

FISH MARKETING SYSTEMS AND SOCIO-ECONOMIC STATUS OF ARATDAR IN GAIBANDHA DISTRICT, BANGLADESH

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Abstract

The study was carried out from May 2013 to April 2014 to find out the fish marketing systems and socio economic status of aratdars of six upazilas in Gaibandha district. Four categories of fishes (Exotic, Indigenous, Live and SIS) were observed where maximum fishes were gathered from the surrounding area but imported from other countries was very rare in these markets. Commission agents obtained 3-4% commission from farmers was identified during the study period. The highest landing was recorded 391482.40 kg yr⁻¹ (*Pangasius pangasius* in Gobindogonj) while the lowest landing was recorded 545.20 kg yr⁻¹ (*Channa punctatus* in Sundargong). Fish price assorted from BDT 64.20±3.82 (*Chanda ranga*) to 798.80±10.09 Tk kg⁻¹ (*Ompok pabda*). Preponderance (51.13 % in Gaibandha Sadar) aratdars were studied from VI-X class. Agriculture was major secondary occupation of the aratdars (56.44% in Polashbari to 81.49 % in Fulchari). The majority (46.23% in Fulchari to 70.73% in Gaibandha Sadar) aratdars were found to earn Tk 500-1000 day⁻¹, while, only 16.71% aratdars earn Tk 100-500 day⁻¹ in Gaibandha sadar and 22% aratdars in Gobindogonj earn above Tk 1000 day⁻¹. It was remarkable that there was no private clinic facility for health service of aratdars in Fulchari upazila, but 68.02% aratdars got health service from community hospitals. Except very few market, infrastructure of blanket and retail fish markets were not adequate with packaging, sanitation, water supply, drainage, cleaning, washing, maintenance and repairs.

Keywords: Transportation system, marketing channel, market price, socio economic status of aratdars

Introduction

Marketing is the flow of goods and services from the point of initial production to reach the ultimate consumer through business activities. Fisheries marketing encompass all agencies and activities conducting marketing of fish, movement of fish and fishery products from farm or industries to the final consumers. Only catching and selling of fish is not the objective of fish marketing, but have wide scope for exploitation production, distribution, preservation and transportation of fish in addition actual sale of fish by reducing middlemen (Agarwal, 1990). Farias, beparies, retailers, and aratdars are the intermediaries provide the channel of communication between the producers and consumers in fish marketing system. Mohajons or aratdars collect fish form the catchers or farmers with the help of local brokers who get a margin profit or commission from the aratdars. The most solemn marketing difficulties in the remote communities are poor transport and lack of ice facilities, where the farmers are in a particularly weak position in relation of intermediaries (Rahman, 1997). The successful fishery development of Bangladesh depends upon ample consideration of biological, technical and economic information as well socio economic and cultural information of making (Flowra *et al.* 2012). In point of fact fresh fish marketing anarchy not only seen in Bangladesh but also in Asian region (Shrivastava and Randhir, 1995). For this aim investigation of the social patterns, economic system and some related aspects of the people of fishery are found as the basic need. Karim (1978) were focused on fishermen's occupation in the description of socio economic and socio-cultural aspects. Fishermen are enormously ignored socially and exploited economically, though they are the producers of fish. Gaibandha is a northern district of Bangladesh where many people are directly and indirectly involved in fisheries activities. So, it is indispensable to know about the socio economic condition of intermediaries and fishermen for the development of marketing strategy and livelihood status of them. Therefore, the present study was designed to establish the meticulous story of marketing and the sustainable livelihood of the aratdars in Gaibandha district.

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Materials and Methods

The study was carried out in six upazilas of Gaibandha district (Fig. 1) from May 2013 to April 2014 for getting a details explanation of marketing system of Gaibandha district and also the socio-economic status of aratdars of the fish markets. Physically market visit and questionnaire based interview methods was used for data collection. All the data were analyzed using computer software Microsoft Excel.

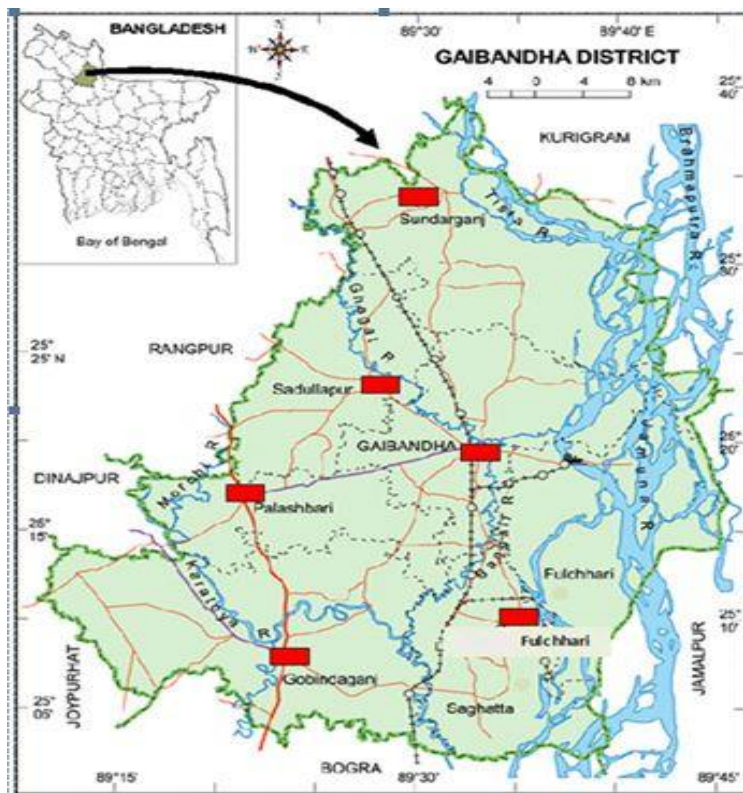


Fig. 1. Map of Gaibandha district showing the study areas (Marked with red rectangular shape)

Results and Discussion

Structure of fish market

The structure of the market could be characterized by the presence situation of many buyers and sellers. There were 200 (Gaibandha Sadar), 36 (Sundarganj), 19 (Sadullapur), 75 (Saghata and Fulchhari), 47 (Polashbari) and 120 (Gobindoganj) aratdars and retailers in the studied markets. A number of people even children also work with the markets as daily basis. Wholesales were started from 6:00 am to 12:00 pm and retail markets were started from 9:00 am to 8:00 pm. There was no adequate sales area, packaging, sanitation, water supply, drainage, cleaning, washing and maintenance facilities except very few markets. Hossain and Uddin (1995) and Flowra *et al.* (2012) also reported the same constrains and infra structural status of the fish market in Bangladesh.

Sources, supply and other facilities

A notable amount of caught fish from rivers, canals, beels, ponds, swamps, floodplains were come to the fish markets from the northern area of Bangladesh by the interference of fishermen, faria, bepari or by wholesaler. Both culture and capture fisheries produce less quantity which accounts for high prices of all fish species during dry season. Annual report of NFEP (1995) was also similar. The transportation system of fish from surveyed fish landing center are presented in Fig. 2.

Fishes were transported in the market after catching by different vehicles (train, bus, truck, pick-up, boats, tampoo, rickshaw, cycle, van, tomtom, thalagaree and bhar). There was a connection between fish transportation and marketing. But unfortunately, there was no organized transportation system in the studied area. Rokeya *et al.* (1997) found same problems. For the packaging and preservation, different kinds of bamboo baskets, plastic baskets,

leaves, plum trees and banana leaves, wooden boxes, polythene bag or plastic bag, earthen pot, aluminum can, drum, few aquatic vegetation were used for fresh fish and fishery products. Ice was sporadically used for small fish and 1:3 ratios for transportation in case of Hilsa and exported fishes. The daily supplies of fishes in different upazila of Gaibandha district are shown in Fig. 3. In Gaibandha district (especially in Fulchari upazila fish market) most of the fishes come from the local area and rests come from outside of Bangladesh (India and Myanmar). Siddque (2001) also found that in Mymensingh markets, fishes were imported from Myanmar and India, which is similar with the present findings.

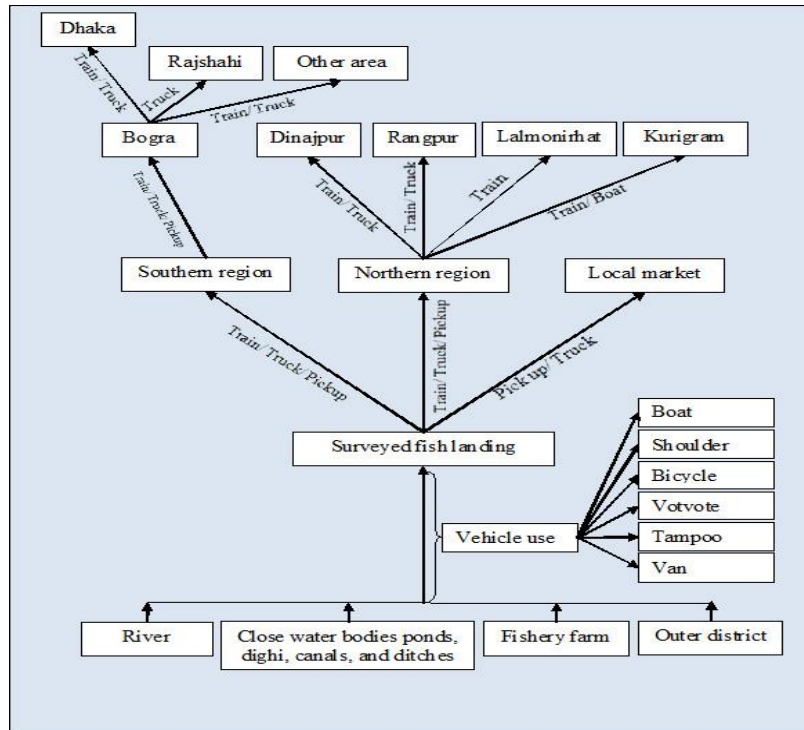


Fig. 2. Showing the sources and transportation of fish from surveyed fish markets

Marketing channel

The marketing channel was identified in the study areas as traditional and remains in the hands of private traders and government have no role in this field. So, the price of the fish fluctuates of the different intermediaries: farias, beparias, retailers, and aratdars. Four to five intermediaries were present in fish marketing (Rahman, 2003 and Yousuf, 2004). More involvements of the middlemen and commission agents reduce the benefit to the fish producers (Ahmed *et al.* 1993 and Mazid, 1994). The commission agents usually earn about 3-4% commissions from the farmers. So, the price of fish increases in every stage of 20-40%. The finding of Khanam *et al.* (2003) was more or less similar with findings of the present study. The fish marketing channel of fish market of different upazila are depicted in Fig. 4.

Landing, pricing and marketing cost

Among the six fish markets, the highest landing was 391482.40 kg yr⁻¹ (*Pangasius pangasius* in Gobindogonj) while the lowest was 545.20 kg yr⁻¹ (*Channa punctatus* in Sundargong). The highest amount of landing was found in Gobindogonj because the market area was large and huge amount of exported fish was generally landed in this bazar from neighboring districts. The highest price was Tk 798.80±10.09 kg⁻¹ (*Ompok pabda* in Sadullapur) whereas the lowest was Tk 64.20±3.82 kg⁻¹ (*Chanda ranga* in Gaibandha Sadar) during the study period. The price of small fishes and also other fishes varied on the basis of availability of fish in different season of the year (Table 1). The finding of Flowra *et al.* (2000) was similar with the findings of the present study.

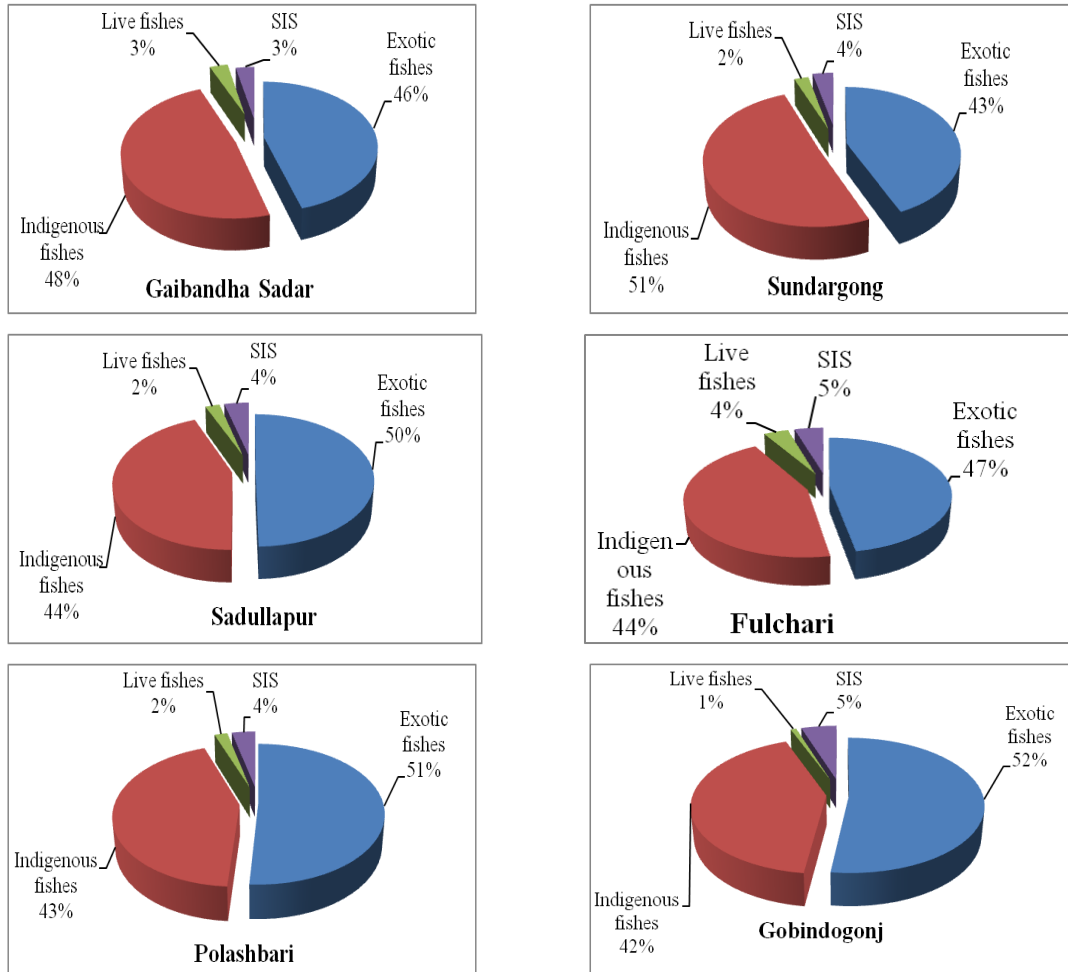


Fig. 3. Supply of fishes at different fish markets

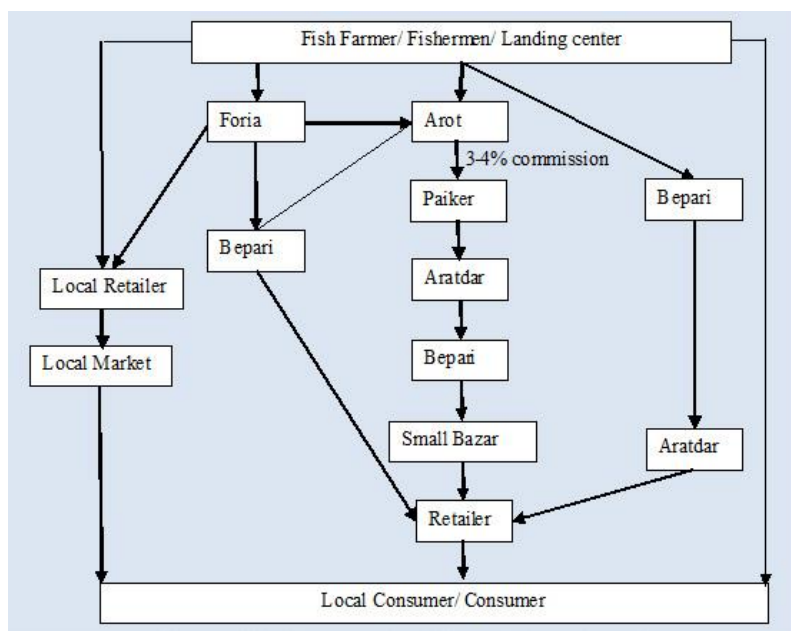


Fig. 4. The fish marketing channel of the study area

Table 1. Average landing and price of different species in three fish markets during the survey period

Different species	Gaiandha Sadar		Sundalong		Sadullapur		Fulchhari		Polashbari		Gobindogonj	
	Landing (kg.yr ⁻¹)	Average price (Tk.kg ⁻¹)	Landing (kg.yr ⁻¹)	Average price (Tk.kg ⁻¹)	Landing (kg.yr ⁻¹)	Average price (Tk.kg ⁻¹)	Landing (kg.yr ⁻¹)	Average price (Tk.kg ⁻¹)	Landing (kg.yr ⁻¹)	Average price (Tk.kg ⁻¹)	Landing (kg.yr ⁻¹)	Average price (Tk.kg ⁻¹)
Exotic Species												
<i>Hypophthalmichthys molitrix</i>	4629.40	153.80±2.14	3228.60	152.80±2.48	3278.60	153.40±2.06	3678.80	154.40±1.20	3878.60	154.80±0.98	4198.80	156.60±2.58
<i>Aristichthys nobilis</i>	232712.20	145.40±4.08	160712.40	145.60±3.93	157762.80	146.00±3.95	159962.60	146.40±3.38	183963.00	147.20±2.48	213962.80	148.40±2.06
<i>Cyprinus carpio</i>	111406.60	132.00±2.45	89218.80	131.40±1.96	89910.60	131.20±1.60	87911.20	131.00±1.79	253933.60	131.00±1.26	269934.40	134.60±1.50
<i>Cyprinus carpio linnaeus</i>	116860.00	134.60±0.49	96472.40	135.20±0.98	112672.80	134.20±1.17	112872.60	134.40±1.36	114571.80	134.80±0.75	132773.20	135.00±0.63
<i>Ctenopharyngodon idellus</i>	228325.80	221.60±7.50	202325.80	220.00±5.48	204326.20	220.40±5.54	208327.20	220.20±5.38	216442.60	222.60±1.02	241420.40	235.80±5.31
<i>Puntius gonionotus</i>	31788.20	145.20±0.98	28588.60	145.40±0.49	61568.40	145.60±0.80	61168.20	146.20±1.60	61770.00	146.40±1.50	82570.60	148.00±1.79
<i>Oreochromis mossambicus</i>	28572.60	115.00±4.47	26739.60	115.20±4.49	25859.20	114.20±3.82	27059.20	114.80±4.26	28459.60	115.80±3.54	33279.80	119.80±0.40
<i>Oreochromis niloticus</i>	196156.20	118.00±5.10	160157.80	118.40±4.92	167817.40	116.40±3.72	163107.60	115.80±4.12	164926.40	116.00±3.95	154930.20	121.40±1.96
<i>Clarias gariepinus</i>	2392.40	89.40±3.38	2508.40	89.40±3.38	2003.20	95.80±2.14	1982.60	98.00±0.89	2351.40	98.20±1.17	2711.80	104.00±3.74
<i>Pangasius pangasius</i>	223477.00	86.00±3.74	226077.20	83.60±1.96	348077.60	83.60±2.06	370079.80	85.20±1.47	365081.20	86.40±2.15	391482.40	94.20±4.07
Total =	1176320.4		996029.60		1173276.8		1196149.8		1395378.2		1527264.4	
Indigenous fishes												
<i>Labeo rohita</i>	353208.40	186.40±8.73	285200.60	182.20±12.17	239200.60	185.20±7.14	265200.80	171.00±9.70	285200.60	172.00±8.72	287201.00	172.20±8.57
<i>Catla catla</i>	226018.20	197.60±2.24	220073.20	196.60±3.77	204059.80	198.20±1.83	224060.60	199.20±0.98	224060.20	198.40±1.50	244058.40	197.40±1.74
<i>Cirrhinus mrigala</i>	229877.60	169.60±3.26	204114.40	173.00±5.10	166124.60	174.00±5.83	186124.40	175.40±3.26	246124.20	177.20±2.04	266124.00	177.00±1.90
<i>Labeo calbasu</i>	97202.60	201.80±10.44	109542.80	205.00±7.75	104487.80	204.00±8.60	144488.40	198.40±2.33	134488.60	195.60±7.84	146489.00	194.40±6.22
<i>Labeo bata</i>	210480.20	150.40±7.39	196480.40	145.40±6.97	181080.60	144.00±4.90	179081.40	145.20±0.98	181080.60	144.40±2.33	177080.80	147.00±1.90
<i>Chirrhinus reba</i>	135570.60	196.80±9.85	146832.60	193.20±5.98	142963.60	192.20±5.11	130965.60	192.40±2.73	118857.40	192.00±2.90	114857.60	194.80±0.98
Total =	1252357.6		1162244.0		1037917.0		1129921.2		1189811.6		1235810.8	
Live fishes												
<i>Heteropneustes fossilis</i>	10357.20	266.40±17.83	10196.40	262.40±20.81	13013.40	264.40±18.96	19025.80	264.40±18.96	19005.80	269.20±16.04	14185.80	288.40±9.60
<i>Clarias batrachus</i>	9732.00	358.80±9.26	11588.40	356.80±11.70	11516.00	393.80±8.35	9509.20	389.80±6.65	9531.60	381.80±11.70	1191.60	389.80±6.01
<i>Onchopabda</i>	8048.60	796.00±10.20	1721.80	798.00±9.80	7753.80	798.80±10.09	16710.60	797.80±10.17	7014.80	791.40±10.76	1719.60	792.40±10.82
<i>Mystus vittatus</i>	10877.20	384.00±21.54	11215.40	380.00±17.89	11070.60	370.80±17.05	10770.60	374.80±13.72	13053.80	370.80±11.43	2338.60	388.00±11.66
<i>Anabas testudineus</i>	20573.40	306.20±7.86	12733.20	307.20±9.66	8547.80	307.60±9.39	20390.20	310.60±8.87	1258.20	309.60±7.34	1202.60	311.60±8.45
<i>Channa striatus</i>	10465.60	236.40±17.77	7417.20	235.40±16.51	1489.20	237.40±16.34	10440.20	232.40±13.82	2592.80	233.20±13.44	1643.20	229.80±12.92
<i>Channa punctatus</i>	9677.80	255.40±6.22	545.20	259.80±10.61	1666.20	257.80±12.16	11590.20	257.40±10.54	1920.60	257.40±10.05	1662.60	263.40±2.87
Total =	79731.80		55417.60		55057.00		98436.80		54377.60		23944.00	
SIS (Small Indigenous Species)												
<i>Puntius sophore</i>	11517.20	114.80±5.84	18115.80	114.40±7.71	22033.20	116.40±4.22	25367.40	107.80±5.27	10323.40	109.80±3.54	70129.40	109.40±3.38
<i>Rasbora daniconius</i>	6814.60	76.60±3.77	14294.60	78.60±6.62	12852.40	78.80±2.14	14090.40	78.80±7.25	13836.80	80.80±10.65	13864.20	84.40±10.07
<i>Amblypharyngodon mola</i>	9896.80	141.40±11.48	7707.80	140.40±8.87	9304.80	139.60±5.28	20156.60	123.20±9.26	12320.80	124.40±9.67	20268.80	116.40±13.41
<i>Pseudotropheus atherinoides</i>	9375.40	78.20±5.00	10381.40	77.80±6.58	13118.60	80.80±5.71	11467.60	69.00±8.60	10294.60	69.00±8.60	10166.60	70.20±9.06
<i>Salmostoma bacalla</i>	20021.60	81.20±3.43	10747.80	81.20±4.66	10377.40	81.20±3.43	12496.20	78.40±3.83	12109.60	79.20±3.66	12890.80	80.40±3.72
<i>Chanda ranga</i>	12047.80	64.20±3.82	8807.40	64.60±6.62	12257.60	66.80±6.76	10458.60	66.20±3.71	21369.40	67.00±5.14	9295.20	67.40±5.78
<i>Glossogobius giuris</i>	10261.40	73.40±7.89	9160.20	77.40±7.68	13064.40	76.60±4.18	12584.60	74.20±4.96	14270.20	75.20±5.49	10401.60	75.80±6.68
<i>Xenentodon cancila</i>	1516.60	173.60±14.49	1470.60	172.60±10.54	1380.60	172.00±9.27	9631.40	170.00±10.49	3672.20	172.00±12.88	1772.40	189.00±6.63
Total =	81451.40		80685.60		94389.00		116252.80		98197.00		148789.00	

Socio economic status

The socio economic condition of aratders and other fish traders were still at and primary stage of growth in studied area (Table 2). Aratders of surveyed fish landing and marketing area were poor, literate with primary or secondary education; few follow the traditional fish business. Most of the fish traders were up to secondary level of education studied by Mia (1996) in Mymensingh district. For affluent livelihood the aratders also involved with agriculture and other activities. Agriculture was major secondary occupation of the 81.49 % aratders in Fulchari upazila. The community hospital facility for aratders was high (68.02%) in Fulchari upazila followed by other upazila, but had no private clinic facility. The majority of the aratders were found to earn Tk 500-1000 day⁻¹, on the other hand only 16.71% aratders earn Tk 100-500 day⁻¹ in Gaibandha sadar and 22% aratders in Gobindagonj earn above Tk 1000 day⁻¹. Karim (1978) discussed on fishermen and fish trader’s occupation in the description of socio economic and socio cultural aspects and found that the agriculture was the main secondary occupation of fishermen, which is more or less with the present findings. The information on the socio economic status of the fishermen, aratders and other fish traders would be helpful for making any development decision for fish market of Gaibandha district and other fisheries sector. Socio economic status of aratders of Gaibandha district is shown in Fig. 5.

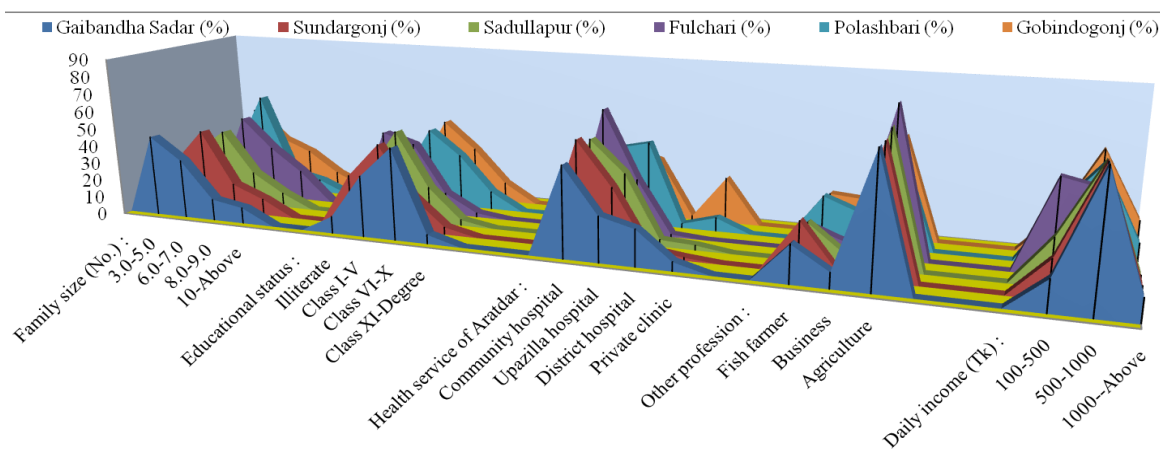


Fig. 5. Socio economic status of aratders in Gaibandha district

Table 2. Socio economic status of aratders of different fish markets of Gaibandha district

Items	Socio-economic status of aratders of Different upazilas (%)					
	Gaibandha Sadar	Sundargonj	Sadullapur	Fulchari	Polashbari	Gobindogonj
Family size (No.)						
3-5	45.66	27.77	30.12	5.52	24.06	44.25
6-7	33.21	46.40	42.56	47.08	56.75	27.48
8-9	12.12	16.48	19.09	30.19	11.64	20.23
10-Above	9.01	9.35	8.23	17.21	7.55	8.04
Educational status						
Illiterate	9.66	28.42	25.46	45.41	14.63	12.34
Class I-V	34.04	47.54	50.99	39.90	44.45	45.93
Class VI-X	51.13	20.04	20.34	12.31	30.60	30.61
Class XI-Degree	5.17	4.20	3.21	2.38	10.32	11.12
Health service of Aratdar						
Community hospital	49.87	59.01	55.36	68.02	42.83	39.10
Upazilla hospital	25.00	35.33	38.10	30.56	47.05	33.21
District hospital	20.08	4.03	3.82	1.42	2.44	2.00
Private clinic	5.05	1.63	2.72	0.00	7.68	25.69
Other profession						
Fish farmer	20.52	27.01	21.00	12.96	25.44	22.11
Business	8.60	3.08	6.23	5.55	18.12	20.63
Agriculture	70.88	69.91	72.77	81.49	56.44	57.26
Daily income (Tk)						
100-500	16.71	20.27	25.23	50.51	30.28	20.52
500-1000	70.73	67.83	63.87	46.23	54.11	57.42
1000--Above	12.56	11.90	10.90	3.26	15.61	22.06

The fishermen and aratdars were facing many problems and lead a very vulnerable livelihood. Daily and seasonal variation of low income was the most common and severe problem. There was no public sale sheds, packing sheds, even in most cases with proper drainage and hygienic facilities. The main constrains for the aratdars were unauthorized intruders, limited credit, lack of workers, undeveloped communication etc. Among others, lack of capital, very poor or no preservation and processing facilities, pricing system, poor educational background and health service were also important. Through the whole study it is clear that fish marketing system in Gaibandha district was not satisfactory and socio economic status of aratdars was very average. However, establish conservation area of fishes, ensure better marketing and distribution, improve modern storage system, maintain good sanitation and hygienic conditions, beginning modern wholesaling and retailing facilities, keep constant price of fish by government, establish the documentation of the contribution of fish to livelihood of aratdars are the suggestions for improving existing marketing system and livelihood of fishermen and aratdar of Gaibandha district.

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