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# Socio-economic condition of fishermen in Valsad district

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**Abstract**

This study provides a comprehensive analysis of the socioeconomic landscape of 40 fishermen in Valsad district, Gujarat, offering critical insights into their age, education, family dynamics, income, and fishing practices. Conducted from April to June 2024, the research reveals that most fishermen are over 45 years old, with significant educational limitations—40% have only primary education, and 15% are illiterate. Family structures are nearly evenly divided between joint and nuclear setups, with 40% relying on a single-income earner. The majority began their fishing businesses between 1991 and 2001, and 77.5% have over six years of experience. Income data shows that half of the fishermen earn between 51,000 and 70,000 annually. This study highlights the crucial role of fishing in sustaining rural livelihoods and emphasizes the need for targeted interventions to address educational gaps and income disparities within this community.

**Keywords:** Socioeconomic study, fishermen, fishing, port, valsad

## Introduction

India's economy is heavily dependent on its fishing industry, which also greatly advances social growth and the security of livelihoods. They provide nutritious food to millions of rural residents, boost family income, and generate meaningful employment opportunities. India's extensive coastline of 7,000 km and an Exclusive Economic Zone (EEZ) spanning over 2 million square kilo meters play a crucial role in the nation's economy and livelihoods, particularly in coastal regions where fisheries and aquaculture are vital. The sector employs around 14.5 million people, with women constituting 32% of the workforce, primarily in post-harvest activities. India's marine fisheries are especially important for traditional and small-scale operations, with 3,827 fishing villages, 1,914 traditional fish landing canters, and several major fishing harbors across the country (FAO, 2022) [1]. Additionally, there are 23 minor fishing harbors and 95 fish-landing canters that provide essential landing and berthing facilities for fishing vessels.

Indian boats vary widely, including traditional types such as catamarans, masula boats, plank-built boats, dugout canoes, machwas, and dhonis, as well as modern motorized fiberglass boats, mechanized trawlers, and gillnetters. As of 2019, the marine fisheries sector included 194,490 fishing crafts, with 37% being mechanized, another 37% motorized, and 26% non-motorized. Gujarat, a major fishing state, has 33 districts engaged in fishing, contributing to India's total marine production of 3.5 million metric tons, which accounts for 5% of the global marine fish capture production (DOF, 2022) [2].

## Materials and Methods

### Study Area and Population

This research was carried out in Gujarat's Valsad district, targeting four villages: Dandi, Danti, Kakwadi, and Kosamba. A total of 40 boat-owning fishermen were chosen as the study's participants. The study was carried out from April 2024 to June 2024.

### Data Collection

A detailed questionnaire was prepared to collect data on the socio-economic conditions of the fishermen. The questionnaire covered various aspects, including Fishing Experience: Duration and intensity of fishing activities; Family Type: Composition and structure of the fishermen's families; Age: Age of the fishermen participating in the study; Experience: Number of years of experience in fishing; Initiation of Business: The year when they started their fishing business.

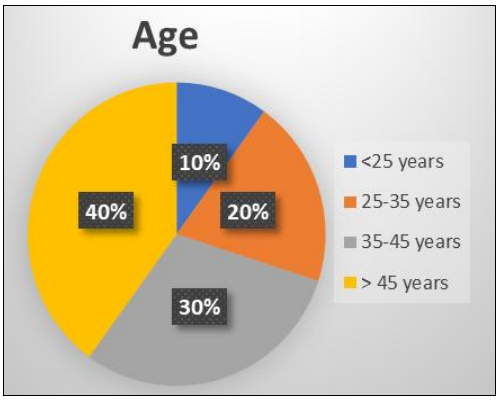
### Data Analysis

The data collected from the questionnaires were entered into MS Excel for analysis. The data were processed to produce descriptive statistics, which were then presented in the form of text, charts, and graphs. These visualizations helped in understanding the fishing technologies employed and the socio-economic conditions of the fishermen in the studied area.

## Results

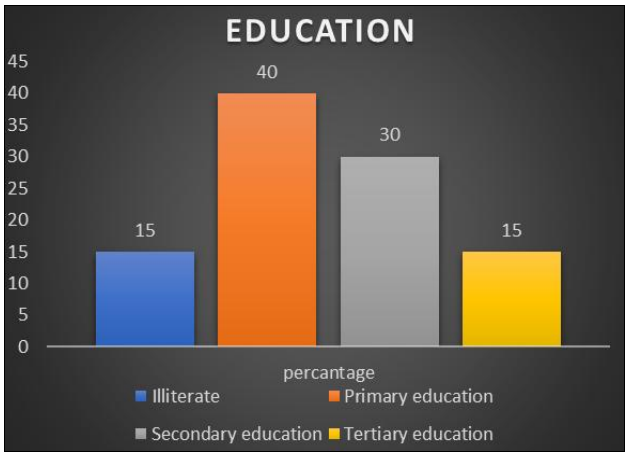
### Age

Various age groups were examined to assess the age distribution of fishermen. The largest group, comprising 40%, was aged 45 years and above. Next, 30% were between 35 and 45 years old, and 20% were within the 25-35 age range. A smaller percentage of fishermen, mostly under 25, were less in agreement with the current findings.




### Education status

The results demonstrate a clear correlation between education levels and the enhancement of safety, security culture, and economic welfare among fishermen. The data reveals that 40% of the fishermen possess primary education, serving as the most common level of education within the group. Additionally, 30% have completed secondary education, indicating a moderate level of educational attainment. A modest 15% have attained tertiary education, indicating that only a small number of fishermen possess higher educational qualifications. Notably, 15% of the fishermen are illiterate, highlighting a segment of the population that may face challenges in accessing educational resources and opportunities. These findings underscore the importance of targeted educational interventions to further improve the overall well-being and safety of the fishing community.



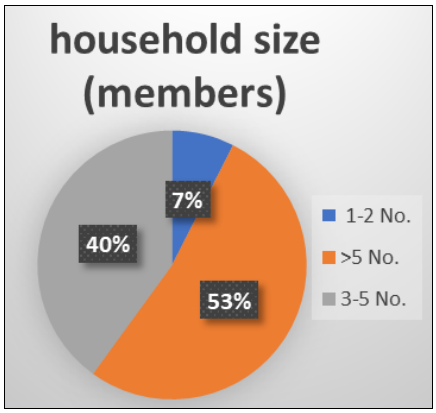

### Family type

The survey results show the distribution of family types among fishermen. It was found that 52.5% belong to joint families, while 47.5% are part of nuclear families. This suggests a slightly greater prevalence of joint family structures within the fishing community compared to nuclear families.

| Family type | No. of respondents | Respondents % |
|---|---|---|
| Joint | 21 | 52.5% |
| Nuclear | 19 | 47.5% |
| Total | 40 | 100% |

### Family member

In the study area, it was found that a small portion, approximately 7%, of families consist of only 1-2 members, totaling 2 families. A larger segment, 40% or 16 families, have between 3 to 5 members. However, the majority of families, making up 53% or 21 families, have more than 5 members. This distribution indicates that larger families are the most prevalent in the study area, with the most common family size being over 5 members, followed by families with 3-5 members, while smaller families with 1-2 members are relatively uncommon.




### Earning members

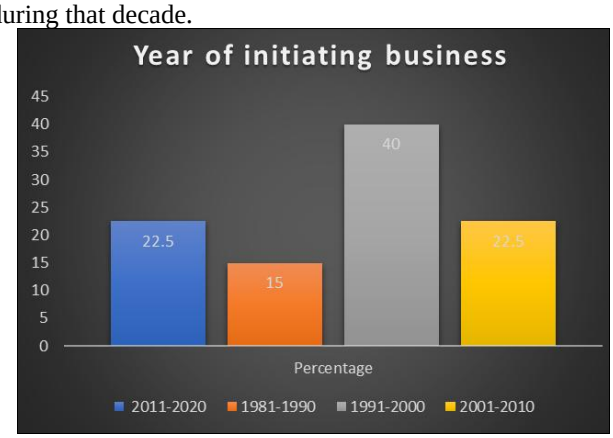
In the study area comprising 40 fishermen families, the earning arrangements exhibited diversity. It was found that 30% of the families, or 12 in total, relied on income from two members. Another 30% of the families also depended on multiple members for their earnings. Meanwhile, 40% of the families, amounting to 16, relied on the income of a single member. These findings highlight the varied household dynamics and economic strategies within the community, reflecting a balance between collaborative efforts and individual contributions in achieving financial stability and managing agricultural responsibilities.

| Earning members | No. of respondents | Respondents % |
|---|---|---|
| Two | 12 | 30% |
| Multiple | 12 | 30% |
| Single | 16 | 40% |
| Total | 40 | 100% |

### Year of initiating business

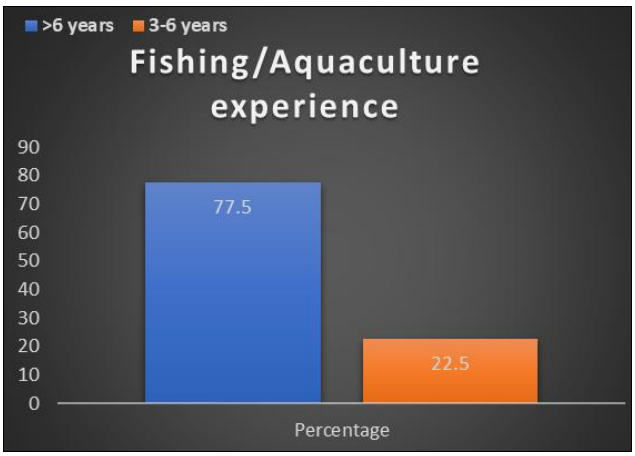
The initiation of farming businesses by fishermen varied across different time periods, with many starting at a young age. The majority of these businesses, accounting for 40%, were established between 1991 and 2001. A smaller but significant portion, 22.5%, of the fishermen began their businesses between 2001 and 2010, while another 22.5% started between 2011 and 2020. The fewest number of fishermen, however, initiated their businesses between 1981 and 1990, indicating a lower rate of business establishment

during that decade.



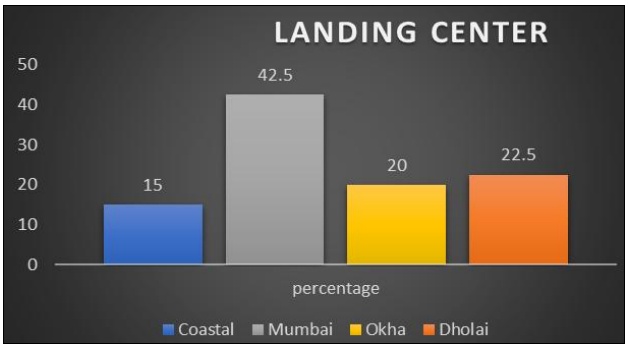

**Fishing/Aquaculture experience**

Based on the survey of 40 fishermen, it was found that a significant majority, 77.5%, had more than 6 years of experience in fishing, while 22.5% had between 3 to 5 years of experience. This indicates that most of the fishermen in the study area are highly experienced in their field.



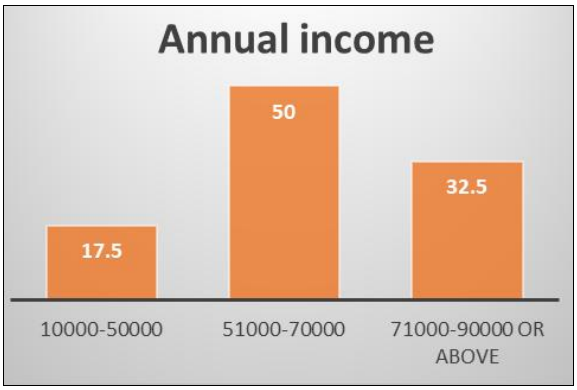

**Landing center**

Based on a survey of 40 fishermen, it was found that 42.5% of them land their catch at Mumbai Port, making it the most common landing site. Additionally, 22.5% of the fishermen land their catch at Dholai, 20% at Okha, and 15%, primarily daily wage fishermen, at various coastal areas. This distribution highlights the diverse landing practices among the fishermen in the study area.




**Annual income (year)**

To gain a clearer picture of the livelihoods of fishermen, examining their income levels is crucial. The survey data from 40 fishermen reveals a range of income levels. It was found that 13% of the fishermen earn between 10,000 and 50,000 annually. A significant portion, 50%, have an annual income ranging from 51,000 to 70,000, while 32.5% earn between 71,000 and 90,000 or more. These findings provide insight into the economic status of the fishermen in the study area, with the majority earning between 51,000 and 90,000 annually.




**Discussion**

In various studies examining the demographics and socio-economic conditions of fish farmers across different regions, distinct patterns emerge. Bhutti *et al*. (2022) [3] reported that the majority of fish farmers in Sabarkantha district were older, with 38% being aged between 51-60 years, while 27% were under 40 years old and 35% were between 41-50 years old. In terms of education, Ali *et al*. (2010) [5] found that in Mymensingh district, 25% of fish farmers had completed higher secondary education (HSc), 17.5% had primary education, and 7.5% had tertiary education, reflecting varying levels of educational attainment within this community. Sathi *et al*. (2019) [4] highlighted the family structures of fish farmers along the Turag River in Dhaka, Bangladesh, where 53% belonged to joint families and 47% to nuclear families, indicating a slight prevalence of extended family systems. In Nizamabad District, Telangana, Maloth *et al*. (2020) categorized fish farmers into three family size groups and found that 60% belonged to medium-sized families (4-6 members), followed by 26% in large families (>6 members) and 14% in small families (<4 members), suggesting that medium-sized families are predominant among fish farmers in this region.

Shekh *et al*. (2023) [8] observed the start-up periods for fish farming businesses and noted that the majority of these ventures (60.7%) began between 2011 and 2020, with fewer (31.1%) starting between 2001 and 2010, and only 4.1% between 1991 and 2001. Interestingly, the fewest number of businesses were established between 1981 and 1990. Additionally, in Tapi district, Shekh *et al*. also found that 90% of fish farmers had more than 6 years of experience, 16% had 4-6 years of experience, and only 6% had 1-3 years of experience in fishing, indicating a workforce with substantial experience. Paul *et al*. (2013) [12] provided insights into the income levels of fishermen, observing that in Birulia, 63% of fishermen had a moderate annual income (BDT 30,000-60,000), while in Boroibari, 65% had a high annual income (above BDT 60,000), which was significantly higher than the national average of BDT 28,430. A small proportion of fishermen (4%) in Birulia had

a low income (BDT 10,000-30,000), highlighting income disparities within these communities. These studies collectively highlight the varied patterns in age, education, family structure, business start-up periods, experience levels, and income among fish farmers. These findings underscore the complex socio-economic dynamics influencing fish farming in different regions.

**Conclusion**

This study provides a comprehensive overview of the socio-economic conditions and fishing practices among fishermen in the Valsad district of Gujarat. The findings reveal that the majority of fishermen have substantial experience in their field, with 77.5% having more than six years of fishing experience. The analysis of family structures shows a slightly higher prevalence of joint families, indicating traditional family setups are still common among fishermen. In terms of education, while a significant number of fishermen have attained primary or secondary education, there is still a notable portion that remains illiterate, highlighting the need for educational interventions.

The study also sheds light on the economic strategies and earning patterns within the fishing community. A large proportion of families rely on the income of a single member, reflecting the importance of individual efforts in sustaining households. Additionally, the income distribution indicates that while some fishermen earn relatively modest incomes, the majority fall within the mid to higher income brackets, suggesting a degree of economic stability. The variation in the years of business initiation underscores the dynamic nature of the fishing industry in the region, with many fishermen establishing their businesses in recent decades. Furthermore, the diverse landing practices, with a significant portion of fishermen utilizing major ports such as Mumbai, highlight the strategic importance of these locations in the fishing economy.

Fishing has significantly improved the standard of living in coastal villages by offering regular and supplementary employment for both men and women. However, fish farmers face several challenges, including high diesel costs, fluctuating fish prices, and limited access to modern technology and markets. The COVID-19 pandemic has exacerbated these difficulties, further disrupting their livelihoods.

To address these issues, it is crucial to implement policy support and reforms. This includes providing access to affordable fuel, creating fair market conditions, investing in modern technology, and offering training to enhance productivity and income for fish farmers. By addressing these needs, we can better support the fishing community and bolster their socio-economic conditions. Overall, this study emphasizes the critical role that the fishing industry plays in the livelihoods of the Valsad district's fishermen. It also points to areas where targeted interventions, such as education and income diversification, could further enhance the well-being and sustainability of this vital community.

**Conclusion**

This study provides a comprehensive analysis of the socio-economic conditions and fishing practices among fishermen in Gujarat's Valsad district, revealing that the majority have substantial experience, with 77.5% having over six years in the field. The findings indicate a slightly higher prevalence of joint families, reflecting the persistence of traditional family structures, while also highlighting a significant need for educational interventions, as a notable portion of fishermen remain illiterate despite many having attained primary or secondary education. Economically, the study underscores the reliance on single-income households, with most fishermen falling within mid to higher income brackets, suggesting economic stability. The varied years of business initiation and widespread use of major ports like Mumbai emphasize the dynamic and strategic nature of the region's fishing industry. Fishing has notably improved living standards in coastal villages, providing regular employment for both men and women, though challenges such as high diesel costs, fluctuating fish prices, and limited access to modern technology persist, further exacerbated by the COVID-19 pandemic. The study calls for policy support, including affordable fuel, fair market conditions, modern technology, and training, to bolster the socio-economic conditions of the fishing community. Overall, the study highlights the vital role of the fishing industry in Valsad and identifies key areas for targeted interventions to enhance the community's well-being and sustainability.

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