



A Study on Socio-economic Status of Fishers in Khammam District of Telangana, India

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Authors' contributions

This work was carried out in collaboration among all authors. Author KKM designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript. Authors IKT, CS and SS managed the analyses of the study and literature searches. All authors read and approved the final manuscript.

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ABSTRACT

This study typically aims at analyzing the socio-economic condition of fishers in Khammam district of Telangana. The study was held in Khammam district of Telangana. In Khammam district top 5 mandals with highest fish production was selected for the study. The study lasts from April-May 2024. A multi-stage random sampling technique was selected for the study with sampling population of 120 beneficiaries. A well-structured pretested interview schedule was prepared that

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includes educational status, fisheries experience, type of family, type of house and sources of income etc. The socio-economic parameters were selected from previous literature. Based on response given by respondents, the data was analyzed and conclusive results were drawn. Most respondents have a high school education (48.33%) and fall within the 35-50 years age group (61.66%). The majority belong to the OBC category (85.83%) and live in nuclear families (95.00%) with pucca houses (84.16%). Fisheries is the primary occupation for 55.83% of respondents, while 44.16% have no secondary occupation. Landholding is predominantly marginal or small, with 55.83% holding no land. The main crops grown are paddy, cotton, and chili, with fisheries being the primary income source, complemented by agriculture and off-farm activities. It can be concluded that the majority of fishers are well-integrated into the fisheries sector, with limited landholdings and minimal secondary occupations. Educational attainment is concentrated at the high school level, and most participants belong to the OBC category. Income was primarily derived from fisheries, with some involvement in agriculture and off-farm activities.

Keywords: Fishers; socio-economic; Khammam; education; income; fisheries.

1. INTRODUCTION

India is recognized as the third largest fish-producing country globally, accounting to 7.96% of global production. An estimated total of 175.6 lakh tonnes of fish was produced during FY 2022-23, with 131.10 lakh tonnes contributed by the Inland fisheries sector and 44.30 lakh tonnes by the marine fisheries sector. Over the past five years, an average annual growth rate of 7% was observed in the Fisheries sector. The sector's share in the national economy was estimated at Rs. 1,37,716 crores in Gross Value Added (GVA) at constant prices, constituting 1.09% of national GVA and 6.72% of agricultural GVA. The livelihoods of 28 million people were supported by the fisheries and aquaculture sectors. An impressive growth rate of 10% at constant prices (2011-12) was recorded from 2015-16 to 2022-23. India was ranked among the top five fish-exporting countries in the world. In 2022-23, 17.3 lakh tonnes of seafood worth Rs. 63,969.14 crores were exported, compared to 13.6 lakh tonnes worth Rs. 57,586.48 crores in 2021-22. An average annual export growth rate of 11.08% was noted in recent years. Indian marine products were exported to 123 countries, with the USA and China as major importers [1].

In 2022-23, India was the second-largest aquaculture nation globally, following China. The Blue Revolution in India highlighted the importance of the fisheries and aquaculture sector. This sector was expected to play a crucial role in the Indian economy in the near future. Recently, Indian fisheries have undergone a significant shift, transitioning from being predominantly marine-based to focusing more on inland fisheries. Inland fisheries have become the primary contributor to fish production,

increasing from 36% in the mid-1980s to 70% in recent years. Until 2000, India's total fish production was primarily dominated by marine fish production. However, with the adoption of science-based fisheries practices, a significant turnaround in Inland fisheries was observed, leading to its current contribution of 70% to the total fish production [2].

The top inland fish production states are Andhra Pradesh (45.06 lakh tonnes), West Bengal (18.56 lakh tonnes), Uttar Pradesh (9.15 lakh tonnes) and Odisha (8.39 lakh tonnes). Telangana ranks ninth in the country with the production of 4.38 lakh tonnes [1].

Fisheries is one of the fast-growing sectors generating income and employment in the state of Telangana. Aquaculture is spread over in more than 1000 ha area in the Telangana. A rich human resource pool of 27.14 lakh population comprising of stakeholders who are organized into about 4000 Fishermen societies with about 3 lakh members spread over the entire state. The sector is contributing 0.6 percent to the GSDP and plays an important role in the overall socio-economic development of fisher families in Telangana by improving the living standards and providing sustainable livelihood. The inland fish production in the state is consistently increasing from 2.7 lakh tonnes in 2017-18 to present production 4.38 lakh tonnes in 2022-23. In Telangana state, the top 5 major fish production districts were Nalgonda (29,488 lakh tonnes), Nirmal (22,137 lakh tonnes), Medak (21,963 lakh tonnes), Nizamabad (21,791 lakh tonnes) and Khammam (19,496 lakh tonnes) (DoF, Telangana, 2023) [3].

As the state has dominated the inland fish production in the country by securing ninth

position in 2022-23 and 27 lakh human resource pool are working for fisheries sector, hence, there is a need to study socio-economic status of fishers.

Thus, an attempt was made to find out socio-economic condition of fishers in Khammam district of Telangana.

2. MATERIALS AND METHODS

This study utilized the multi-stage random sampling procedure for selection of the respondents. In first stage of random sampling technique, out of the 33 districts of Telangana state, Khammam district of the Telangana is purposively selected in the study, as it is consistently performing well in fish production over last five years. It ranked fifth position in fish production during 2022-23, which reflects the scope for expanding fish production in the district. In second stage of random sampling, top five mandals with highest fish production was selected. In the third stage of random sampling, top two villages from each mandal have been identified and six fishers from each village was selected randomly. Thus, 120 fishers were selected for the study to assess the socio-economic status.

The study's primary data was collected using a well-defined and pre-tested schedule exclusively prepared for the study. Primary data was collected through personal interview method with fishers in the year 2023-24. The collected data comprises the information like educational status, age, social participation, fisheries experience, income from various sources and so on. The information collected from fishers were analyzed through percentages and presented below.

3. RESULTS AND DISCUSSION

In the current study, socio-economic characteristics like educational status, age, social class, social participation, income, type of family, type of house, primary and secondary occupation were studied and presented in the Table 1. These parameters are expected to influence fisheries activities in general. Hence, the socio-economic profile of 120 fishers were studied and presented in following subsections.

3.1 Educational Status of Sample Respondents

The majority of respondents, 58 out of 120 (48.33%), had attained a high school education.

This scenario was followed by 38 respondents (31.66%) who have completed primary education. A smaller segment i.e., 17 respondents (14.16%) were illiterate, while 7 respondents (5.83%) hold a degree. This distribution pattern indicates that a significant portion of fishers had basic education. There remains a notable fraction with limited schooling, as well as a smaller group with higher educational qualifications.

3.2 Age and Fisheries Experience of Sample Respondents

The age distribution of the 120 sample respondents were predominantly found within the 35-50 years age range, with 74 respondents (61.66%) falling into this category. This was followed by 24 respondents (20.00%), aged 25-30 years and 22 respondents (18.33%) aged over 50 years. Similar results were observed from the study in Chhattisgarh by Bhendarkar et al., [4], where a greater number of individuals in fisheries was found from middle-aged people. Notably, there are no respondents under the age of 20. The results indicate that fisheries activities are primarily undertaken by middle-aged individuals. The absence of respondents under the age of 20 years could be attributed to educational commitments of youth in fishers families or a lack of entry into the workforce at younger ages. The smaller proportion of respondents over 50 years aged individuals can be attributed to the fact that it is less suitable for older individuals.

The fisheries experience of the 120 sample respondents from selected area shows that the majority have considerable experience in the field. Specifically, 65 respondents (54.16%) were having experience between 20 to 30 years, indicating a deep-rooted involvement in the fisheries sector. This scenario was followed by 42 respondents (35.00%) with 10 to 20 years of experience, while a smaller segment i.e., 13 respondents (10.83%), have more than 30 years of experience. Similar results were cited in the study of Patilkhede et al., [5], where it was observed that the majority of fishers were found highly experienced in Maharashtra. And there are no respondents with less than 10 years of experience. This distribution suggests that moped users in the fisheries sector are predominantly seasoned professionals with substantial fisheries knowledge and expertise. The absence of respondents with less than 10 years of experience may reflect barriers to entry

or the need for significant experience to succeed in this occupation.

3.3 Social Class of Sample Respondents

The social class distribution of the 120 sample respondents indicates a significant predominance of individuals from the Other Backward Classes (OBC). A striking 103 respondents (85.83%) belongs to the OBC category, highlighting a strong representation from this social group. This is followed by 10 respondents (8.33%) from the Scheduled Castes (SC) and 7 respondents (5.83%) from the Scheduled Tribes (ST). Notably, there are no respondents from the General category.

3.4 Social Participation of Sample Respondents in Matsya Shakha

The social participation of the 120 sample respondents in the Matsya Sakha organization revealed varying levels of engagement. It was found that 77 respondents (64.16%) had no participation in the Matsya Shakha, indicating a majority of the sample respondents were not involved in social activities related to fisheries. Meanwhile, 22 respondents (18.33%) were members, 13 respondents (10.83%) hold the position of secretary and 8 respondents (6.66%) serve as presidents in the organizations. These findings suggest that a small portion of the respondents were actively involved in leadership and membership role within Matsya Shakha, while a significant majority remain uninvolved. Yadav et al., [6] also observed that there was a medium level of social participation by fishers in their study in Maharashtra under Rainbow revolution scheme.

3.5 Type of House, Type of Family of Sample Respondents

The type of housing among the 120 sample respondents from the crafts and nets sector reveals a predominant preference for pucca houses. It was found that 101 respondents (84.16%) reside in pucca houses, while 19 respondents (15.83%) live in kutcha houses. This distribution indicates a significant portion of respondents are living in more permanent and durable housing structures, potentially reflecting improved economic stability and access to better housing infrastructure. These results were in accordance with Bhendarkar et al., [4].

The type of family structure among the 120 sample respondents indicates a predominant

preference for nuclear families. It was observed that 114 respondents (95.00%) belong to nuclear families, while 6 respondents (5.00%) are part of joint families. This overwhelming inclination towards nuclear family setups suggests a shift away from traditional joint family arrangements, possibly due to economic, social, and cultural factors. Similar findings were found in the study in Kerala by Shyam et al., [7].

3.6 Primary and Secondary Occupation of Respondents

Primary occupations of the 120 sampled fishers were analysed, revealing a predominant engagement in fisheries, with 67 respondents (55.83%) exclusively involved in this sector. A significant proportion i.e., 38 respondents (31.66%), reported combining fisheries with agriculture, while 15 respondents (12.50%), engaged in fisheries along with agriculture and livestock. None of the respondents were involved in a combination of fisheries and livestock concurrently. This distribution highlights the diversified occupational patterns within the sampled respondents, reflecting varying degrees of specialization and economic activities within the fisheries sector. In the study by Vijayakumar et al., [8], it was observed that fisherman were involved in agriculture and business activities for primary source of income in addition to fisheries. These results were in line with current study.

Secondary occupations, 120 sampled respondents were examined and it was found that 37 respondents (30.83%) were engaged in agricultural labour as a secondary occupation, while 9 respondents (7.50%) were involved in poultry farming. 21 respondents (17.50%) reported other types of secondary occupations, and 53 respondents (44.16%) did not pursue any secondary occupation. These findings underscore the diverse economic activities undertaken by individuals within the sample respondents, reflecting both the supplementary roles and the prevalence of single-source livelihood among the sampled population.

3.7 Land Holding and Major Crops Grown by Sample Respondents

Landholding details of 120 sampled respondents were shown that majority of respondents, comprising 67 (55.83%), reported no landholding. Among those who did own land, 34 (34.83%) were categorized as small landholders

(1-2 acres), followed by 8 respondents (6.66%) categorized as marginal landholders (0-1 acre) and 11 respondents (9.16%) as semi-medium landholders (2-4 acres). None of the respondents fell into the categories of medium (4-10 acres) or large landholders (>10 acres). These findings illustrate the distribution of landownership within the sampled population, highlighting prevalent patterns of landlessness and varying degrees of landholding among those who own property, which is crucial for understanding economic activities and livelihood strategies within the sample respondents. Similar result was found in the study by Vijayakumar et al., [8] where small to medium sized land holding was found among fishermen.

It was found that 34 respondents (28.33%) cultivated paddy as a major crop, while 9 respondents (7.50%) had grown chilli and 10 respondents (8.33%) focused on cultivating cotton. A significant proportion of 67 respondents (55.83%), reported not cultivating any of the crops. These findings underscore the diversity in agricultural activities and crop preferences among the sampled population, reflecting varying

agricultural practices and economic strategies within this study area.

3.8 Income Sources for Sample Respondents

Income sources of fishers was calculated annually and following results were observed. The major share of the income for respondents was received with an income range of Rs. 1,00,000-1,50,000 annually from fisheries. Additionally, second major source of income was observed in the range of Rs. 40,000-50,000 from crop cultivation, while remaining other sources like off farm activities, Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) were seen in between Rs. 30,000-40,000 and Rs. 18,000-20,000 respectively. These findings highlight the diversified income sources and varying economic contributions of different livelihood activities within the fishing community, reflecting their economic resilience and adaptation strategies amidst changing socio-economic conditions. Similar income levels of fishers were found in study by Himu et al., [9], Vijayakumar et al., [8], Immanuel and Rao, [10].

Table 1. Socio-economic profile of fishers in Khammam district of Telangana (n=120)

Educational level				
Illiterate	Primary	High school	Degree	Overall
17 (14.16)	38 (31.66)	58 (48.33)	7 (5.83)	120 (100)
Age (years)				
<20	25-30	35-50	>50	Overall
0 (0)	22 (18.33)	74 (61.66)	24 (20.00)	120 (100)
Social class				
SC	ST	OBC	General	Overall
10 (8.33)	7 (5.83)	103 (85.83)	0 (0.00)	120 (100)
Social participation (Matsya Sakha)				
Member	President	Secretary	No participation	Overall
22 (18.33)	8 (6.66)	13 (10.83)	77 (64.16)	120 (100)
Fisheries experience (years)				
<10	10-20	20-30	>30	Overall
0 (0)	42 (35.00)	65 (54.16)	13 (10.83)	120 (100)
Type of family				
Joint	Nuclear			Overall
6 (5.00)	114 (95.00)			120 (100)
Type of House				
Kutcha	Pucca			Overall
19 (15.83)	101 (84.16)			120 (100)

Primary occupation						
Fisheries	Fisheries + agriculture		Fisheries + livestock	Fisheries +agriculture+ livestock	Overall	
67 (55.83)	38 (31.66)		0 (0)	15 (12.50)	120 (100)	
Secondary occupation						
Agricultural labour	Poultry	Others		No occupation	secondary	Overall
37 (30.83)	9 (7.50)	21 (17.50)		53 (44.16)		120 (100)
Landholding in acres						
Marginal (0-1)	Small (1-2)	Semi-medium (2-4)	Medium (4-10)	Large (>10)	No	Overall
8 (6.66)	34 (28.33)	11 (9.16)	0 (0)	0 (0)	67 (55.83)	120 (100)
Major crops grown						
Paddy	Cotton		Chilli	No	Overall	
34 (28.33)	10 (8.33)		9 (7.50)	67 (55.83)	120 (100)	
Income sources in Rs/annum						
Fisheries	Crop	Off farm	MGNREGA		Overall	
100000-150000	40000-50000	30000-40000	18000-20000		-	

Note: Numbers in parenthesis represents the percentage population of sample respondents

4. CONCLUSION

In conclusion, the analysis of socio-economic profile reveals that majority individuals have a high school education and they were aged between 35-50 years. Most participants live in nuclear families in pucca houses and have fisheries as their primary occupation, with a significant number having no secondary occupation. A large portion of the respondents own no land, and among those who do, small landholdings were most common. The main crops grown are paddy and the annual income from fisheries ranges between Rs. 1,00,000 to 1,50,000. Among the fishers we can observe that there was very less social participation. And finally, majority of fishers had a experience in the range of 20-30 years.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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