

Effect of Constraints on Carp Production at Rajshahi District, Bangladesh

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Abstract: This study was conducted for 1 year from January to December, 2007 under the department of fisheries, Rajshahi University, Bangladesh with an aim to find out the constraints of carp production. It is deduced from the study that among many problems financial crisis is the prime issue to the carp farmers. About 34% farmers consider it as a main problem of carp culture, which is quite normal as most of the fisher-folk of Bangladesh are very poor. Then, seed problem, feed problem, fish poaching, lack of sufficient water in ponds, disease problems, pond poisoning problems are facing by the 25, 14, 11, 6, 4, 4 and 2% farmers, respectively. Somewhere, ownership problems are also present. Besides, another important issue is technological adoption of the carp farmers. No one is present who follows all the recommended technological facts completely for carp culture. From the study, it is found that dyke repair, removal of weed fish, liming, manuring, maintaining proper stocking density, health monitoring, pH test, DO test, turbidity test, supplementary feeding etc. are done by the 56, 83, 70, 66, 31, 5, 2, 2, 35 and 80% farmers, respectively. So the water quality and environment is not maintained to grow the fish properly. Moreover, fishes do not get proper nutrient rich feed. Illiteracy is one of the serious problems of carp farmers. A clear deviation is found in carp production from educated farmer (5670 kg ha⁻¹) and illiterate farmer (3250 kg ha⁻¹). All the above mentioned factors all together are hindering the carp culture of Rajshahi.

Key words: Carp, culture, culture problems, carp production, effects of constraints

INTRODUCTION

Bangladesh is one of the densely populated countries of the world, where 40.4% of her people lives under poverty and 19.5% are the victim of severe food deficiency and mal nutrition (BBS, 2007). In this situation, aquaculture has become an increasingly important sector in Bangladesh in terms of its potential for contributing to food security and nutrition, employment, foreign exchange earnings and improvements in the socio economic status of the countrymen. There are 260 species of freshwater fishes, 475 marine, 24 prawn, 36 shrimp species in this country. Besides 12 exotic species are also cultured here (BFRSS, 2005). For aquaculture innumerable water resources are present. Ali (1982) informed that this country is unique in having possibly the largest inland water resources with large rivers, their tributaries, canals, streams and beels. The climate of Bangladesh is also unique for aquaculture and fisheries management (Chowdhury, 2001). Having plenty of water resources and native and foreign cultivable species Bangladesh has a high potentiality in aquaculture.

Fish culture is a form of aquaculture (Ameen, 1987). In similar sense carp culture is also a form of aquaculture,

which is mainly practiced in ponds. However, it includes controlling of feeding, growth, breeding and certain characteristics of water mass (Srivastava, 2000). Besides carps many cat fishes (*Clarias batrachus*, *Pangusias sutchi* etc.), *Anabus testudineus*, *Oreochromis mossambicus*, *Oreochromis niloticus*, *Puntius sarana* etc. are also being cultured in ponds of different areas of the country. But selection of cultivable species in pond is mostly depends on the availability of seeds, their feeding habit, growth rate, market price and demand etc. Presently there has been a great demand of carp species in urban markets as well as in the rural area. Since carp seeds are available and easy to produce in the hatchery they are being cultured much in ponds and lakes. Recently carp species are contributing about 85.29% of total pond production of Bangladesh (BFRSS, 2005).

Rajshahi is an important district in Northeast region of Bangladesh regarding its geographical status and aquatic resources with an area of 2407 km² and the total population is 2262483, where 12 rivers, 29 beels, 19 ponds, 22% flood plains of Bangladesh are present in Rajshahi division (Khaleq, 2002). From these water resources approximately 331078 m fishes are produced BFRSS (2005) with a deficit of 123575 m DoF (2002) to the demand.

Carp culture intensity and production rate is increasing day by day but not as desirable rate due to some problems. If it is possible to identify all problems as well as overcome them then, net yield will be maximize at expectation to meet up the food, nutrition and economic deficit of all of our countrymen.

MATERIALS AND METHODS

For the study, carp farmers of all nine upazilla under Rajshahi district were categorized according to their education and training skill based on secondary information collected from upazilla fisheries office and several existing NGOs. Information about carp culture and constraints were collected with the help of a questionnaire proforma. For this some selected PRA (Participatory Reflection and Action) tools were used.

RESULTS AND DISCUSSION

Financial, input and social problem: Most of the carp farmers are poor and illiterate or lower educated. So various problems were found to affect the carp culture and total production. Overallly the farmers are facing financial problem, seed problem, feed problem, high mortality problem and many social problem like, fish pond poisoning and poaching. Among all problems, financial problem was found most among all the farmers (34%), following by seed problem (25%), feed problem (14%), high mortality rate of fries (11%), fish poaching (6%), pond poisoning (4%), scarcity of sufficient water in pond (4%) and very minorly disease problem (2%). All are shown in the Fig. 1.

Financial problems and any other problems was found among all of the carp farmers at Rajshahi district is quite similar to the findings of Alam (2005) and Ahmed (1995) reported that financial problem affect carp production to lack of proper input supply in time. In another report of FFP (2004) shows that in Rajshahi area fish poaching was found in 15% farmer's pond, which is found quite less in present study.

Technological adoption: Although, lack of technological knowledge itself a major problem of carp culture in rural Bangladesh but technological adoption is also a great problem as found in respect of carp production in Rajshahi of Bangladesh. About 18% farmers found who do not know about the modern technological knowledge of carp culture, which is almost same as the findings of Islam (1986). Among the trained or learned farmers

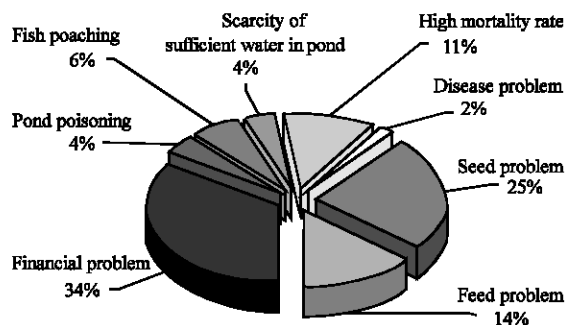


Fig. 1: Layout of common problems of carp farmer's of Rajshahi district

removal of undesirable species was found to done by highest amount of farmers (83%) then supplementary feeding practice by 80% farmers, liming is done by 70% farmers, manuring and dewatering is done by 66% farmers, dyke repair is done by 56% farmers, continuous harvest and restocking is done by 48% farmers, proper stoking ratio is maintained by only 45% farmers, water turbidity is tested by 35% farmers, proper stocking density is maintained by 31% farmers, pond bottom repair is done by 25% farmer, chemical manuring is done by 20% farmers, organic manuring is done by 11% farmers, carp health, water level management, test of food conversion ratio, check of water sedimentation, Dissolve Oxygen (DO) test, pH test etc. is done by 5, 6, 4, 4, 2 and 2% farmers, respectively. These are shown in the Fig. 2.

Effect of constraints on production: Carps are cultured in Rajshahi region extensively but due to existing constraints production is not attaining satisfactorily. The constraints affect production in many ways like input scarcity causes less yield, financial unavailability causes lower cultural intensity, partial adoption of technological events causes lower culture environment and results less growth of fishes etc. Training and educational skill of farmer was found to affect carp production clearly. Production of carps in trained farmer's pond is 47% higher than non trained carp farmer's pond. Similarly, there is a clear deviation is found in respect of average yield between educated and non or lower educated carp farmers. In the average about 5670 kg ha⁻¹ carps are produced in higher educated farmers pond. On the other hand, about 2958 kg ha⁻¹ carps are produced in lower educated farmer's ponds (Fig. 3). Pekar (2002) reported same type of findings that lack of education and proper training of fish farmers hinders a lot to the total amount of yield.

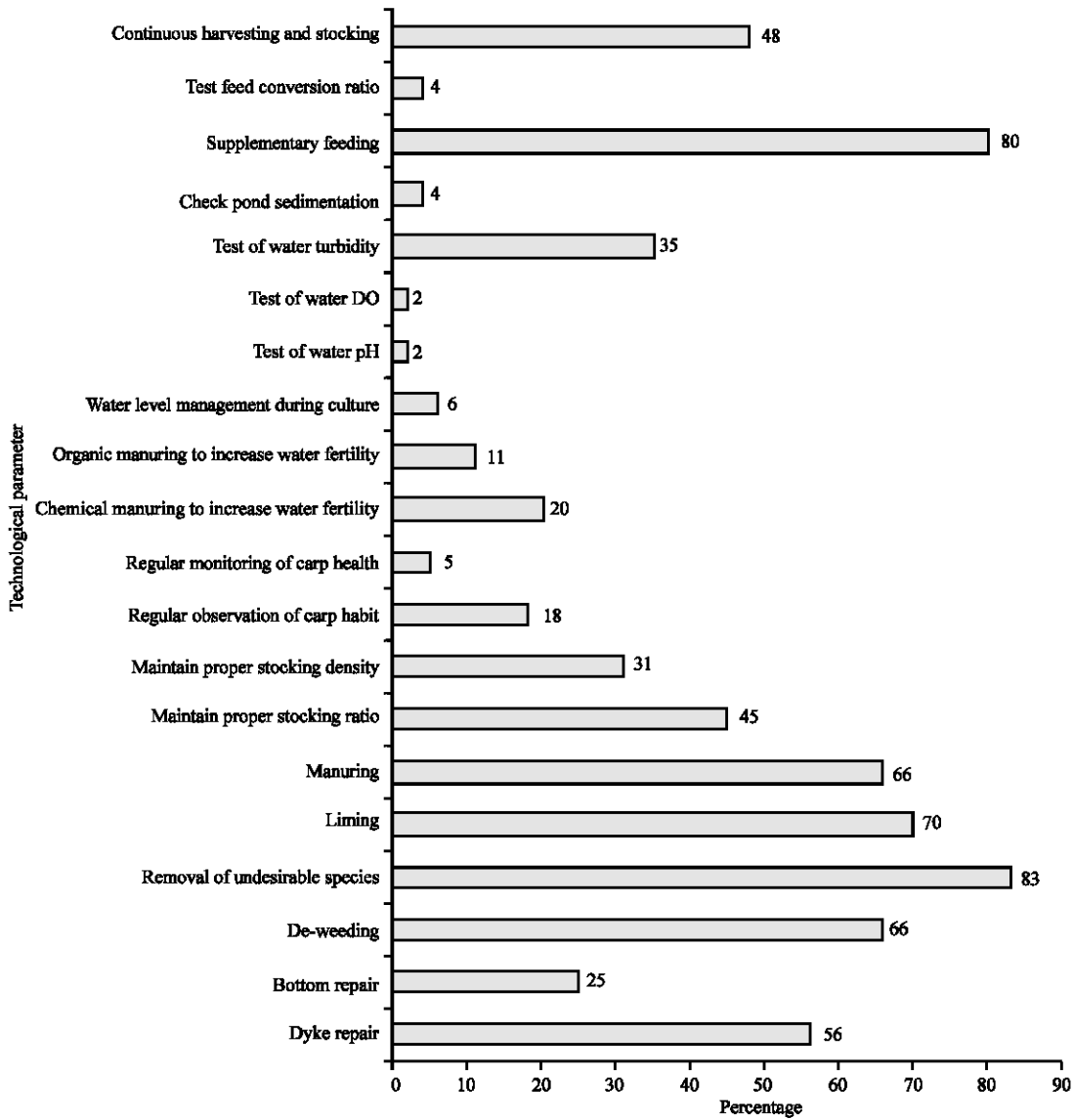


Fig. 2: Percentage of technological adoption of various carp farmer's found in Rajshahi

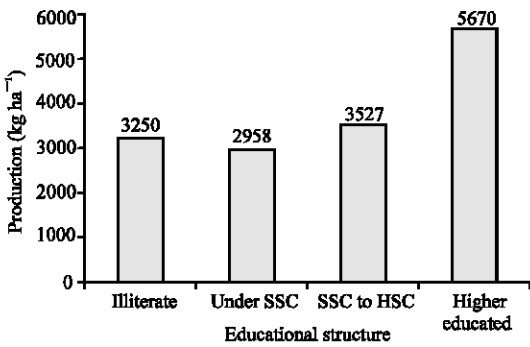


Fig. 3: Effect of farmer's education on carp production

CONCLUSION

Nowadays culture of fishes is only source reliable to get fishes rather than capture. Because open water source is indiscriminately affected by many natural and man made interferences.

However, many technologies are generating by many scientist to increase fish production but there are so many problems to implement. This research highlights a little oh that aspect but further many other extensive researches are required in compliance to poor economic countries like Bangladesh.

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