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RESEARCH ARTICLE

IDENTIFICATION OF FACED PROBLEMS AND SUGGESTIONS OF FISHERMEN IN THEIR FARMING IN MOYNA BLOCK OF WEST BENGAL

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ABSTRACT

India is to sustain 16 per cent of the world's population on 2.4 percent of the global land area. It has to feed its burgeoning population using 3 percent and 5 percent of global farm land and water resources. Hence, its dependence on aquatic resources for production of additional food is obvious and shall become more and more obligatory. Fisheries are playing a key role in the changing profile of Indian economic growth. Presently, the fish cultivation is under grasp of many problems. Therefore, the present study was conducted to identify the various problems faced by fishermen in their farming and the suggestions provided by them to mitigate those. The study was undertaken in Moyna block of East Midnapur district of West Bengal. The study revealed that fishermen of the study area faced the major problems, those were-(1) No option to lift ground water (100%) (2) Lack of good road condition (100%) (3) Transportation cost is very high (100%) (4) Adulterated fish feed (100%) (5) Price of fish feed is very high (100%) (6) Scarcity of water at summer season (100%) (7) Flood problem (100%) (8) Maintain the fish pond bund is a problem (100%) and (9) Market price of fish is less (88%). The main suggestions provided by the fishermen were-(1) Govt. should allow to set up mini-tube well for fish cultivation (90%) (2) Widen metal road is needed, permit to run heavy vehicle and water transport system should be activated by renovating canal (100%) (3) Govt. should have strict supervision to control the quality of fish feed (100%) (4) Integrated measures are to be taken to prevent soil erosion from pond bund (100%) (5) If govt. is able to provide fish feed, it will be good for fishermen (100%) (6) there should be provision of getting suitable river water (100%) and (7) proper drainage system should be developed by the govt. (100%). Therefore, the extension agencies, public or private are working in the study area will consider these problems heartily and will try to find out the possible ways to remove those problems according to their level best.

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INTRODUCTION

Fish as a source of "rich food for poor people" can play an important role in improving food security and nutritional status of rural people as indispensible source of micronutrients such as iron, iodine, zinc, calcium, vitamin A and vitamin B. Where there is a lack of alternative locally produced protein, fish provides the major cheap source of protein intake as well as contributes towards calorie supply for rural people.

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So, importance of fish is felt as a crucial element in diets, especially the diets of infants, young children and pregnant women. To meet the increasing demand for animal protein, significant development in poultry and livestock farming which otherwise would have limited due to the continuously increasing pressure on land for the production of cereals. There is no scope for spatial expansion of grazing and feeding areas. But in contrast, the shortage of animal protein can be met through development of fish farming, as it not only requires less cash investment compared to livestock and poultry but also can be produced using a land that is not suitable for agriculture. Indian agriculture is characterized by a dominance of small and marginal farmers (almost 68 percent) who suffer as a result of difficult socio-economic conditions. Nearly 75

percent of the farm holdings are below 2 hectares, and a large portion of rural people subsist as small holders. Income from these farms can not be raised upto the desired level to sufficiently alleviate poverty in rural areas unless existing crop production systems are diversified. Furthermore, increased dependence on one or two major cereal crops (rice, wheat, etc.) witnessed after the green revolution makes the farming economy vulnerable to price fluctuation arising due to demand supply. So, poverty and food insecurity are common conditions among the rural people hindering the rural empowerment (Samantaray *et al*., 2013). Fish farming is an ancient practice that can provide many profitable opportunities today. The raising and selling of fish on a commercial basis has proven to be economically successful. Fish has occupied an important place in the global market as a safe and cheap source of animal protein with high consumer acceptability (Saha, 2012).

Table 1. Distribution of respondents (N=100)

Sl. No.	Name of Village	Number of respondents selected	Percentage of respondents selected
1.	Sridharpur	50	50
2.	Raichak	16	16
3.	Ramchak	22	22
4.	Sudampur	12	12

Table 2. Faced problems of fishermen (N=100)

Sl.No.	Problems faced by respondents	No. of responders replied	Percentage of respondents replied
1.	No option to lift ground water	100	100
2.	Proper chemical is not provided by shopkeeper.	10	10
3.	Lack of testing laboratories.	16	16
4.	Lack of fund.	62	62
5.	No facility of storing of fish.	38	38
6.	Pond/field situation is a problem..	25	25
7.	Lack of good road condition.	100	100
8.	Transportation cost is very high.	100	100
9.	Large size of car is not available to carry fish.	22	22
10.	Market price of fish is less.	88	88
11.	Lack of proper marketing system.	37	37
12.	Insect-pests and diseases infestation.	66	66
13.	Adulterated fish feed.	100	100
14.	Various input price is high.	48	48
15.	Lack of expert knowledge.	45	45
16.	Floating of fish on pond water surface.	54	54
17.	Pond side bund trees create problem.	19	19
18.	Lending money from money lender charges high interest.	40	40
19	High price of electricity.	19	19
20.	Maintain the fish pond bund is a problem.	100	100
21.	Lack of extension activities	80	80
22.	Price of fish feed is very high	100	100
23.	Scarcity of water at summer season	100	100
24.	Flood problem	100	100
25.	Stealing of fish from pond	25	25
26.	Throwing poison to pond water	16	16

The fisheries sector contributes to the national income, exports, food and nutritional security and employment generation. As per the estimates of the Central Statistical Organization (CSO), of the Government of India, the value of GDP from fisheries sector at current prices during 2011-2012 was Rs. 65541 crores which is 4.47 per cent of the total GDP of agriculture and allied sectors. Fish contributes substantially to the domestic food security of India which has a per capita consumption of more than 6.00kg per annum. With fresh water aquaculture being a homestead activity in several parts of the country, besides adding to the nutritional security it also helps in bringing additional income to rural households (Gaikwad, 2015). The successful outcome of green revolution in India has answered the challenges of food security due to rapid growth in population. But, considering the fact that 35 percent of Indian population falls still below the poverty line (BPL) emphasizes the need to recognize fisheries as an important sector of the national economy for meeting the food and nutritional security.

In the days ahead, "blue revolution' will be the buzzword to meet the challenges of food and nutritional security (Meenakumari, 2010). Considering the importance of fish farming in day to day life and national economy, the present study was undertaken to identify the various problems faced by fishermen in their farming to make it profitable and the suggestions were provided by them to mitigate the faced problems.

MATERIALS AND METHODS

The study was conducted in the state of West Bengal. Purposive and multistage random sampling technique was used for selection of the area and respondents. At the first stage of sampling, Midnapur East district, one of leading districts in inland fish production was purposively selected. Midnapur East district has four sub-division (i.e Tamluk, Haldia, Contai and Egra). Out of these, Tamluk sub-division was selected randomly at the second stage of sampling. The selected sub-division has 7 agricultural blocks (i.e. Tamluk, Shahid Matangini, Panskura-I, Panskura-II, Nandakumar, Chandipur

and Moyna). Out of these, the Moyna block was selected randomly at the third stage of sampling. The selected block has 85 villages, out of these; four villages were selected randomly at the last stage of sampling. The selected villages were Sridharpur, Raichak, Ramchak and Sudampur. Respondents of the study area were fish growers of minimum three years experience who having minimum a pond for fish cultivation or are cultivating fish for a large area under contract (lease). A sample of 100 respondents was randomly selected from the four selected villages according to their availability and convenience. The number of respondents selected from each village is presented in the following Table-1.

No option to lift ground water:- Cent percent of respondents (100%) in the study area reported that there was no provision of lifting ground water for fish cultivation due to restriction imposed by government. But there is provision to lift ground water for paddy cultivation. Previously, the whole block was under paddy cultivation but recently nearly the whole block is under fish cultivation. Govt. has restricted to lift ground water due to underground water level depletion day by day which is one of the great concern for ecological imbalance. Majority of respondents in the study area (90%) reported that govt. should allow to set up mini tube-well for fish cultivation especially for meet the water requirement at crisis period.

Table 3. Suggestions provided by fishermen for solving their problems (N=100)

S.No.	Suggestions provided by respondents	No. of responders replied	Percentage of respondents replied
1.	Govt. should allow to set up mini tube-well for fish cultivation	90	90
2.	Good quality and right chemicals should be provided by shopkeeper to control insect-pests and diseases.	8	8
3.	Soil, water and feed testing facilities should be available locally.	14	14
4.	Govt. provision should be there for loan to fishermen and to renovate the pond.	58	58
5.	Storing facilities of fish should be provided by the Govt.	38	38
6.	There should be passage to carry heavy vehicle into the pond.	23	23
7.	Repairment of road is needed in urgent basis.	91	91
8.	Widen metal road is needed, permit to run heavy vehicle and water transport system should be activated by renovating canal.	100	100
9.	Road should be broaden to enter large size car.	20	20
10.	Farmers should try to sell the fish directly in market instead of middlemen and should have govt. intervention.	83	83
11.	There should be a proper marketing system and in this regard Govt. should introduce minimum support price for fish.	35	35
12.	Proper research activities are needed for providing various measures, precautions and suitable chemicals to control insect-pests and diseases.	64	64
13.	Govt. should have strict supervision to control the quality of fish feed.	100	100
14.	Required inputs for fish farming should be available in reasonable and affordable prices.	44	44
15.	Fishery Extensionist should supervise his area properly.	41	41
16.	It is needed to rotate water by water pump to supply oxygen.	54	54
17.	No tree will be in side bund of pond.	17	17
18.	Govt. should provide loan at lower interest to fishermen through bank.	38	38
19.	Govt. should provide electricity at minimum rate to fishermen.	18	18
20.	Integrated measures are to be taken to prevent the soil erosion from pond bund.	100	100
21..	Fisheries dept. of Govt. should come forward eagerly.	80	80
2.2	If govt. is able to provide fish feed, it will be good for fishermen.	100	100
23.	There should be provision of getting suitable river water.	100	100
24.	Proper drainage system should be developed by the govt.	100	100
25.	Night vigilling is essential.	21	21
26.	Collective farming will prevent it.	16	16

RESULTS AND DISCUSSION

The study was conducted in the state of West Bengal. The data collection was done for the duration of October-2015 to December-2015. No well structured interview schedule was prepared for data collection. Simply, two questions were thrown to respondents (what are the problems in your fish farming and what are the ways to solve those problems according to you?). Whatever the replies were given by the respondents were noted. Simple percentage statistical technique was used to analyze the data and to reach at meaningful conclusion.

All total 26 problems replied by the respondents along with their suggestions to solve those. Below are the followings:-

Proper chemical is not provided by shopkeeper: - For controlling insect-pests and diseases whatever the chemicals provided by shopkeepers, most of the times those are not effective. It was reported by 10 percent of respondents. At the lowest 8 percent of respondents suggested that good quality and right chemicals should be provided by shopkeeper to control the insect-pests and diseases properly, therefore fisheries extension personnel should conduct training for the shopkeepers for their awareness, knowledge enhancement and in future better services to fishermen.

Lack of testing laboratories:- Lack of testing laboratories (water, soil, feed quality) in study area was a problem. Therefore, the farmers have no option to know the water quality, soil quality and feed quality. It was reported by 16 percent of respondents. At the most 14 percent of respondents

suggested that soil, water and feed testing facilities should be available locally. It is conducive for precision farming.

Lack of fund: - Fish cultivation needs more fund to carry out this business properly. Funds are needed mainly for (a) set up pond infrastructure (b) bund repairment every year (c) purchasing seedlings (d) purchasing fish feed (e) purchase various other inputs of fish cultivation i.e. net, pump, fish containers, lime etc. (d) pond renovation etc. More than half of respondents (62%) of the study area reported this problem. Fish cultivation is a costly affair, therefore more than half of respondents (58%) suggested that govt. provision should be there for loan to fishermen and to renovate the pond. Singh and Singh (2003) reported that bank is an important institution, which plays a vital role in agriculture development including fisheries. Santhakumar *et al*. (2012) reported that there is need for the banks and other organizations to organize extension educational programmes at the village level to make aware the rural folk about the loan schemes and other facilities given by the bank and possible efforts to make contract farming for assured market for ornamental fish culture.

No facility of storing of fish:-There is no cold storage in the study area. Therefore, there is no option to store the fishes and sell it in favourable time of marketing. Fishes are perishable in nature so, the farmers are compelled to sell the per day's catching. It was reported by 38 percent of respondents in the study area. Similar number of respondents (38%) suggested that storing facilities of fish should be provided by the govt.

Pond/field situation is a problem:- Every farmer's field is not in roadside, some of farmers field is in middle of a big field and they faced lot due to lack of proper road connectivity or they are compelled to compromise with other farmers for transport their products. It was reported by exactly one –fourth percent of respondents (25%). At the most 23 percent of respondents suggested that there should be passage to carry heavy vehicle into the pond. May be the solution will come from farmers cooperation, wise decision and govt. intervention.

Lack of good road condition:- Rural road infrastructure is not properly developed as well as whatever the existing roads –those are not maintain properly due to lack of government's financial intervention. Road damages mainly due to (a) water deposition in roadside nearly whole round the year (canal side road) (b) heavy rain damages road havoc (c) heavy vehicles entrance on the rural roads especially in rainy season (d) brick bearing three wheeler vehicles. Cent percent of respondents (100%) reported this problem. Majority of respondents (91%) replied that repairment of roads are needed in urgent basis. In this respect, they also suggested that 100 days work programme is a ray of hope to mitigate this problem.

Transportation cost is very high:- From the block (Moyna) headquarter to the place of study distance is 12 km and from subdivision headquarter to the place of study distance is 26 km. The inputs purchased at block headquarter or subdivision head quarter and brought to the study place. Vehicle owners charge heavy cost due to long distance, due to rural road, narrow road which has extended through the crowdy places. Sometimes man pulled van or man pulled riksha are also used to carry the inputs. Similar thing happens when fish is carried to the markets for sale. All the respondents (100%) reported about it. All the respondents (100%) suggested that the specified problem has the following ways to solve (1) widening metal road is needed (2) permit to run heavy vehicle and (3) water transport system should be activated by renovating canal. In this respect, govt's ongoing 100 days work programme is really fruitful.

Large size of car is not available to carry fish: - Due to narrow sized rural road, large car is not allowed to enter. As a result, small car is used to carry fishes several times usually it is demanding more transportation cost and make the work laborious. It was reported by 22 percent of respondents. At the most 20 percent of respondents answered that road should be broaden to enter large size car.

Market price of fish is less: - Previously a small area of the block is used to cultivate fish, therefore there was a balance between production and demand, but nowadays whole block area is under fish cultivation (previously the whole block area was under paddy cultivation). Therefore, huge production is the cause of less price in market and it was reported by 88 percent of respondents of the study area. Other noticeable causes were- (a) lack of proper transport system to carry fishes to outside markets (b) no cold storage facilities (c) synchronized fish harvesting time (d) heavy rainfall makes upland area (surrounding block area) suitable for fish cultivation etc. In this respect, majority of fishermen (83%) suggested that farmers should try to sell the fish directly in the market instead of middlemen and should have govt. intervention to control the market price.

Lack of proper marketing system:- Majority of fishermen after catching fishes sell it in local market. Local traders sell it in block headquarter, subdivision headquarter or district headquarter or transport to other places of the State. There, they get more profit, but the producers get a minimum profit. Therefore, whatever the advantages of regulated market, it is absent in local area market . Therefore, it is needed to develop such type of marketing system, so the producers' share on consumers' price will be more and it was reported by 37 percent of respondents. Hence, 35 percent of respondents suggested that there should be a proper marketing system and in this regard govt. should introduce minimum support price for fish.

Insect-pests and diseases infestation: - Insect-pests and diseases infestation was an important problem in fish cultivation and it was reported by 66 percent of respondents. It becomes a great problem due to severity, lack of expert knowledge, lack of identification of insect-pests and diseases properly. At the most 64 percent of respondents suggested that proper research activities are needed for providing various measures, precautions and suitable chemicals to control insect-pests and diseases. Punekar *et al*. (2004) reported that one of the major factors hindering inland fish production nowadays is various types of fish diseases. However, no other fish disease in India has been so menacing as Epizootic Ulcerative Syndrome (EUS). EUS has plugged the natural fish productions of the open water resources. The difficulty

encountered in countering the disease outbreaks at present is primarily lack of knowledge on the primary causative agent, occurance of disease in large water bodies affecting wild population. Choudhury *et al*. (2014) identified that fungal diseases are often indicative of a more serious problem. Saprolegniasis is a common fungal disease which affects the external surfaces of fish. It can be eliminated easily after the primary cause of illness has been identified and corrected. On the other hand, Branchiomycosis has caused high mortalities in cultured fish and is difficult to control. EUS causes diseases and mortality in farmed and wild fish, worldwide, especially in the tropical areas. Ichthyophonus disease is a systemic fungal disease and once it enters the fish, there is no cure. The best control for all fungal infections is good management, good water quality, good nutrition and proper handling.

Adulterated fish feed: - Adulterated fish feed is a great problem nowadays in fish cultivation and it was reported by cent percent of respondents (100%). Fish cultivation is highly feed dependent and adulterated feed hampers the fish growth. Government's apathetic attitude towards fish feed quality control has aggravated the problem upto a great extent. All the respondents in the study area (100%) suggested that govt. should have strict supervision to control the quality of fish feed.

Various input price is high:- Purchasing various inputs for fish cultivation (i.e. seedlings, nets, containers, feed, cake, lime, fish protection chemicals, water pump etc.) was a costly measures. It was reported by 48 percent of respondents. At the most 44 percent of respondents suggested that required inputs for fish farming should be available in reasonable and affordable prices.

Lack of expert knowledge:- Farmers of the study area mainly cultivating fish by their traditional knowledge (mainly belong to Scheduled Caste, sub-caste –Tiyar whose main occupation are fish cultivation and fish marketing). There is lack of knowledge about the package of practices of fish cultivation and modern technologies. Nearly half of of respondents (45%) reported that they need expert knowledge especially for insect-pests and diseases control, oxygenate water properly and proper procedure of feed application. More than two-fifth percent of respondents (41%) suggested that fishery extensionist should supervise his area properly and accordingly will conduct various extension teaching programmes. Punekar and Khare (2005) revealed that fisherwomen practicing composite fish farming have sufficient knowledge and medium adoption, while Trapa (sighara) –cum-fish farming have sufficient knowledge but low adoption, because they stress more on Trapa cultivation than fish farming as they get quick returns from it.

Floating of fish on pond water surface:-At the most 54 percent of respondents reported that floating of fish on pond water surface was seen in study area and it was also an important problem. This problem happened due to – (a) water quality deterioration (b) base level of pond becomes gaseous (c) heavy application of fish feed (d) decomposition of any organic matter in pond i.e. plant leaves, aquatic weeds, fallen branches of pond bund trees (e) not application of lime for a long time (f) high temperature at summer period (g) lack of sufficient sunlight on pond water due to more trees on pond bund etc. All of them (54%) who reported the problem, suggested that it is needed to rotate water by water pump to supply oxygen.

Pond side bund trees create problem:- On pond side bund, various trees are planted by fishermen, these are eucalyptus, akasmani, coconut, papaya, banana, guava etc. These plants' fallen leaves, branches on pond water and their decomposition in pond water deteriorate water quality. Sometimes, the bund plants are uprooted and fall on pond due to wind blow or heavy rain which damage the bund and ultimately enhance the cost of bund repairment as well as makes the farming laborious and costly affairs. It was reported by 19 percent of respondents in the study area. At the most 17 percent of fishermen suggested that there will be no tree on side bunds of pond for proper raising of fish.

Lending money from money lender charges high interest:- Due to problems in getting loan from bank and no option to get it from any other sources in rural area, the fishermen bound to approach moneylender. Moneylenders provide money to them @ interest 3% per month means 36% per annum. It was too much. It was reported by 40 percent of respondents. Fishermen's helplessness is appeared an opportunity to money lenders to earn more. Henceforth, 38 percent of respondents suggested that govt. should provide loan at lower interest to fishermen through bank.

High price of electricity:- Per unit consumption of electricity is day by day increasing. It was reported by 19 percent of respondents. Only 18 percent of respondents have the opinion that govt. should provide electricity at minimum rate to fishermen.

Maintain the fish pond bund is a problem:- Cent percent of respondents (100%) reported that maintain the fish pond bund is a troublesome activity. When wind blows, the produced small ripples on pond water surface, end to bund fringe and continuous ripple hit on pond bund is the main cause of soil erosion. Other causes are- (a) cultivation of grass carp (*Ctenopharyngodon idella*) and cyprinus carp (*Cyprinus carpio*), those mainly search food from pondside bund (b) due to netting (c) frequent movement on pond bund (d) heavy rains (e) flood etc. All the respondents (100%) in the study area reported that this problem is a very serious problem and integrated measures are to be taken to prevent the soil erosion from pond bund.

Lack of extension activities:- Block's fishery unit's activities are not upto the mark and it was reported by 80 percent of the respondents. All of them (80%) opined that fisheries dept. of govt. should come forward eagerly.

Price of fish feed is very high:- Cent percent of the respondents (100%) in the study area replied that the price of fish feed is very high. Feed is made by grinded rice, wheat, maize, mustard cake, dried fish etc., the price of these components is day by day increasing hence, the ultimate feed

price is also increasing simultaneously. Other causes are –(a) due to more coverage under fish cultivation demand of fish feed has increased manifold (b) transportation cost is high (c) puja contribution in puja time (d) private companies have no fixed rule for price enhancement of feed etc. All the respondents in the study area (100%) suggested that if govt. is able to provide fish feed, it will be good for fishermen. It is the most important component of fish cultivation, otherwise govt. should control the feed price reasonably and affordably.

Scarcity of water at summer season:- Due to basin type of appearance of the block (compare to other surrounding blocks land position-this block's land position is in quite depth) in rainy season, rain water deposition makes the conducive environment of fish cultivation. But, in summer season there is shortage of water to cultivate fish. Recently, govt. has restricted to uplift ground water for fish cultivation though has the permission to cultivate paddy. All the respondents (100%) reported about this problem. The block has three sideby rivers (Chandi, Kansavati and Keleghai) though the fishermen do not prefer that water due to salty nature. All of them (100%) suggested that there should be provision of getting suitable river water. From the block, just 26 km far way a river is flowing i.e. Rupnarayan river. The water of this river is sweet in nature and ideal for fish cultivation according to fishermen. They suggested that if govt. take a measure to drain that river water to this block, then it really will be a permanent solution of water scarcity.

Flood problem:- As a low land area, flood problem is a very common event and it was informed by all the respondents (100%). Flood happens mainly due to deposition of rain water. Side of the block, the rivers –Kangsavati, Chandi, and Keleghai are flowing. Flood due to river water (damaging the river side bund) is rare nowadays. Due to flood pond bunds are damaged, fishes go out of pond and have arbitary movement. After flood water removal, few of fishermen get profit but majority of fishermen come under loss. Cent percent of respondents (100%) suggested that proper drainage system should be developed by govt. by renovating canal and side by river and constructing proper infrastructure.

Stealing of fish from pond:- Exactly one-fourth percent of respondents (25%) reported about it. At the most 21 percent of respondents suggested that night vigilling is essential to prevent it. Otherwise, making a tent or home in side of pond will be the permanent solution.

Throwing poison to pond water: - At the most 16 percent of respondents in the study area reported that throwing poison to pond water was one of important problems in fish cultivation. The main causes of this were mainly (1) to take revenge against any social conflict and (2) miscreants were unable to tolerate the progress and prosperity of others. All the fishermen who faced this problem (16%) suggested that collective farming will prevent it. This type of problem will be removed upto a great extent when majority of people in a particular area will have same profession.

Conclusion

Over 1 billion people across the globe rely on fish as their main sources of protein, mostly in developing countries. Fish consumption is rapidly increasing with the growing awareness of its health benefits. Due to overfishing, over 70 percent of the world's fish are either fully exploited or depleted. As a result, need of fish farming, or aquaculture has quickly stepped up to meet the demands of fish consumption. Fisheries are playing a key role in the changing profile of Indian economic growth. Development of suitable technologies coupled with extension activities has accelerated Indian fish production manifold. Though the area specific concern –there are existing several problems those are faced by fishermen in their farming. Fish farming is like, most other types of farming, a risky business that requires special knowledge, skills and careful considerations. Individuals with little or no experience in fish farming and resources available can become successful fish farmers, but they should start small and expand slowly, and be willing to invest lots of time and efforts. Therefore, there is need to more extension activities area specifically to solve the various emerging problems. There is need to strengthen extension system with involvement of both government as well as private organizations, so the technology can be disseminated more effectively and efficiently.

REFERENCES

Choudhury, T.G., Singh, S.K., Parhi, J., Barman, D. and Das, B.S. 2014. Common fungal diseases of fish: A review. *Environment and Ecology*, 32(2): 450-456.

Gaikwad, V. 2015. Employment avenues in beekeeping and fishery: *Kurukshetra*, 63 (12): 31-35.

Meenakumari, B. 2010. Fish for nutritional security: *Indian Farming*, 60 (7): 10-13.

Punekar, S. and Khare, N.K. 2005. Fisherwomen: A positive approach for Trapa –cum- fish farming: *Indian Research Journal of Extension Education*, 5(2&3): 120-122.

Punekar, S.; Tripathi, H. and Mandape, M.K. 2004. The prospect and incidence of EUS: Fish farmers experience: *Indian Research Journal of Extension Education*, 4(3): 53-55.

Saha, B. 2012. Constraints in adoption of improved production practices of carp in Tripura; *Journal of Interacademicia*., 16 (4a): 1149-1154.

Samantaray, B.R.; Das, B.K. and Khutia, C.P. 2013. Community based fish farming: A new facet of employment for rural women: *Kurukshetra*., 61(4): 41-43.

Santhakumar, R.; Sujathkumar, N.V. and Vasudevan, I.V. 2012. Requirement of the women self help group members for adoption of ornamental fish culture technology: *Journal of Interacademicia*., 16 (4a): 1180-1181.

Singh, R. and Singh, U. 2003. Farmers perception about banking facilities: *Indian Journal of Extension Education*, 39(3&4): 257-259.

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