RESEARCH NOTE

Factors Affecting Knowledge of Fish Farmers Regarding Fish Production Technology

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ABSTRACT

The present study was undertaken to assess the knowledge level of fish farmers about fish production technology. The study was conducted with 90 fish farmers randomly selected in 3 villages of Jabalpur district, which were results showed that. Fish farmers in Jabalpur were of comparatively young age group, education up to high school, low annual income, common pond for fish farming, minimum experience of 15 years, fish farming+singhara cultivation as their main occupation, low attitude towards fish farming, medium market orientation, high scientific orientation, low aspiration level, low use of information sources and training exposure. The knowledge level of fish farmers about recommended fish practices was medium. It was also observed that there was considerable variation in their knowledge on different aspects/items.

Key words: *Knowledge level of fish farmers; Production technology. Fish farming;*

Fishery plays a very important role in the socio-economic development of nation through employment generation, contribution to food security and foreign exchange. India is the sixth largest producer (5477 mt.) of fish in the world after China (39937mt.), Peru (7878 mt.), Japan (7408 mt.), Chillie (6366 mt.) and USA (5493 mt). The total world fish production is 130882 mt., India is the second largest producer in the world of inland fish, next to China, (Sharma 2006). Indian fisheries have made great strides during last five decades with an annual production of 6.4 million tons in 2005-2006.The total water area in MP is 3.44 lakh ha, of which 3.24 lakh ha comes under fish production. In Jabalpur district there are 701 tanks/ponds, with an area of 8684 ha, and annual production of 2356 tons.

Fish is an excellent source of energy, as it provides 1000-2000 kcal/kg. Moderately active females (19–30 years old) need 1500–2500 kcal/day, while males of the same age need 2500–3300 kcal/day. Generally, fish diets tend to be highly rich in protein. Protein requirement levels in children diets often approach or exceed 40% crude protein, while that for adults diets may contain 25-35% protein. Fish in diet provides 15-25% protein.

There are two types of ownership of these ponds in panagar block i.e. Panchayat (leased) and individually owned (own) Panchayat Ponds constitutes more than 80% of the water area. The preparation of any development strategy means information about the existing level of knowledge of the target group. Thus, the present study was conducted to assess the factors associated with knowledge level of the fish farmers regarding fish production technology (*Sharma and Laharia, 2006*).

METHODOLOGY

The study was conducted in Jabalpur district of Madhya Pradesh state in 2011, as the district has covered large area under fish farming than the other district of M.P. and average yield of fish production of the district is lower than the national average yield. The Jabalpur district comprises of seven blocks out of which only Panagar block was selected because this block covered large area under fish farming as compared to other blocks. The Panagar block comprises of 218 villages, but only 10 villages suitable for fish farming as per the record of fishery department out of them 3 villages i.e. Budhagar, Gosalpur, and Chhatarpur were selected due to maximum area of these villages were covered under fish farming. A comprehensive list of

fish farmers of each selected village was prepared with the help of fishery department and out of which 30 equal number of fish farmers from each selected villages was selected randomly, thus the total 90 fish farmers was the sample size of the study.

Measurement of knowledge level : The knowledge was operationalized as the information possessed by by the fish farmers about the recommended practices for fishery production. The existing profile and knowledge was measured through a schedule prepared on the basis of package of practices of fish production technology recommended by Department of Fishery, Government of Madhya Pradesh. Major technological aspects such as pond management, selection of seed and management, feed and fertilizer management, unwanted fishes and weed management, fish protection management, harvesting and storage management. The response on 26 items was obtained on 2 point continuum i.e. yes and no and scores of 1 and 0 were assigned, respectively. The farmers were categories into low, medium and high knowledge.

RESULTS AND DISCUSSION

Profile of fish farmers: Table 1 shows profile of fish farmers. The study revealed that the majority of fish farmers 58.88 % belonged to young aged group. The perusal of data indicates that their level of education was high. As many as 38.89 % of the fish farmers had education up to high school and above. In case of annual income most of the respondents 53.34 % had low annual income (Rs 5000-12000). The average pond size holding of fish farmers was 1-2 acres. About 81 % of fish farmers had common pond for fish farming and only 19 % of fish farmers had their own ponds. In case of experience in fish farming number of fish farmers 52.22 % had started fish farming just 15 years ago. About 14.45 % fish farmers were doing fish farming for more than 30 years. Thus, it is obvious that fish farming is getting popularity for the 30 years. In case of occupation most of the fish farmers were doing fish farming + singhara cultivation as an occupation for lively hood of the family. The data regarding attitude towards fish farming indicates that majority of fish farmers 64.45 % had low attitude towards fish farming. In case of market orientation majority 50.00 % of fish farmers had medium market orientation and 82.22 % of fish farmers had high scientific orientation. It is evident from the data that about 60.00 % of fish farmers had low aspiration level. In case of use of information sources the majority of

Table 1. Profile of fish farmers (N= 90)

Categories	No.	%
*Age-*Young age group (20-35 years)	53	58.88
Middle age group (36-50 yrs)	27	30.00
Old age group (51 & above)	10	11.12
Education		
Illiterate	18	20.00
Up to primary school	13	14.44
Up to middle school	24	26.67
High school and above	35	38.89
Annual income		
Low income Rs 5000-12000 /-	48	53.34
Medium income Rs 12001-19000 /-	12	13.33
High income Rs 19001/- & above	30	33.33
Area covered under fish farming		
Owned pond	17	18.89
Common pond	73	81.11
Experience		
Low experience (10 - 20 years)	47	52.22
Medium experience (21 - 30 years)	30	33.33
High experience (31 years & above)	13	14.45
Occupation		
Fish farming	09	10.00
Fish farming + Singhara cultivation	46	51.12
Fish farming + Singhara cultivation +Labour	35	38.88
Attitude towards fish farming		
Low (2 - 5)	58	64.45
Medium (6 - 8)	21	23.34
High (9 & above)	11	12.21
Market Orientation		
Low (1 - 2)	25	27.78
Medium (3 - 4)	45	50.00
High (5 & above)	20	22.22
Scientific Orientation		
Low (Up to 12 scores)	0	0.00
Medium (13 to 24 scores)	16	17.78
High (25 and above scores)	74	82.22
Aspiration level		
Low (10 – 13)	54	60.00
Medium (14 – 16)	30	33.34
High (17 & above)	06	6.66
Use of information sources		
Low (3 – 6)	57	63.34
Medium (7 – 9)	22	24.45
High (10 & above)	11	12.21
Training exposure		
Low (Up to 2 Trainings)	57	63.34
Medium (3 - 4 Trainings)	03	3.34
High (5 - 6 Trainings)	30	33.32

fish farmers 63.34 % of fish farmers 63.34 % had low use of information sources. In case of training exposure the majority had attended only up to two trainings. Thus, the training exposure of fish farmers had low (*Sharma, 2006*).

The data in the Table 2 indicates that out of the total fish farmers, highest percentage i.e. 48.89 per cent

was found in medium knowledge category, whereas 32.22 per cent in high and 18.89 per cent in low knowledge categories. Thus, it can be concluded that the higher (48.89%) of the fish farmers had medium level of knowledge of fish production technology.

Aspect-wise knowledge level of fish farmers about different fishery practices : The perusal of data in

Table 2. Distribution of fish farmers according to their knowledge level of fish production technology

Categories	No.	%
Low Knowledge (Up to 21 scores)	17	18.89
Medium Knowledge (22 to 23 scores)	44	48.89
High Knowledge (24 and above)	29	32.22
Total	90	100.00

Table 3. Aspect-wise knowledge level of fish farmers about different fishery practices

Aspect	Mean	Rank
Pond management	6.67	I
Selection of seed and management	3.86	III
Feed and fertilizer management	4.42	II
Unwanted fishes and weed management	3.52	V
Fish protection management	2.04	VI
Harvesting and storage management	3.66	IV
Overall mean	4.02	

Table 4. Association between profile of fish farmers and their knowledge level

Variables	χ^2	DF
Age	15.337**	2
Education	10.181*	3
Annual income through fish farming	17.590**	2
Area covered under fish farming	3.159 NS	2
Experience of fish farming	10.467**	2
Occupation	2.339*	2
Attitude towards fish farming	16.636**	2
Marketing orientation	9.910*	4
Scientific orientation	6.185**	2
Aspiration Level	11.012**	2
Use of information sources	10.067**	2
Training exposure	11.674**	2

*,**= Significant at 0.05 and 0.01 level of probability,

NS= Non-significant

Table 3 reveals that the mean knowledge score of fish farmers 4.02. The Table further shows that the important technological aspect was pond management, feed and fertilizer management, selection of seed and management, while the less important technological aspect was unwanted fishes and weed management, fish protection management, harvesting and storage management (*Tiwari, 2007*).

Association between profile of fish farmers and their knowledge level : It is seen from Table 4 that all the variables except area have significant positive association with the overall knowledge level. It suggest that in general, the farmers knowledge increases with the increase in their education level, experience, attitude towards fish farming, scientific orientation, use of information sources, training exposure.

CONCLUSION

In relation to knowledge of various technological components, it was found that Pond management, Feed and fertilizer management, Selection of seed and management as important technological components, While the less important technological components to the fish farmers were, Unwanted fishes and weed management Fish protection management, Harvesting and storage management. Similarly, extent of knowledge of fish farmers was studied regarding fish production technology.

Association between characteristics of fish farmers and their knowledge level, revealed that age, education, annual income, experience, occupation, attitude towards fish farming, marketing orientation, scientific orientation, aspiration level, use of information sources and training exposure were positively related with knowledge of fish production technology but area were negatively related with knowledge of fish production technology.

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