 11-20 years of experience. While most of the respondents (81.33 %) had IMC seed rearing as their secondary occupation only 18.67 % had it as
their primary occupation. Majority of the fish farmers family (62.67 %) had more than three members and the dependency ratio was found as 1:1.82.

2. **Economics of IMC seed production and rearing**

Total cost of IMC seed production per acre was worked out to Rs. 3,66,212.81 and out of this variable cost and fixed cost were Rs. 1,76,171.81 and Rs.1,90,014, respectively. Among the items of variable cost, brooders and feeding accounted for 13.72 % and 10.24%, respectively to the total cost. Hatchery operation and pond preparation costs were worked out to 5.35% and 7.06%, respectively. Among the items of fixed cost, interest on capital cost accounted for about 27.74 % followed by permanent labour cost (20.50%) to the total cost. Total cost, total income and net income were Rs. 3,66,212.81, Rs. 4,30,914 and Rs. 64,701.19, respectively. Benefit cost ratio on total cost and total variable cost were estimated at 1.18 and 2.45, respectively.

Total cost of IMC seed rearing per acre worked out to Rs. 2,93,716.56 and of this, variable cost and fixed cost were Rs. 1,46,038.79 and Rs. 1,47,677.77 respectively. Among the items of variable cost, seed and feed cost accounted for 16.93% and 10.21%, respectively to the total cost. Pond preparation and pumping costs were estimated at 8.47% and 4.22%, respectively. Among the items of fixed cost, interest on capital cost accounted for about 28.12 % followed by permanent labour (18.39 %) to the total cost. Total cost, total income and net income were calculated as Rs. 2, 93,716.56, Rs.3,39,229.45 and Rs. 45,512.89, respectively. Benefit cost ratio on total cost and total variable cost were estimated at 1.15 and 2.32, respectively.
3. **Demand and supply of Indian major carps seed**

The estimated demand for carp seeds in the district was worked out to 266.25 lakhs. Totally there are 25 carp seed production hatcheries in Thanjavur district and the estimated carp seed production from these hatcheries was worked out to 11200.00 lakhs. The reported survival rate was 20% from hatchlings to fingerlings. Fingerlings production from these hatcheries was worked out to 2240 lakhs fingerlings.

The district had an excess supply of about 2025.75 lakhs IMC seeds, which is being supplied to other districts of the state. The present study indicates that estimated IMC seed supply was surplus in the study area. This regional self sufficiency in IMC seed availability offers scope for further development of freshwater aquaculture in the district as well as nearby districts.

4. **Marketing aspects of IMC seed production and rearing**

In the study area, majority of the IMC seed producing farmers were marketed the seeds through channel I (producer to seed rearing farmers) followed by channel II (producer to grow out farmers). Majority of the IMC seed rearing farmers followed channel I (producer to grow out farmers).

5. **Constraints**

The various constraints perceived by the respondents were ranked, analysed by Rank based Quotient method (RBQ) for seed production and seed rearing.

In the present study among the thirteen constraints reported short supply of water was the major constraint faced by the farmers with the mean score of 99.38 followed by high cost of electricity tariff and prevalence of disease outbreak in culture.
ponds with the mean score of 89.23 and 72.62, respectively in IMC seed producing farmers.

In seed rearing, inadequate availability of quality carp seeds was the major constraint faced by the farmers with the mean score 87.24 followed by short supply of water and high cost of supplementary feed with the mean score of 79.33 and 78.76, respectively.