

Evolution of Fisheries and Aquaculture in India



N.G.K. Pillai & Pradeep K. Katiha

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N.G.K. Pillai

Central Marine Fisheries Research
Institute, Kochi

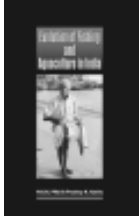
Pradeep K. Katiha

Central Inland Fisheries Research
Institute, Barrackpore



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* authorship in alphabetical order

Profile of fish farmers and fishers

Inland

Observations on the profile of fishers is preliminary and includes the results of survey conducted under the ICAR-Worldfish Centre project (Tables 68, 69, 70)

Table 68. Demographic pattern of the inland fishers

	West Bengal	Orissa	Andhra Pradesh	Karnataka	Uttar Pradesh	Haryana	All India Average
Male %							
Adult	38.96	43.63	31.78	32.91	32.36	21.06	33.45
Minor	12.55	10.56	18.93	22.78	23.96	30.02	19.8
Total	51.51	54.19	50.71	55.69	56.32	51.08	53.25
Female %							
Adult	32.04	34.86	30.37	25.32	24.9	19.58	27.85
Minor	16.45	10.96	18.93	18.99	18.77	29.34	18.91
Total	48.49	45.82	49.30	44.31	43.67	48.92	46.75
Sex ratio	1:0.94	1:0.85	1:0.97	1:0.80	1:0.78	1:0.96	1:0.88
Adult minor ratio	1:0.41	1:0.27	1:0.61	1:0.72	1:0.75	1:1.46	1:0.63

The percentage of male ranged between 50-56 with an average at over 53 % for all the study states. Adult minor ratio varied significantly across the states with a minimum at Orissa at 1:0.27 to a maximum of 1:1.46 in Haryana. The overall male-female ratio was 1:0.88, while adult minor ratio was 1:0.63. The caste structure of the fishers revealed that 6% belong to scheduled caste (Table 69).

Table 69. Caste structure of the inland fishers

	West Bengal	Orissa	Andhra Pradesh	Karnataka	Uttar Pradesh	Haryana	Average
Scheduled Caste	76.70	6.25	24.64	100.00	71.43	86.49	60.92
Other backward castes	3.30	51.56					9.14
General	20.00	42.19	75.36		28.57	13.51	29.94

In most of the states the percentage of fishers belonging to scheduled caste was over 70% except in Orissa and Andhra Pradesh. Low percentage in Orissa and Andhra Pradesh may be due to increasing commercialization

of aquaculture and entry of general category people into aquacultural enterprise. The experience of fishers in aquaculture activities was in the range of 4.22 to 11.5 years (Table 70). The average experience for all the fishers was 6.72 years.

Table 70. Aquaculture experience (years) of fishers

	West Bengal	Orissa	Andhra Pradesh	Karnataka	Uttar Pradesh	Haryana	Average
Aquaculture experience	11.5	7.10	8.68	4.22	10.27	10.07	6.72

Marine

Currently, one million active fishermen are engaged in marine fishing in India, of which about 0.2 million are engaged in the mechanized sector, 0.17 million in the motorized sector and the rest in the artisanal sector. Among those engaged in the mechanized sector, 75% work in trawl fisheries and 25% in the fisheries operating gillnets, bag (*do*) nets, purseseines and deep sea vessels. In the case of the motorized sector, 60% are engaged in the ringseine fishery alone, which is predominant along the southwest coast and the rest in various other forms. In the artisanal sector, of the total 0.63 million active fishermen, 41% are engaged in the operation of catamarans, 31% in plank built boats and the rest in the dug-out canoes and other crafts (Devaraj *et al.*, 1998). Only 30% of the fisherfolk possesses ownership of fishing implements, while a large number (70%) work as labour force. The annual income of a labourer working in a mechanized boat was estimated as Rs. 34200, motorized boat Rs. 15200 and artisanal unit Rs. 8000 during 1995-96 (Table 71). This wide disparity in income between those engaged in the different sub-sectors results in clashes and conflicts (Sathiadhas, 1996).

The estimated first sale value of marine fish landings in the year 2000 was Rs. 102000 million with seafood exports earning Rs. 63000 million during 2000-'01. The post-harvest fisheries including processing, product development, transport and marketing generate more employment than the harvesting sector. While the infrastructure for fish marketing is still principally oriented towards the export market, vast improvements in handling technologies and quick transportation facilities have led to increased market penetration of fresh iced fish to interior markets also. Currently, 50% of fish is consumed fresh in and around the producing centres, 43% in centres up to 200 km from the coast and 5% beyond 200 km (Sathiadhas *et al.*, 1994). It is estimated that 44% of fresh fish is auctioned by fishermen themselves and the rest by involving intermediaries like wholesalers and retailers. Fisherman's share can be as high as 95% in case of direct sale to

Table 71. Sector-wise per capita investment, production, earnings and wages in Indian marine fisheries

Sectors	Capital investment (Rs. in million)	No. of fishermen engaged (million)	Percapita investment per fishing labour (Rs.)	Annual percapita production of fishing labour (kg)	Percapita production of fishing labour per working day (kg)	Value realised per kg of fish (Rs.)	Income generated by fishing labour/trip (Rs.)	Percapita earnings of fishing labourer per trip (Rs.)	Annual wages*of fishing labourer (Rs.)
Mechanized	17710	0.2	88550	7550	38	45	1710	171	34200
Motorized	3380	0.17	19888	2588	13	35	455	76	15200
Artisanal	8810	0.65	13440	437	2.4	25	60	40	8000

(*Assuming 200 fishing days per year)

the consumers (Devaraj, 1987) and 30-68% otherwise, with the wholesalers receiving 5-32% and retailers 14-47% of the consumer's rupee for different species of marine fish (Devaraj *et al.*, 1998). Earlier, hardly 5% of fish in the internal marketing system was marketed through co-operatives but the recent significant development of fisheries co-operatives has helped in reducing the high costs of marketing through integration of marketing and credit, establishing links with consumer co-operatives and introducing modern machinery and labour saving gadgets in all stages of marketing (Singh, 2000). Fisheries associations are also taking up not only fishing but also direct selling of the catches to the consumers, thereby eliminating middlemen. At present, about 30% of the total landings are processed after they become unsuitable for fresh consumption (Devaraj *et al.*, 1998) and processed and packed as dried fish for domestic consumption in interior towns. Canned fish offer a good scope in cities and defence establishments.

