

Assessment of Fish Farmers' Socio-economic and Demographical Profile in Darbhanga District in Bihar

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Authors' contributions

This work was carried out in collaboration between all authors. All authors read and approved the final manuscript.

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ABSTRACT

A study on the fish farmers' socio-economic and demographical Profile was carried out in Darbhanga districts of Bihar states during 2016-17. The findings revealed that majority of the respondents (45.00%) belonged to middle age group. 35 per cent belonged to extremely backward caste. Majority of the fish growers (78.33%) were having fisheries + agriculture as their occupation. Majority of the selected fish growers (40%) had received their education in high school. Majority of the fish growers (40%) had a marginal size of landholding. Majority of fish growers belonged to medium entrepreneurial orientation (51.67%). Majority (38.33%) of the fish growers had an average annual income ranging from Rs. 10000/- to Rs. 150000/-. Majority of them (68.33%) did not have membership in any organization. The majority (66.67%) of fish growers have regularly used TV as sources of information utilised. Majority of fish growers was 68.33 percent having no any membership in committee. The that higher percentage of the fish growers (71.67%) we found to had below 0.5 ha area of pond for their fish cultivation.

Keywords: Age; education; caste; landholding; entrepreneurial orientation; pond area.

1. INTRODUCTION

Fisheries occupy a prominent place in the economy of the world as the fish is one of foods

of the vast majority of people [1]. Fish not only provides proteins but also contains fat, inorganic substances and vitamins [2]. Fish protein is easily digestible and it contains a considerable

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proportion of soluble proteins. It is more valuable for human especially for a population whose staple food is rice. Besides, fisheries help in generating employment and revenue and raising nutritional level [3]. Fish is found abundantly in all natural waters. It is a valuable source of food and has been used by man from antiquity [4]. With mounting population pressure, most part of India are expanding their fish production power. Fish cultivation on a large scale is gaining measure significance in the area where ponds or dam are available. Tapping the wealth of pond and water reservoir and its efficient utilization would become a boon for fishermen with fish cultivation as an allied activity with crop production enterprise. While discussing the present status of the fish cultivation in India as well as in Bihar it has to be mentioned here that the bulk of fish production is in the hands of numerous landless, marginal and small farmers [3]. To most of them, fishing is only a supplementary or complimentary enterprise. In this sense "next to the crops fish production programmes have got the largest employment and income generating potential for the poor. In nutshell, it is said that the most important features of the fish production process are that it provide subsidiary occupation, offer gainful employment at the location itself and make better utilization of family labour. Fish production enterprise are labour intensive, have favourable cost-benefit ratios and in some cases small gestation period [5]. It is particularly suitable for weaker sections of the rural community and has a redistributive effect on rural income in favour of them. Fish production in India has increased more than tenfold since independence in 1947. India stands second in global fish production as well as it also ranks second in world in Inland capture and aquaculture sectors (NFDB, 2017). India registered an increase of 92.8% in aquaculture and 15.1% in marine catches during 2011-12 [3]. The share of India's production from aquaculture is 6.3% of the world. The total fish production during 2013-14 is at 9.51 million metric tonnes with a contribution of 6.14 million metric tonnes from the inland sector and 3.44 million metric tonnes from marine sector respectively (NFDB, 2017). India is also becoming a major supplier of fish in the world. Fish and fishery product exports from India has touched an all-time high of Rs 33,441.61 crore in the year 2014-15, recording a growth of 11 per cent over the previous year. In dollar terms the export value stood at \$5.51 billion, up by 10 per cent year-on-year. (Source - Fisheries development of Bihar: An action plan).

2. RESEARCH METHODOLOGY

The ex post-facto-research design was used for the study. It is a systematic empirical study in which the researcher does not have direct control over independent variables because their manifestations have already occurred. The study will be conducted in Darbhanga district of Bihar state. The two blocks were selected on the basis of fish pond area figure. Jale and Keoti block are selected randomly for study purpose. There is a lot of ponds, rivers and other reservoirs is a source of fish production and many fishing communities involved in production and marketing to secure own livelihood. 30 fish growers were taken from each of the selected blocks. Thus, a total number of 60 fish growers were constituted as the sample for the present study.

Table 1. The demographical features of the Darbhanga district are as follow

Agro-climatic zone	Zone I
Geographical area	2279 km ²
Total density	1728 km ²
Net sown area	57.12 lakh hectare
Total forest area	6.21 lakh hectare
Total barren area	4.36 lakh hectare
Total irrigated area	102087 hectare
Soil type	Sandy loam, Loam
Soil PH	6.5 - 8.4
Average rainfall	1245 mm
Temperature	7.7 - 36.6

2.1 Selection of Variables and Their Measurement Techniques

The age was recorded in the interview schedule. On the basis of the actual age of respondents, they were categorised into three age group i.e., young (Up to 35 yrs), middle (36-50 yrs), and old age (Above 50 yrs) group. The respondents of the were classified as follows on the basis of their caste group i.e. Sc/St, EBC, OBC, UR and their scoring is 1,2,3 and 4 respectively. In the present study, the term occupation refers to the present occupation of the selected respondents for study. For the sake of convenience, the occupation has been categories in only fisheries, fisheries + Agriculture, fisheries + Agriculture + others and their scoring is 1, 2 and 3 respectively. The responses were collected on

five educational levels i.e. Illiterate, Primary education, Middle education, High school and Graduation & above. it was measured by assigning the score as indicated below developed on the basis of Trivedi scale [6]. Their scoring is 0,1,2,3 and 4 respectively. Size of land holding was recorded in hectare. The respondents were classified into four groups i.e. Marginal (Up to 1 ha.), Small (1 to 2 ha.), Medium (2 to 4 ha.) and Large (Above 4 ha.). The entrepreneurial orientation was assessed using an inventory as appears in Trainers manual on developing entrepreneurial motivation by Akhauri et al. [7]. Their scoring inventory had a set to 20 pairs of the statement in each pair, a respondent may agree one statement more than the other. The five points are to be distributed between the two statements in each pair to indicate the extent to which they agree with each of statement. The subject may distribute the five points in any combination (0-5, 1-4, 2-3, 3-2, 4-1, 5-0). If one agrees slightly more with statement 'a' than he should assign three points to 'a' and two points to 'b'. If agreed with 'a' but do not agree at all with 'b' assign five points to 'a' and zero to 'b'. The respondents having a score between 0-0.78 were assigned as having low entrepreneurial orientation, 0.79-1.89 as medium and 1.90-3.95 as high entrepreneurial orientation. Annual family income was classified into three categories on the basis of their income i.e. Low (Up to 100000), Medium (100001 to 150000) and High (Above 150000). Social participation under Member of no any organisation (0), Member of one organisation (1), Member of more than one organisation (2) and Office bearer of organization (3). participation was measured with help of Trivedi [6]. To measure the frequency of utilization of these information sources each respondent was asked to indicate on a three-point continuous to how often the information about improved production practices of fish from each of the sources i.e. Radio, TV, Mobile, News Paper, Book, Magazines, Research organisation, Neighbours and Scientists. Fish growers are involved in different membership of organization i.e. School committee, Bazar committee, Krishak samity, NGO groups, More than one committee and others under different scoring system 1,2,3,4,5 and 6 respectively. Pond Area was classified into three groups on the basis of their area under fish cultivation like Low (Below 0.5 ha), Medium (0.5 to 1 ha) and High (Above 1 ha).

3. RESULTS AND DISCUSSION

The age denotes the chronologically completed calendar years by the fish growers. The majority (45.00 per cent) of the fish growers were from middle age group. Whereas 30 per cent fish growers belonged to young age group and 25.00 percent fish growers belonged to the old age group. Out of total fish growers, the majority (35%) belonged to extremely backward caste, 28.33 percent to unreserved caste, 26.67 per cent to a backward caste and only 10 per cent belonged to scheduled caste and schedule tribe category. 6.67 per cent had only fish growing as their occupation 78.33 per cent had fisheries + agriculture and 15 percent had fisheries + agriculture + others production practices. Thus it can be concluded that majority of the fish growers (78.33%) were having fisheries + agriculture as their occupation about the improved fish production technology. The majority of the selected fish growers i.e., 40 per cent had a high school, followed by middle school (23.33 %), graduate & above i.e., (20.00%), primary school (10.00%) and illiterate category were 6.67 per cent respectively. 40 per cent of the fish growers had a marginal size of land holding i.e. up to 1 ha. While, 31.67 per cent of the fish growers had small size of land holding followed by the medium size (23.33 per cent) and large size (5.00 per cent) of landholding. The majority (51.67 per cent) of the fish growers were from medium entrepreneurial orientation. Whereas 25.00 per cent fish growers belonged to low entrepreneurial orientation and 23.33 per cent fish growers belonged to the high entrepreneurial orientation. The majority i.e. 38.33 percent fish growers had medium annual income whereas 35 per cent respondents had low-level income and 26.67 per cent had high level of annual income. The majority of them (68.33%) did not have membership in any organisation, while 26.67 per cent had membership in one organisation, 1.67 per cent had membership in more than one organisation and 3.33 percent were found to be the office bearer of the organization. The majority (66.67%) of fish growers were regularly used TV as sources of information utilized followed by neighbours (63.33%), radio & mobile (53.33%), scientist (50.00%), newspaper (43.33%), book (36.67%), research organization (28.33%) and magazines (18.33%) used as sources of information utilized. Thus it can be concluded that more than half of the fish growers were found to regular used TV, Neighbour, radio and

mobile as a source of their information. The majority of fish growers was 68.33 percent having no any member in committee, where as 15 per cent had bazar committee followed by 8.33 percent had their membership in krishak samiti, while 3.33 per cent had found to have membership of school committee and same as NGO groups followed by 1.67 percent had more than member one committee. 71.67 per cent of

the respondents were found to have low pond area (below 0.5 ha) . The pond area belonging to the medium size of the area (0.5 to 1 ha) and high area (above 1 ha) were 25.00 per cent and 3.33 per cent respectively. Thus, it may be inferred from the data that a higher percentage of the fish growers (71.67%) we found to had below 0.5 ha area of pond for their fish cultivation.

Table 2. Sources of Information Utilized (SIU)

S.N.	Sources	Responses N = 60					
		Regular		Often		Never	
		f	%	f	%	f	%
1	Radio	32	53.33	24	40	4	6.67
2	TV	40	66.67	18	30	2	3.33
3	Mobile	32	53.33	17	28.33	1	1.67
4	News Paper	26	43.33	28	46.67	6	10
5	Book	22	36.67	27	45	11	18.33
6	Magazines	11	18.33	17	28.33	32	53.33
7	Research Organization	17	28.33	35	58.33	8	13.33
8	Neighbors	38	63.33	15	25	7	11.67
9	Scientist	30	50	25	41.67	5	8.33

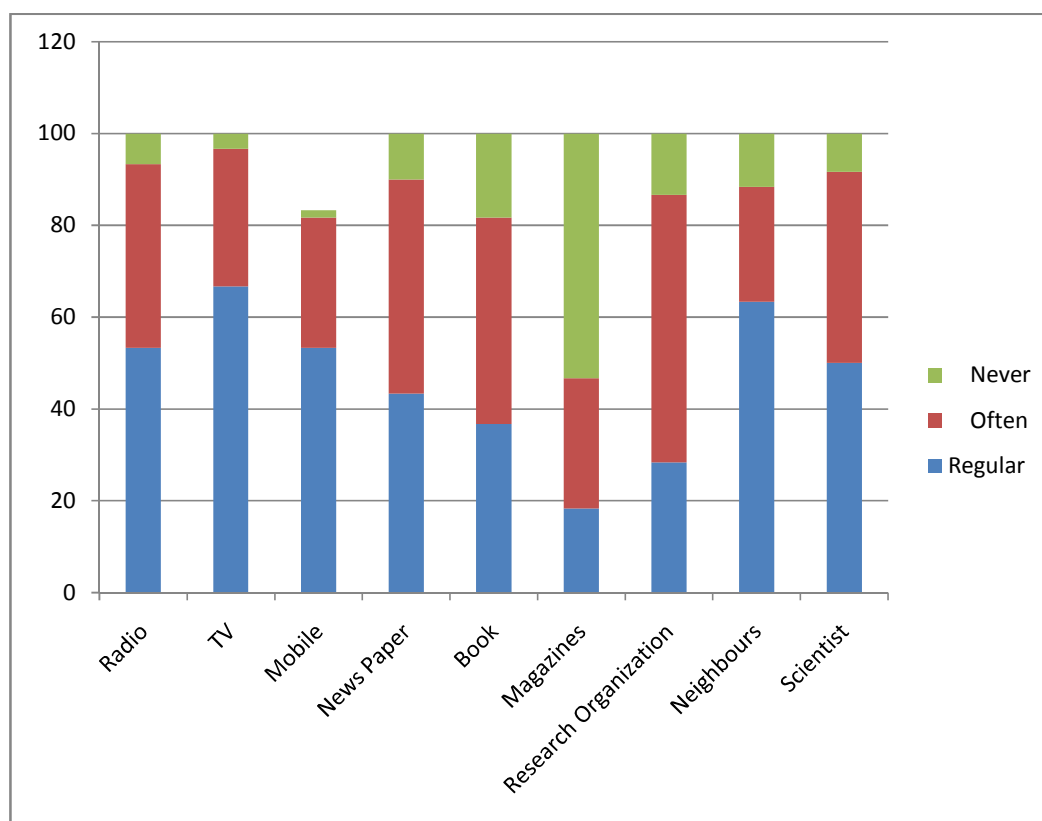


Fig. 1. Percentage distribution of respondents on the basis of their Sources of Information Utilized

4. CONCLUSION

Fisheries occupy a prominent place in the economy of the world as the fish is one of the foods of the vast majority of people. Fish not only provides proteins but also contains fat, inorganic substances and vitamins. Fish protein is easily digestible and it contains a considerable proportion of soluble proteins. It is more valuable for human especially for a population whose staple food is rice. Besides, fisheries help in generating employment and revenue and raising the nutritional level. Fish is found abundantly in all natural waters. It is a valuable source of food and has been used by man from antiquity.

India stands the second rank in global fish production. India registered an increase of 92.8% aquaculture and 15.1% in marine catches during 2011-12. The present share of India's production from aquaculture is 6.3% of the world and contributes to 1.1% of the national GDP and 5.15% of the agricultural GDP. Total fish production during 2015-16 was 10.07 million metric tonnes. Fish and fish products have presently emerged as the largest group in agricultural exports of India, with 10.51 lakh tonnes in terms of quantity and Rs.33,442 crores in value during 2015-16. This accounts for around 10% of the total exports of the country and nearly 20% of the agricultural exports. The annual fish production of Bihar 4.79 lakh tonnes during 2014-15 but annual demand is 5.88 lakh tonnes. Similarly, the annual demand of fish seed in the State is over 760 million, while the production is only about 481 million from the 121 government fish seed nursery, two government fish hatcheries, and 83 private hatcheries.

The training of farmers is a critical input for the rapid transfer of agricultural technologies. The present productivity of fish could be increased considerably if the available technology is effectively transferred to the farmers. Our training programmes need to focus

more on transferring of new technology from the confines of laboratories and research institute on the farmers and make them result oriented. Its profitability needs to be enhanced further, but still profitability of fish growing is based with many constraints faced by fish growers due to production and marketing. So, therefore, the fish growers need to be properly trained in the latest improved cultivation practices for realising more productivity and production of fish.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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