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Fish seed production and marketing in some selected areas of Bangladesh

M.S. Islam
Department of Agricultural Economics
Bangladesh Agricultural University
Mymensingh 2202, Bangladesh
Email address: islam @ royalten.net (M. S. Islam)

Abstract
The main objective of the study was to assess the production and marketing system of fish seed and examining the demand for and supply of fry and fingerlings in some selected areas viz. Mymensingh, Netrokona and Tangail in Bangladesh. The present study selected the related stakeholders like 20 Fish Seed Multiplication Farms (FSMF) owners, 80 nursery operators, 20 fry traders and 90 fish farmers who are the beneficiaries and directly involved with the fish seed production and supply chain, and marketing system of fish seed. In case of nursing and rearing fingerlings, only those stakeholders (nurserers and fish farmers) attached with NGOs were selected and the NGOs were GRAMUS, SARA and ORD from Mymensingh and SATU from Tangail district. Data were collected for the period 2004 – 2005 and most analyses were done by using tables and flow chart to determine production and marketing system of fish seed.

Key words: Fish seed, Production, Marketing

Research findings

- Amount of fish seed production of FSMFs depends mainly on number of hatchery irrespective of jar type and circular type owned by the individual hatchery, and number and size of brood fish ponds and nursery pond managed, and number and quality of brood fish reared.
- The study revealed that average farm size was almost same for Government Fish Seed Multiplication Farms (GFSMFs) (3.60 ha) and Private Fish Seed Multiplication Farms (PFSMFs) (3.50 ha) but the average number of hatcheries, and total pond area and pond size were exceptionally higher in PFSMFs compared to Government GFSMFs.
- Production of spawn per farm in PFSMFs (1,495 Kg) was more than three times higher compared to GFSMFs (450 Kg).
- In general, 75 – 100% FSMFs produced fish seed of Rui, Catla, Mrigal, Silver Carp, Grass Carp and Calbaus.

- Along with the production and selling of spawn, FSMFs also produce fingerlings in small scale in nursery ponds located in hatchery areas and per farm production of fingerlings were 836,920 and 1,761,350 for GFSMFs and PFSMFs respectively, indicating that production of fingerlings for PFSMFs was about 2 times higher than that of GFSMFs.
- PFSMFs produced higher amount of fish seed, which also yielded higher gross margin as well as net return compared to GFSMFs.
- Sales price of fish seed (spawn and fingerlings) was relatively low and cheaper in PFSMFs but nursery Operators and fish farmers preferred to buy and stock fish seed produced from GFSMFs due to its better quality and quick growth.
- PFSMFs produced higher amount of fish seed which made the total marketing profit higher compared to GFSMFs.
- Large variation of demand for and supply of fish seed was observed. During mid February to April, there was higher demand for fish seed and per Kg spawn of major carps was sold by Tk. 3,000 – 3,500 but its sales price decreased to Tk. 500 – 700 during the period from July – October. Even with the large price variation, supply of fish seed was adequate during the production period.
- With the increased supply, average sales price of fish seed decreased gradually for the last few years. Per Kg price of spawn (carps) was Tk. 6,000 – 7,000 in 1992 – 1993 which decreased to Tk. 500 – 700 by 2004 – 2005.

Policy implications

- Brood fish management should be improved specially for PFSMFs to improve the quality of fish seeds.
- Nursery operators and to some extent, operators of FSMFs should stock healthy fish seed to ensure better growth and production of fingerlings.
- DoF, BFRI and other related organizations should take necessary steps and measures to control the quality of fish seeds that to be produced by FSMFs.

Livelihood implications

Four categories of stakeholders such as owners of FSMFs, nursery operators, fry traders and fish farmers are directly involved in fish seed production and marketing. First three categories of stakeholders considered fisheries activities as their main occupation while most of the fish farmers considered it as a supplementary source of household income. However, all these stakeholders could improve their livelihoods with the active participation and involvement in fish seed production and marketing.