Mitalee Shukla, International Journal of Advances in Agricultural Science & Technology,
Vol.9 Issue.3, March-2022, pg. 1-8

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

Study of Scientific Knowledge and Adoption Behavior of Fish Farmers in terms of Economic Benefit at Balaghat (M. P.)

Mitalee Shukla; Dr. Sandhya Choudhary; Dr. Sharad Chodhary
M.Sc. Student, Agriculture Extension &Communication, 2022 CoA, Indore*
Professor and Head KVK, Manawar, (M.P.)**
Dean & Chief Scientist, (Agronomy) CoA, Indore***

DOI: 10.47856/ijaast.2022.v09i03.001

Abstract*: *Scientific fish culture involves stocking and growing two or more compatible and complementary fish species like, Indian Major Carps (IMC) and exotic carps in a water body like pond to maximize the fish production by fullest utilization of all available niches in the pond ecosystem. Therefore this study conducted with 120 fish farmers at Blaghat district. The major finding of the study is the medium adoption might be due to the fact that fish farmers, had the tendency towards efficient working but due to several constraints affects in injudicious use of inputs and practices. Improvement of technical skill and faith might result of these improved practices and technology they adopted medium level of various component of improved fish production practices.

Introduction-

Fishing in India is a major industry in its coastal states, employing over 14 million people. Fish production in India has increased more than tenfold since its independence. According to the Food and Agriculture Organization, fish output in India doubled between 1990 and 2010. India is a major supplier of fish in the world. In 2006 the country exported over 600,000 metric tonnes of fish, to 90 countries, earning over $1.8 billion. Fisheries and aquaculture are important sources for food and livelihoods for people along the world's seashores and waterways and influence the livelihoods for long number of population. Fish production is not only an indispensable component of agriculture since long, but also the most suitable food production system that has enormous potential to improve the socio economic status of the large percentage of the rural population engaged in fishing business. India is the sixth largest producer (5477mt.) of fish in the world.

It is well known fact that inadequate food production is a problem in the state of Madhya Pradesh, particularly, in traditional farming area and with farmers having small cultivated area. Protein inadequacies have led to a lot of problems as people are exposed to various forms of diseases. This problem of inadequacy of food quantity and quality, particularly, nutritive food with lack of protein intake can be solved by fishing cultivation with crop production. Further, for the preparation of any development strategy to improve the adoption of fish production technology, it is necessary to assess the level of knowledge and adoption of fish farmers which they have perceived through Deputy Director of Fisheries Balaghat.

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

Objective-

Adoption behavior of fish production technology by fish farmers.

Review of Literature-

Goswami *et al.* (2010) focused on the factors influencing adoption behavior of fish farmers towards scientific fish culture practices. The data were gathered using a structured and pre tested interview schedule from 120 randomly selected fish farmers. The findings revealed that majority (74%) of fish farmers belonged to medium to high adoption category.

Nidhi Kamble *et al* (2016) The data clearly denoted that before the training there were only 34 or (28.33% of total) fish farmers with high level of adoption, which increased and become 44 or (36.67% of total) fish farmers after the training. Again before the training there were only 44 or (36.67% of total) fish farmers with medium level of adoption, which increased and become 46 or (38.33% of total) fish farmers after the training. On the other hand, in case of low adopter there were only 42 or (35.00% of total) fish farmers with low level of adoption at the before the training, which decreased and become 30 or (25.00% of total) fish farmers after the training.

Borah *et al* (2019) found that appropriate number of fish seeds (68.75%), acclimatization of fish seeds before stocking (67.50%), initial soil and water testing (62.50%) and application of commercially available supplementary feeds (60.00%). The practices such as control of aquatic weed fish (46.25%), practice of mixed farming with other compatible fish species (37.50%) and control of aquatic insects and weeds (27.50%) were partially adopted by the fish farmers of the study area.

Research Methodology-

The Balaghat block is constituted of 170 villages, from this list of villages. Department of Fisheries is working in 35 villages for community fish farming. Out of this list 10 villages were selected randomly for the present study.60 fish farmer beneficiaries are available therefore all these benefitted fish farmer will be taken purposively and 60 non beneficiaries will be taken for the study.

Mitalee Shukla, International Journal of Advances in Agricultural Science & Technology,
Vol.9 Issue.3, March-2022, pg. 1-8

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

Result and Discussion-

To study the adoption behavior of fish production technology by fish farmers

Table - Adoption behavior of fish production technology by fish farmers (N=120)

S. no.	Statements	Beneficiaries			Mean score	Non beneficiaries			Mean score
		Low	Medium	High		Low	Medium	High	
(A).	Pond and water management for fisheries								
1.	Examine the land for reservoir	16	28	15	1.99	20	22	18	1.96
2.	Prepare your own pond for fish farming	12	27	21	2.14	23	18	19	1.93
3.	Gat the pond cleaned regularly	16	30	14	1.97	18	25	17	1.98
4.	Water can be managed properly when there is a shortage of rainfall	11	29	20	2.14	30	24	6	1.60
5.	You are well aware of the level of water required for fish farming	20	22	18	1.96	27	16	17	1.83
6.	Continuously test the land and water for fisheries	15	25	20	2.07	18	30	12	1.90
Average		15	27	18	2.05	24	21	15	1.85

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

(B)	**To manage proper seed for fisheries**								
1.	Familiar with the source of proper beach for fisheries	19	25	16	1.95	28	18	14	1.76
2.	You do not face any difficulty in getting seed for fisheries	23	25	12	1.82	22	23	15	1.88
3.	Seed can be selected according to the situation	12	31	17	2.10	19	30	11	1.86
4.	Fish keep the number of seeds for a certain place	14	29	17	2.04	21	28	11	1.83
Average	17	27	16	1.97	23	25	12	1.81	
(C)	**Food management for feed for fisheries**								
1.	Naturally manage food for the fish	15	27	18	2.07	28	22	10	1.70
2.	Fairies give supplements in proper quantity	11	22	27	2.27	25	24	12	1.80
3.	They are given as a dietary supplement such as cake	16	25	19	2.06	24	22	14	1.83
4.	Chemicals are used to increase the productivity of fish	25	20	15	1.81	27	20	13	1.76
Average	17	23	20	2.05	26	22	12	1.76	

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

(D)	**Control of infrequent fish and weeds**								
1.	Apart from the main species, fish of other species are removed from the pond	11	24	25	2.23	23	20	17	1.90
2.	Bleaching powder is used to clean water	15	21	24	2.16	25	22	13	1.80
3.	Control weeds in the pond	19	23	18	1.96	23	24	13	1.83
4.	Predators regularly control fish species	15	25	20	2.08	26	19	15	1.81
Average	15	23	22	2.10	22	21	17	1.91	
(E)	**Management of safety for fisheries**								
1.	Protect fish from insects, pests and harmful creatures	16	25	19	2.04	26	18	16	1.83
2.	You know about the disease caused by fish	24	25	11	1.77	20	25	15	1.91
3.	Arrange treatment for people who are infected with fish	21	25	14	1.88	23	25	12	1.81
4.	Diseased fishes are arranged separately	13	21	26	2.20	26	20	14	1.80
Average	19	24	17	1.95	23	22	15	28	

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

(F)	**Fish collection**								
1.	After a certain time period the fish are taken out of the pond	15	24	21	2.10	24	21	15	1.85
2.	Chose the best method to catch fish	17	23	20	2.05	26	20	14	1.80
3.	After catching the fish, they are properly stored till they are sold in the market	19	26	15	2.17	23	22	15	1.86
Average	17	24	19	2.03	24	21	15	1.85	
Overall average	**16**	**25**	**19**		**23**	**22**	**15**		

Adoption behavior of fish farmers in different aspects was calculate with the help of low, medium and high adoption behavior frequency, total score and mean score. Adoption behavior in case of Pond and water management for fisheries: the highest mean score was found in Water can be managed properly when there is a shortage of rainfall (mean score 2.14) followed by Prepare your own pond for fish farming (mean score 2.14), Continuously test the land and water for fisheries (mean score 2.07), Examine the land for reservoir (mean score 1.99), Gat the pond cleaned regularly (mean score 1.97) and You are well aware of the level of water required for fish farming (mean score 1.96).

In case of To manage proper seed for fisheries: the highest mean score was obtain in Seed can be selected according to the situation (mean score 2.10) followed by Fish keep the number of seeds for a certain place (mean score 2.04), Familiar with the source of proper beach for fisheries (mean score 1.93) and You do not face any difficulty in getting seed for fisheries (mean score 1.82).

In case of Food management for feed for fisheries: the highest mean score was obtain in Fairies give supplements in proper quantity (mean score 2.27) followed by Naturally manage food for the fish

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

(mean score 2.07), They are given as a dietary supplement such as cake (mean score 2.06) and Chemicals are used to increase the productivity of fish (mean score 1.81).

In case of Control of infrequent fish and weeds: the highest mean score was obtain in Apart from the main species, fish of other species are removed from the pond (mean score 2.23) followed by Bleaching powder is used to clean water (mean score 2.16), Predators regularly control fish species (mean score 2.08) and Control weeds in the pond (mean score 1.96).

In case of Management of safety for fisheries: the highest mean score was obtain in Diseased fishes are arranged separately (mean score 2.20) followed by Protect fish from insects, pests and harmful creatures (mean score 2.04), Arrange treatment for people who are infected with fish (mean score 1.88) and you know about the disease caused by fish (mean score 1.77).

In case of fish collection: the highest mean score was obtain was in after catching the fish, they are properly stored till they are sold in the market (mean score 2.17) followed by after a certain time period the fish are taken out of the pond (mean score 2.10) and last one was Chose the best method to catch fish (mean score 2.05).

Farmers learn about new technologies and practices from various organizations, programs and projects dedicated to research, extension, or rural development. The KVK personnel of Balaghat are one of the leading organizations who have conducted many extension activities and FLD's in respect of improved fish production technology. This organization makes efforts to train the fish farmers in adoption of improved management practices. For further improvement in this type of extension activities and motivational factors of FLD's program, it is essential that such organization be able to follow the results of their efforts and understand how the technologies they exhibited fit into the complex pattern of situational change in which all fish farmers practice. In this respects the present study revealed that, out of the total fish farmers the highest proportion of the fish farmers have adopted medium level of "overall average adoption of fish technology" technology after FLD's followed by high adoption and low adoption of "overall average adoption of fish technology" technology after FLD's respectively. The medium adoption might be due to the fact that fish farmers, had the tendency towards efficient working but due to several constraints affects in injudicious use of inputs and practices. Improvement of technical skill and

ISSN: 2348-1358
Impact Factor: 6.901
NAAS Rating: 3.77

faith might result of these improved practices and technology they adopted medium level of various component of improved fish production practices. Finding was supported by Nidhi Kamble *et al* (2016) and Borah *et al* (2019).

References

[1]. Asche, Frank (2012). Green growth in fisheries and aquaculture production and trade.Contribution to OECD Synthesis *Report on Green Growth*.
[2]. Asche, F. (2008). Farming the Sea. *Marine Resource Economics*. 23(4):507-527.
[3]. BORAH K. , SINGH Y.J. , SARKAR A., SINGH S.K. , PAL P. , KHUMAN O.N. and PEGU C. 2019. Adoption of scientific fish farming practices in West Tripura district of Tripura, India Pantnagar Journal of Research Vol. 17 (2)pp: 147-151.
[4]. Goswami,B.; Ziauddin,G. and Datta,S.N. (2010). Adoption behaviour of fish farmers in relation to scientific fish culture practices in West Bengal. *Indian Res. J. Extn. Edu.* 10(1):24-28.
[5]. Kamble N., Wankhade A.K. and Choudhary S.2016. Scientific Knowledge and Adoption Behaviour of Fish Farmers in Terms of Economic Benefit in FLDs under KVK Dewas, Madhya Pradesh *International Conference on Agriculture, Food Science, Natural Resource Management and Environmental Dynamics: The Technology, People and Sustainable Development* ISBN-978-93-85822-28-5

