

Socio-Economic Importance of Baraila Wetland

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Research Article

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ABSTRACT

The aim of present work is to attempt has been made to highlight some of the socioeconomic conditions of fisherman community inhabiting the vicinity housing and living condition, occupation, education and income etc. The survey was conducted my means of a sample census, using a questionnaire. While surveying the socioeconomic conditions of the fisher men folk of Baraila wetland, Vaishali, Bihar, before the survey was done, a personal communication was made with the headman of each village for co-operation. A door to door survey was conducted of each village for conducted in each village and the information received from each fishing family was written in questionnaire. They are mostly exploited by the middleman for whom their economy is very adversely affected. It is urgently needed to make an effective all round policy to improve their social, economical and educational status. At the same time, it is essential to strengthen their organizational capacity so that they may be able to bring to court their business in comparatively better way. Reorganization of fisheries co-operative societies on scientific basis would go to a long way in improving the socio economic conditions of small fishermen operating in Baraila wetland fisheries.

Keywords: Fisherman; Household; Socio-economic; Wetland

INTRODUCTION

Socio-economic status of fisherman population

Bihar is blessed with vast and fisheries and aquaculture resources. These resources are in the form of rivers, reservoirs, lakes Mauns, Chaur, irrigation canals, ponds and community tanks [1]. However, despite such natural resources and fish as highly prepared food item, aquaculture and open water fisheries resources remain highly underutilized [2]. It is high time for the state to make use of these resources for providing sustainable livelihoods to millions of poor rural communities [3]. The major schemes taken up include production and supply of fish seed, development of Maun/Chaur besides centrally sponsored schemes for development of aquaculture and welfare of fishers. The total fish production in the state is about 2.66 lakh tones with average productivity of about 2.2 tons per ha per annum. However, the annual consumption of fish utilization of aquaculture resources, unscientific management of water bodies and lack of entrepreneurship are some of the most obvious reasons for the gap between demand and supply.

Bihar occupies third position in inland fish production (2.66 lakh tones) after West Bengal (9.88 lakh tones) and Andhra Pradesh (6.80 lakh tones) as in 2003-2004. It contributes about 1.6% of Bihar GDP. Bihar has bountiful natural of ponds and tanks, 90,000 hectare of ox-bow lakes, 35000 hectare of waterlogged area and many major rivers with total length of 3200 km [4]. The present fish production is about 2.675 lakh tones. The state produces 350 million fry against the current requirement of 2000 million [5]. Similarly, the State of disappointing fisheries and aquaculture development in the state are attributed mainly to poor institutional setup, almost non-existence extension services, lack of adequate resources and infrastructure facilities, devoid of conducive policy environment, defunct fisheries cooperative, lack of professionalism among fisheries personnel, fragmented social setup, poverty and illiteracy among the primary producers etc.

The challenge is how to negotiate with these impediments, where many of them do not fall under the purview of the department of fisheries and employ a practical and effective management strategy for utilization of available resources. We need to work hard for exploring appropriate approaches and develop field tested models to make this food production sector play a greater role in poverty reduction, food and nutritional security, sustainable rural livelihood development, government revenue and overall contribution towards betterment of the socio-economic conditions of farmers and fishers.

The total fishermen population in Bihar is about 49.59 lakh which is highest among the other state of India. About 505 (23.01 lakh) of the total fisher population is constituted by the children of various age groups. But of this huge population only 37,079 are active fishermen of which 25,503 are male and 11,576 are female. The fishermen population density in state is 52.66 per square km. the data regarding the literacy of fishermen is not available, but it is assumed that the literacy rate is much below the Bihar average of 47.53%. The total number of fishermen co-operatives in the State was 1125 as in 2000 as per the co-operative department, government of Bihar. However, most of the FCSs are not functional. Most of the fisher's villages in the state lack basic amenities like housing, communication, drinking water, electricity, health and sanitary facilities.

MATERIALS AND METHODS

The natural water bodies have great impact on fishermen community, steps have been undertaken for detailed investigation of socioeconomic condition of fishermen in relation to natural water bodies (Both inland and marine) in India and abroad [6-8]. Therefore, in the present work, an attempt has been made to highlight some of the socioeconomic conditions of fisherman community inhabiting the vicinity housing and living condition, occupation, Education and income etc.

Area covered: The socio-economic survey was conducted in three village situated in the bank on Baraila wetland during the year Oct. 2010 to Sept.-2012. The villages surveyed were namely Dullour, Loma and Dih Buchauli.

Survey method in general: The survey was conducted my means of a sample census, using a questionnaire. A small survey method was followed [9]. While surveying the socioeconomic conditions of the fisher men folk of Baraila wetland, Vaishali Bihar, before the survey was done, a personal communication was made with the headman of each village for co-operation. A door to door survey was conducted of each village for conducted in each village and the information received from each fishing family was written in questionnaire. For convenient of study Fishing Household (FH) were divided into four categories. They were

- Fully dependent on fishery.
- Fishery Major and agriculture minor. Fisherman Mainly (more than 90%) dependent on fishery as well as on agriculture.
- Fishery minor and other fisherman partly dependent on fishing and partly Jobs.
- Agriculture fisherman solely dependent on agriculture.
- After collecting the information's were tabulated and qualitative and quantitative analysis was done statistically.

RESULTS AND DISCUSSION

Survey results

The fisherman villages selected in the present study were namely Dullour, Loma and Dih Buchauli. The Total strength of villagers is 200-250. Out of 250 families 150 families could be successfully interviewed during investigating Period. A number of families refuse to face the interview because of fear of something else and alcoholic nature of others.

The economic activities of the fishermen communities were predicted. There source of income constituted mainly fishery or agriculture. Out of total 250 fisherman interviewed 150 fishermen (75%) were involved directly or indirectly with fisheries and only 50 (25%) fisherman involved entirely with agriculture. Out of 150 involved in fisheries, the number of sole, major and minor fisherman were 100 (66.66%), 20 (13.3%) and 30 (20%) respectively. Thus the percentage of fisherman taking as primary and secondary occupation were estimated as 80% (120 FH) and 20% (30 FH) respectively (Table 1).

Table 1. Economic activities of Fishing Households (FH) Inhabited near Baraila wetland.

Total number of FH interviewed and their percentage	FH dependent on			
	Fishery sole	Fishery major and agriculture minor	Fishery minor and others	Agriculture sole

150	100	20	30	50
-	0.6666	0.133	0.2	0.25

Social status of fisherman

Family size: The number of families ranged from 3-12. However the recorded average family size was 5.4. The largest family size (12 persons) was recorded in Dullour while the lowest (3.0 persons) was recorded in Dih Buchauli. The average number of persons took part in fishing activities per FH were ranged 1.2 (Dullour) to 2.5 (Dih Buchauli) (Table 2).

Table 2. Housing condition of Fishing Households (FH) inhabited neat Baraila wetland.

Housing condition	Category of FH				
	Fishery sole	Fishery major and agriculture minor	Fishery minor and others	Agriculture sole	Total
Thatched house	80	18	20	25	143
Half walled (semi pucca)	20	1	6	15	42
Full walled (pucca and concrete)	0	1	4	10	15

Housing condition: The housing conditions were very poor. Majority of fisherman (96.00%) had Thatched while only a few FH (3098%) has either half walled (semi pucca) or full walled (pucca or concrete) houses. Thatched house holders together with the confidence limits were calculated to be 0.96 ± 0.04 (P=0.99). While the same of the half walled and full walled house holders were 0.028 ± 0.03 and 0.012 ± 0.02 (P=0.99) respectively.

Literacy status: The literacy status among fisher flak was satisfactory. It was noticed that most of the fisherman were literate. Out of the 150 FH Interviewed, 100 FH (66.6%) were literate and 50 FH (33.4%) FH were having Primary education, 20 (13.3%) FH having High school education and 15 (10%) FH having college education. A few fisherman had highly qualified members, some had graduate and some has even master degree holders. These members rendered services in various state and central, government department namely school, colleges, police service, administrative service and transport services etc.

Basic amenities: The drinking water supply, medical facility, electricity, market facility, communication etc are generally considered as basic needs for the day to day life of fishing community. There parameters have been observed as follows:

- **Market facility:** The fishes caught by the fisherman must be marketed well. Market is essential not only to sell the fishes but also to purchase essential commodities by the fisherman. There existed two daily markets. One near the area (Loma) and the other, at nearby market or delivered the catch to agents, who in turn, transported the same to the distant market. The member of the fishing families also, had to move the distant market for purchasing essential commodities not available in the nearest one.
- **Medical facility:** Very poor medical facility was available to the fisherman and their family members. During survey, it was observed that there was only one health sub center in the areas; headed by a staff nurse and a doctor visited the center once or twice a week. Only preliminary treatment was given in the center, for severe diseases they had to move either to state dispensary or to district civil hospital, situated at a distance of 2 km to 5 km and 20 km respectively.

- **Water supply:** The source of drinking water supply consisted of only wells and tube wells. There were supplied to them by the government. There were average 2 well and 3 tube wells in each village.
- **Source of light:** It was observed that most of the fisherman used kerosene oil while a few used electricity. The proportion of respondents using kerosene oil were 0.964 ± 0.09 ($P=0.09$). While the proportions of electricity users were only 0.351 ± 0.08 ($P=0.99$).
- **Communication:** The communication Facilities was not developed. Each village had its own road with bricks soling in construction, not at all suitable for vehicle, even for walking, more particularly during rainy seasons.

Economic status of fishermen community

Source of income: The source of Income of fisherman has been recognized into four types (Table 3). For some FH, the sources of income mainly fisheries. Some did primarily from fishery and secondary from agriculture. The third type of FH derived their income partly from fishery and partly from other occupation such as jobs, labors, wages etc. the fourth type of FH derived their daily income, solely from agriculture. In the present work, the number and percentage of FH who derived their income from the above mentioned sources were 80 (53.2%), 20 (20.6%) and 19 (12.6%) respectively.

Table 3. Housing Condition of Fishing Households (FH) inhabited neat Baraila wetland.

Literacy status	Category of FH			
	Fishery	Fishery major and Agriculture minor	Fishery minor and others	Agriculture
Literate				
Primary education	41	9	13	22
High school education	14	3	4	7
College education	15	3	3	5
Illiterate	28	5	10	16

Average monthly income: The income of FH includes the income derived not only from fishing but also from other sources such as agriculture, wages Jobs etc. The FH had been classified into three groups depending upon the average monthly income.

The lowest income group in between 400-500, the middle income group in between Rs 600-700 and the highest income group *i.e.* -800 and above (Table 4). The majority of FH belongs to lowest income group, the percent being 54.58%. The FH belongs to middle income group and highest income groups constituted 27.09% and 18.32% respectively.

Table 4. Source of income of Fishing Households (FH) inhabited neat Baraila wetland.

Source of income	No. of FH	Percentage
Fishery	100	0.666
Fishery major and agriculture minor	20	0.133
Fishery minors and others	30	0.2
Agriculture sole	50	0.25

Impact of fisheries extension service: The fishing household of the area were not at all aware of the fishing extension programme. Though the country has shown scientific progress in different aspect of fisheries, in recent years. More particularly in the field of induced breeding, hatchery management, fishing gear technology etc. Yet the message of these advancements has not been received by these grass root labeled fisherman (Table 5).

Table 5. Average monthly income of Fishing Households (FH) Inhabited near Baraila wetland.

Average	Category of FH					
	Fishery sole	Fishery major and agriculture minor	Fishery minor and others	Agriculture sole	Total	%
Rs 400-500	54	11	16	27	108	54
Rs 600-700	27	5	8	13	53	27
Rs 800 and above	19	4	6	10	39	19

Availability of financial assistance: Majority of FH were deprived of getting financial assistance from any public sources such as banks, blocks, co-operative societies and government agencies etc. It was reported that most of the fisherman feared of approaching banking or financial institution because of ignorance or harassment to them. However out of the 150 FH interviewed only 70 FH (46.6%) all from the village Dullour were received credit from the Government for construction of boats and purchase of fishing gears. Some financial sound people also provided them cash or kinds to enrich their requirements (Table 6).

Table 6. Average monthly expenditure of Fishing Households (FH) inhabited near Baraila wetland.

Average	Category of FH					
	Fishery sole (100)	Fishery major and agriculture minor (20)	Fishery minor and others (30)	Agriculture sole (50)	Total	%
Rs 400-500	54	11	16	27	108	54
Rs 600-700	27	5	8	13	53	27
Rs 800 and above	19	4	6	10	39	19

Impact of middle man Interferences: The overall economy of the fisherman was badly affected by the interference of the middle man. The entire fish trade system was under the control of these middle men. The indebtedness of fisherman to such middleman compelled them. As a result, a big market margin was shared by these middlemen (Figures 1-6).

Figure 1. S-1-Govt. sign-board of Baraila bird sanctuary.



Figure 2. S-2-study at socio-economic condition of villagers.



Figure 3. S-3-A view of village garden near the Baraila wetland.



Figure 4. S-4-jackfruit tree near the wetland.



Figure 5. S-5-interaction with fisherman.



Figure 6. S-6-A view of Aquatic weeds in Baraila wetland.



Role of co-operative societies: Only two co-operative fishery societies were found to exist in this area. But these societies were functioning in vein, as many vested interests filtered them. The rich people, actively involved in

politics were dealing with the management of these societies. The through more of themselves rather than the common fishermen. As a result, the common fisherman was greatly deprived of getting benefits out of them.

DISCUSSION

The socio-economic conditions of fisherman residing in and around the Baraila wetland as also investigated in this present work. However, as per BAD, 2008 report, almost all the fisherman of the country had either semi-pucca house of earthen construction or thatched house. Literacy is regarded as one of the most important basic factors which reflect the life cycle and socioeconomic status of the fisherman Society [10]. In the present study, the percent of literate fisherman was higher *i.e.* 66.6%. While that of literate fisherman 43.3% were having primary education, 13.3% having secondary education and 10% having college education. The present literacy is somewhat better than the status of literacy of fisherman on all India basis *i.e.* 63% are still illiterate and only 26% are having primary education, 10% having secondary education and 1% college education. Basic amenities in terms of drinking water, medical, electricity and communication facilities were seemed to be very poor in the surveyed Villages. Only one village is installed with electricity and water supply facility. While the remaining two village were deprived of such facilities. Majority of people used kerosene oil to light their houses and well or tube well water, even pond water for drinking purpose. The lack of basic amenities in the region might be associated with their poor economic condition and lack of awareness towards government Policies which created a communication gap between them and government officials. Though central and state government has adopted policies time to time for upliftment of fisherman community. Yet majority of them of the present area were deprived of enjoying them. In the some states of India such as Uttar Pradesh (Rahand), Maharashtra (Jayakadi), Himachal Pradesh (Govind Sagar) and Haryana (Bhadkal), the fisherman having electricity and other facilities in their Societies. Which lead them to lead a healthy way of life. Unfortunately, In spite of central Govt. policy to provide drinking water and electricity facility to all the rural sectors of the country, the illiterate fisherman villages, under present study, have not yet drawn the attention of government officials for same.

So, far as the economic activities are concerned, it was observed that 75% FH were directly or indirectly involved in fishery. While only 25% FH solely dependent on agriculture. Out of 75% FH, 66.6% had taken fishery as primary occupation and 20% has taken the same as secondary occupation. This percentage of more than the all India level *i.e.* 45% as Primary and 55% as secondary occupation. Only 8% fish culturist had taken fishery subsidiary occupation. And 67% had taken agriculture as primary occupation in Bihar. The present finding does not agree with the above workers and it might be associated with their poverty which compelled majority of them to take fishery as primary source of income. The monthly income of majority of FH was very low about 54.58% FH were under the lowest income group 400-500 and at the same time had the highest rate (51.79%) of dependency of fishery. The average monthly income through fishery in many of the state has been recorded to be 300-350. In this context, it may be mentioned that the present finding is similar with the above report. Thus the fishermen community of the country in general and the presently investigated area in particular were dependent on fishery for their livelihood and they belonged to lowest income group as well as quite below the poverty line. On the other hand, majority of FH (56.17%) had the monthly house hold expenditure and as a result they are bound to lead a miserable life, living from hand to mouth only.

The fisherman was quite Ignorant of the fisheries extension programmes introduced by the government from time to time. Their remote habitations and lack of awareness might be one of the causes of it. Although, Fish Farmers

Development Agency (FFDA) is operating its fisheries extension services in many states. Yet its impact in Bihar is not be so pronounced [14]. In Tamilnadu and Maharashtra, special attention has been given towards education of fisherman children, where books and stationeries are provided to them free of cost. The elementary knowledge of navigation, net making, carpentry, extraction of fish oil etc has also been given to them. Funds are most important to run any business including fishery. The Institutions which can provide loans to fisherman are co-operative societies, Banks, Govt. Fisheries department etc. In many states financial assistance are now being provided on all India basis are deprived of getting this opportunities. In the present study, only 27.89% fisherman received financial assistance from the government to enrich their requirement such as boats, nets etc. while the remaining 72.11% were deprived of getting financial assistance from any source. It is not surprising, considering the all India basis *i.e.*-42%. The co-operative societies have a role to play towards the development of fisherman. Co-operative is by far the in dispensable organization for over all development of fisheries in our country. The fishery co-operative movement aims not only to improve the economic condition of fisherman but also mobilizes the resources and leadership abilities needed for fishery development in the country. There were only two fisheries Co-operative societies functioning in the presently investigating area. They were running in black and white with no aim to develop the economic conditions of the poor fisherman. It was observed that these societies were not even able to deposit the security deposits at the same time of calling tender for leasing the water bodies by the government. As a result, rich people automatically entered to the society and they became the leader of it. These people thought of themselves rather than the poor fisherman was highly exploited by these co-operative societies.

CONCLUSION

The socio-economic status of fisherman of the presently surveyed area is very low. They are poorly literate or illiterate, conservative and quite below the poverty line. The standard of living is unhygienic surroundings and poor cultural status results in their social isolation. They are mostly exploited by the middleman for whom their economy is very adversely affected. It is therefore urgently needed to make an effective all round policy to improve their social, economical and educational status. At the same time, it is essential to strengthen their organizational capacity so that they may be able to bring to court their business in comparatively better way. Reorganization of fisheries Co-operative societies on scientific basis would go to a long way in improving the socio economic conditions of small fishermen operating in Baraila wetland Fisheries.

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REFERENCES

1. Xu T, et al. Wetlands of international importance: Status, threats and future protection. *Int J Environ Res Public Health*. 2019;16:1818.
2. Terer T, et al. Socio-economic values and traditional strategies of managing wetland resources in Lower Tana River, Kenya. *Hydrobiologia*. 2004;1:3-15.
3. Silvius MJ, et al. Wetlands: Lifeline for people at the edge. *Phys Chem Earth*. 2000;7:645-652.

4. Sowman M, et al. Fishing for equality: Policy for poverty alleviation for South Africa's small-scale fisheries. *Marine Policy*. 2014;31-42.
5. Skees JR, et al. Enhancing microfinance using index-based risk-transfer products. *Agric Finance Rev*. 2006;66:235.
6. Amezaga JM, et al. Biotic wetland connectivity-supporting a new approach for wetland policy. *Acta Oecologica*. 2002;3:213-222.
7. Crisman TL. Wetlands of East Africa: Biodiversity, exploitation and policy perspectives. *Biodivers Wetl*. 2001;2:101-131.
8. Ayalew W. Improving management of shoreline and riparian wetland ecosystems: The case of lake Tana catchment. *Ecohydrol Hydrobiol*. 2010;10:123-132.
9. Jafari N. Ecological and socio-economic utilization of water hyacinth (*Eichhornia crassipes* Mart Solms). *J Appl Sci Environ Manage*. 2010;14:43-49.
10. Kabir KM, et al. Livelihood status of fishermen of the old Brahmaputra River, Bangladesh. *World Appl Sci J*. 2012;16:869-873.