

LIVELIHOOD OF FISHERMEN IN COASTAL TAMIL NADU : A CASE STUDY OF VEMBAR, THOOTHUKUDI DISTRICT

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ABSTRACT

Fisheries are a major source of livelihood, nutrition, and employment in Tamil Nadu, yet fishing communities continue to face vulnerabilities. This study focused on the socio-economic conditions, livelihood factors, and challenges of fishermen in Vembar, a coastal village in Thoothukudi district. Using a descriptive design, the research adopted a stratified sampling technique and collected data from 113 fishermen households in 2023 through structured interviews, along with secondary sources. The data showed that fishing was male-dominated, with most participants middle-aged, poorly educated, and largely from Scheduled Caste communities. Economically, 83% relied on middlemen, resulting in low earnings and debt dependency, while mechanisation improved efficiency but increased loan burdens. Social challenges included inadequate amenities, health issues, and a lack of alternative jobs during the breeding season. The 2004 tsunami continued to affect livelihood security. The study concludes that debt, seasonal vulnerability, and social marginalisation remain key issues, and suggests strengthening cooperatives, improving awareness of welfare schemes, promoting skill development, and diversifying livelihoods to enhance sustainability and resilience.

(Key words: Fishermen, intermediaries, livelihood, socio-economic factor, Vembar)

INTRODUCTION

The Anonymous (2023) emphasised that Tamil Nadu possessed rich marine, brackish water, and inland resources suitable for both capture and culture fisheries. The department reported that the state had 385,761.20 hectares of inland water bodies, including reservoirs, tanks, rivers, backwaters, and ponds, supporting an inland fisherman population of 2.36 lakh during 202021. The department highlighted that fisheries contributed to socioeconomic development by providing livelihoods, generating employment in allied industries, and enhancing nutritional security. With increasing fish demand, the department emphasised that aquaculture has emerged as a key strategy to boost production and rural income, particularly through integrated fish-agriculture practices. The government aims to triple inland fish production in the coming years.

Anonymous (2022) noted that the marine fishermen population had reached 10.07 lakh across 608 coastal villages. The inshore waters were exploited by 38,779 traditional crafts and 5,893 mechanised boats, supported by six major fishing harbours, three medium harbours, 36 fish landing centres, and 254 landing points. The government reported that marine exports in 201718 amounted to 88,257 metric tonnes, valued at Rs. 4,341.78 crores, while capita⁻¹ fish consumption remained 9.83 kg,

below the recommended 11.60 kg. The Gulf of Mannar Biosphere Reserve, according to the same report, spanned 1,050,000 hectares and comprised coral reefs, seagrasses, mangroves, and algal communities, making it one of the world's richest regions in marine biodiversity.

In Tamil Nadu, fisheries had remained a key driver of socioeconomic growth. Anonymous (2024) recorded marine fish landings of 637,441.70 tonnes in 202324. Anonymous (2024a) highlighted that the state exported 1.34 lakh tonnes of fish products in the same period, generating Rs. 6,854 crores in foreign exchange. The Department of Fisheries and Fisherman Welfare emphasised that Tamil Nadu's diverse fishery resources, including marine, brackish water, and inland systems, had been vital for livelihoods, employment, and nutrition. Increasing attention was given to aquaculture and integrated fishagriculture practices to meet rising demand and enhance overall productivity.

Anonymous (2024b) noted that central government initiatives under the Pradhan Mantri Matsya Sampada Yojana (PMMSY) supported infrastructure development, value chains, and sustainability in the fisheries sector. However, Anonymous (2025) reported that India's marine fish landings declined slightly in 2024 to 3.47 million tonnes, although Tamil Nadu remained among the leading producers with approximately 0.67 million tonnes. Beyond its economic importance, the Gulf of Mannar Biosphere Reserve continued to represent a global biodiversity

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hotspot, supporting rich marine ecosystems and endemic species.

Anonymous (2020) defined a fishing community as one substantially dependent on or engaged in harvesting or processing fishery resources for social and economic needs, including vessel owners, operators, crew, and

processors. Vembar, a coastal village in Vilathikulam taluk of Thoothukudi district, Tamil Nadu, spanned 1,323.25 hectares and, according to Census 2011, had a population of 6,307 with a literacy rate of 74.19 per cent. The village comprised 1,492 households across two panchayats Vembar North and South.

Table 1. District-wise coast length

Name of the District	Coramandel Coast	Palk Bay	Gulf of Mannar	West Coast	Total (Kms)
Chennai	19.0	-	-	-	19.0
Thiruvallur	27.9	-	-	-	27.9
Kanchipuram	87.2	-	-	-	87.2
Villupuram	40.7	-	-	-	40.7
Cuddalore	57.5	-	-	-	57.5
Nagapattinam	124.9	63.0	-	-	187.9
Thiruvarur	-	47.2	-	-	47.2
Thanjavur	-	45.1	-	-	45.1
Pudukkottai	-	42.8	-	-	42.8
Ramanathapuram	-	95.8	141.0	-	236.8
Thoothukudi	-	-	163.5	-	163.5
Tirunelveli	-	-	48.9	-	48.9
Kanyakumari	-	-	11.5	60.0	71.5
Total	357.2	293.9	364.9	60.0	1076.0

Source: fisheries.tn.gov.in

Fishing and palmyra climbing were the primary occupations of the residents. Anonymous (2021), the Vembar Fish Landing Centre was established in 2018 under the NABARD Scheme with an investment of Rs. 10.50 crore. The facility included a 164-meter T-shaped jetty, auction centre, and net mending area, which provided infrastructure for 50 mechanised boats and 100 country boats, thereby sustaining nearly 1,000 families.

Despite these developments, the community continued to face persistent challenges. Dass (2020) reported that in Sintha Nagar of South Vembar panchayat, families affected by the 2004 tsunami still lacked access to electricity, sanitation, potable water, and land titles. Fishermen practised Karavalai fishing, while women contributed to household income through the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). However, due to the absence of pattas, basic amenities such as toilets and subsidised facilities under the Swachh Bharat Mission were not made available. Although government initiatives had supported fisheries, gaps persisted in meeting fundamental needs. Hence, the research focused on the following objectives

1. To know the socio-economic condition of the fishing community in Vembar.
2. To identify the factors affecting the life of the fishing community in Vembar.
3. To find out the problems faced by the fishing community.

MATERIALS AND METHODS

This descriptive study was based on both primary and secondary methods of data collection. Secondary data regarding the fisherfolk population and the number of fishermen families were obtained from Anonymous (2022a), as the 2021 census data for Vembar were not yet published. Primary data were collected in 2023 through a structured interview schedule conducted at the households of the fishermen in Vembar during the field survey. Anonymous (2016), the fisherfolk population in Vembar was 4,285, comprising 1,125 fishermen families, with 840 families residing in South Vembar and 285 families in North Vembar. To determine the sample size, a stratified sampling technique was adopted. Ten per cent of the total fishermen families from each stratum were selected, resulting in 28 families from North Vembar and 84 families from South Vembar. Consequently, a total of 113 fisherman families were included in the study, and data were collected accordingly. The analysis was done based on the objectives of the study. Variables such as age, gender, education, marital status, and community were selected to assess the social conditions of the fishermen. To evaluate their economic status, income and channels of distribution were considered, while licensed fishermen, boat type, loan repayment, and participation in government schemes were examined to identify factors influencing their economic scenario. To understand the overall livelihood of the fishermen, variables such as ownership of a boat, expenses incurred to purchase a boat,

occupation during the breeding season, months engaged in fishing, availability of basic amenities, health issues, and traditional occupations were included. Additionally, to identify the problems faced by the fishermen, variables such as natural calamities, sources of managing expenses during festive seasons, availability of cold storage facilities, and challenges encountered during the breeding season were considered.

RESULTS AND DISCUSSION

Social condition of the fishermen

Table 2 analysed the social conditions of the fishermen community. The age distribution revealed that many respondents belonged to the 4150 age group (32%), followed by 5060 years (25%) and 3140 years (24%), indicating that fishing was largely dominated by middle-aged individuals. A small proportion (2%) of respondents were below 20 years of age. With regard to gender, all respondents were male (100%), confirming the male dominance in fishing occupations. In terms of education, 41% of fishermen had only primary education, 39% had completed high school, 18% were illiterate, and only 2% had studied up to higher secondary level. Marital status data showed that many respondents were married (91%), while unmarried fishermen accounted for only 9%. Community distribution revealed that Scheduled Castes (SC) constituted the largest group (62%), followed by Most Backwards Classes (MBC) at 21%, Scheduled Tribes (ST) at 16%, and Backwards Classes (BC) at 3%. No respondents belonged to the Open Category (OC).

The results indicate that fishing was a male-dominated occupation, with participation predominantly from middle-aged men. The high proportion of illiterate and primary-educated fishermen reflected poor educational attainment, which may affect their opportunities for alternative employment and social mobility. The overwhelming majority of married respondents suggest family responsibility as a driving factor behind their occupational engagement. Caste distribution reveals the predominance of socially marginalised communities, particularly SCs and STs, who are traditionally dependent on fishing for livelihood. This highlights the intersection of caste and occupation, where disadvantaged groups continue to rely on traditional livelihoods due to a lack of access to education, resources, and alternative employment opportunities.

The findings of this study are consistent with earlier research on the socio-economic and demographic characteristics of fishing communities in India and beyond. Basavakumar (2012) reported that fishing was primarily dominated by males and that low educational attainment was common among fisherfolk, which limits their access to skilled occupations. Similarly, Nelson (2016), in his study of the fishermen community in Kerala, emphasised that limited education and weak penetration of public policies constrain

development opportunities within fishing villages. Thus, the results suggest that fishing communities faced structural challenges such as concentration in middle years, poor educational attainment, male dominance, and caste marginalisation that require targeted interventions. Policies aimed at improving literacy levels, providing alternative livelihood opportunities, and addressing caste-based exclusion could significantly improve the living standards of these communities.

Economic status of the fishermen

Table 3 highlights the income levels and distribution channels of fishermen. A majority (83%) sold their fish through middlemen, while only 17% sold directly to consumers. Among those relying on middlemen, 39% earned between Rs. 100300 day⁻¹ and 37% earned Rs. 301600 day⁻¹, whereas only 7% earned Rs. 601900 day⁻¹. In contrast, fishermen who sold directly to consumers (17%) all earned between Rs. 601900 day⁻¹, reflecting higher returns when middlemen were bypassed.

The fishermen's dependence on middlemen has a direct impact on their income. Most fishermen earned very low daily wages when selling through intermediaries, as a portion of their earnings was deducted as commission. However, those engaged in direct sales earned higher incomes (Rs. 601900 day⁻¹), suggesting that bypassing middlemen increases profitability. The findings indicated that indebtedness to middlemen forces most fishermen (83%) into a cycle of dependency, limiting their financial growth. Wage disparities are shaped by the mode of sale, commission payments, and the quantity and type of fish caught.

The dominance of middlemen in fish distribution has long been recognised as a key factor reducing fishermen's earnings. Basavakumar (2012) observed that fishermen remained indebted to boat owners and intermediaries, resulting in economic exploitation and low wages. Similarly, Nelson (2016) highlighted how the absence of direct access to markets restricts fishermen's bargaining power, leading to reduced income despite high labour input. Norizan Abdul Ghani (2017) found that in Malaysia, fishermen's income and quality of life were significantly influenced by access to markets, savings, and fishing equipment. Fishermen dependent on intermediaries often reported financial struggles, even when catch volumes were adequate. It confirms that while middlemen provide necessary credit and access to boats, they perpetuate a system of dependency that curtails fishermen's economic independence. Encouraging cooperative marketing systems, strengthening fishermen's cooperatives, and facilitating direct sales could enhance their earnings and reduce economic exploitation.

Economic factors of fishermen in Vembar

Table 4 presents the economic factors of fishermen in Vembar. 80% of the respondents were licensed fishermen and members of the Tamil Nadu Fishermen Welfare Board (St. Sebastian Vembar Cooperative Society), while 20% were unlicensed and operated small boats occasionally under

retailers. Regarding boat ownership, 40% possessed mechanised boats, 4% owned sailboats, and 6% used rowboats. The results highlighted that most fishermen in Vembar were formally licensed, indicating institutional recognition of their occupation. Mechanised boats were the dominant mode of fishing, suggesting a shift toward semi-modern practices, although traditional sailboats and rowboats were still used by a minority.

In terms of loan repayment, 16% repaid loans through savings, 13% from income, 13% borrowed from others to repay, and 8% made no repayments. More than half (50%) reported no borrowings. A significant proportion (71%) were beneficiaries of government programs such as the National Saving-cum-Relief Scheme (NFSRS), while 29% were not beneficiaries, mainly due to a lack of awareness about available schemes. Loan repayment patterns revealed both financial resilience and vulnerability. While some fishermen manage repayment through income or savings, others borrowed further or fail to repay due to debt traps linked to alcohol consumption. The fact that over half reported no borrowings suggests financial stability in certain households.

Government welfare schemes play an important role, with 71% benefiting from programs like NFSRS, which provide seasonal relief. However, nearly one-third of respondents missed out on benefits due to a lack of awareness, underlining a gap in policy outreach and dissemination. The findings reaffirm the role of institutional frameworks and government programs in supporting fishermen's livelihoods. Basavakumar (2012) highlighted that cooperative societies and welfare boards offer a crucial safety net for fishermen, particularly during lean fishing seasons. The present study reflects this, as most respondents were beneficiaries of government programs like NFSRS.

Boat ownership patterns also align with earlier findings by Nelson (2016), who noted that mechanisation improved efficiency in fishing but also increased dependence on loans and investors. In Vembar, the dominance of mechanised boats corresponds with the loan repayment challenges faced by fishermen, as seen in borrowing cycles and non-repayment. Norizan Abdul Ghani (2017) emphasised that income stability and access to welfare measures are key determinants of fishermen's quality of life. The present findings echo this concern, as non-repayment of loans was often tied to alcohol consumption, perpetuating indebtedness. Thus, while government schemes significantly support fishermen's welfare, lack of awareness and personal financial habits remain barriers to achieving economic security. Strengthening cooperative institutions, promoting financial literacy, and expanding awareness campaigns about welfare schemes could improve the sustainability of fishermen's livelihoods in Vembar.

Factors affecting the life of fishermen in Vembar

Table 5 highlights the major factors influencing the lives of fishermen in Vembar. Boat ownership was nearly evenly split, with 51% owning boats and 49% relying on

rentals, and most planning purchases depended on loans or informal credit, as government schemes were largely untapped due to poor awareness. Seasonal restrictions during the breeding period left 68% idle, while a small proportion engaged in alternative occupations. Fishing remained the primary year-round occupation for over half of the respondents, reflecting economic dependence and limited diversification. Access to basic amenities was high (90%), yet health issues were widespread (89%), indicating occupational hazards. Fishing was traditionally hereditary for most (90%), highlighting intergenerational reliance. These findings reflect structural vulnerabilities in occupational, financial, and health domains, consistent with Basavakumar (2012), who noted reliance on loans and middlemen due to low policy awareness. Nelson (2016) similarly reported seasonal inactivity and limited alternative skills. Internationally, Norizan Abdul Ghani (2017) observed that access to infrastructure, healthcare, and policy awareness was crucial for fishermen's well-being. Strengthening government scheme outreach, promoting vocational training during off-seasons, and improving health interventions are essential to enhance the sustainability and resilience of Vembar fishermen.

Problems faced by the fishing community

Table 6 highlights the major problems faced by the fishing community in Vembar. The 2004 Tsunami affected 82% of respondents, causing long-term financial instability and homelessness, while 18% were unaffected. To manage festive expenses, fishermen relied heavily on borrowing 39% took loans, 27% from non-banking institutions, 17% used savings, and 16% depended on income, with only 1% having alternative household income. Access to infrastructure was high, with 94% reporting cold storage facilities. During the breeding season, 60% faced financial crises, 12% struggled with loan repayments, 11% were jobless due to a lack of skills, and 6% experienced food shortages, while 6% continued small-boat fishing.

These findings indicate that natural disasters have long-lasting economic and social effects, and heavy reliance on loans underscores weak financial resilience and limited alternative incomes. Banerjee (2025) noted that dependence on common property resources and lack of alternatives amplify vulnerability, consistent with the Tsunami's impact on Vembar fishermen. Nelson (2016) similarly emphasised that limited income diversification increases vulnerability during lean seasons. Internationally, Norizan Abdul Ghani (2017) observed that the lack of income diversification and savings undermines fishermen's quality of life, paralleling Vembar's dependence on loans. Basavakumar (2012) documented post-Tsunami debt cycles and persistent poverty in South India, aligning with the present findings. Overall, while basic infrastructure exists, seasonal vulnerability, debt dependence, and limited livelihood options remain core challenges. Strengthening skill development, improving awareness of government schemes, and enhancing disaster resilience programs are essential for sustainable livelihoods among Vembar fishermen.

Suggestions

- To avoid middlemen commissions, the Government can procure the fish from fishermen at a minimum support price.
- The government must provide a required storage facility to the fishing community at less cost or free of cost.
- Women need to join Self-help groups for their better economic status. They can do a small business with the support of the group.
- The local-level fisher associations must create awareness about the Government schemes which apply to the fishermen s benefits.
- The small group of fishermen is to be supported by the Government by providing enough equipment and boats at a subsidised price.
- Skill development programs can be planned and arranged for the fishermen through the Tamil Nadu Fishermen Welfare Board. With the help of a training program, fishermen can go to other jobs during the lean time.

● The government can give alternative jobs, like 100 days of work to this community during the lean time.

● One of the major issues in Vembar is that many young girls are not going regularly to school. To solve this main issue Compulsory Elementary School Education Act is to be strictly followed by the government authorities in Vembar.

Fishing has been one of the oldest economic activities of the people. Millions of people all over the world have been engaged in fishing and fish trading over the years. The people living along the Thoothukudi Coast of Vembar mainly depend on fish resources for their livelihoods. The lack of awareness and viable alternative livelihood programs are major hindrances to improving their socio-economic status and threaten the sustainable use of fishing resources. The creation of awareness, coupled with alternative livelihood programs in the village, would create considerable interest among the people to protect, conserve, and manage the fish resources for future generations. This study concluded that fishermen in Vembar struggle a lot during the lean period to retain their economic status.

Table 2. Social condition of the fishermen in Vembar

Particulars	Category	Percentage
Age	below 20	2
	21-30	9
	31-40	24
	41-50	32
	51-60	25
	61 and above	8
	Total	100
Gender	Male	100
	Female	-
	Total	100
Education	Illiterate	18
	Primary	41
	High school	39
	Higher Secondary	2
	Total	100
Marital Status	Married	91
	Unmarried	9
	Total	100
Community	OC	-
	BC	3
	MBC	21
	SC	62
	ST	16
	Total	100

Source: Survey data

Table 3. Economic status of the fishermen in Vembar

Income (Rs. day) / Channel of distribution	Direct	Middlemen	Total
100-300	-	39	39
301-600	-	37	37
601-900	17	7	24
Total	17	83	100

Source: Survey data

Table 4. Economic factors of the fishermen in Vembar

Particulars	Categories	Percentage
Licensed fishermen	Yes	80
	No	20
	Total	100
Boat type	Mechanized boat	40
	Sailboat	4
	Rowboat	6
	Total	100
Income source	From saving	16
	From income	13
	No repayment	8
	Borrow from others	13
	No borrowings	50
	Total	100
Government Beneficiaries	Yes	71
	No	29
	Total	100

Source: Survey data

Table 5. Factors affecting the life of fishermen in Vembar

Particular	Categories	Percentage
Own Boat	Yes	51
	No	49
	Total	100
Expense to buy a boat	Loan	37
	Borrow From NBI	10
	Savings	2
	Government Schemes	0
	Others	2
	No Borrowings	49
	Total	100
Occupation during breeding time	Staying at home	68
	Net making	3
	Palmyra work	2
	Fishing with small boat	17

	Other occupation	10
	Total	100
Months engaged in fishing	1-6 Months	20
	6-11 Months	28
	Throughout the year	52
	Total	100
Basic amenities in the area	Yes	90
	No	10
	Total	100
Health issues	Yes	89
	No	11
	Total	100
Traditional occupation	Yes	90
	No	10
	Total	100

Source: Survey data

Table 6. Problems faced by the fishing community in Vembar

Problems	Categories	Percentage
Natural calamities	Yes	82
	No	18
	Total	100
Source of managing expenses during the festive season	From NBI	27
	Other earnings	1
	Debt	39
	Saving	17
	From income	16
	Total	100
Cold storage facility	Yes	94
	No	6
	Total	100
Problems faced during the breeding season	Financial crisis	60
	Loan repayment problem	12
	Job less	11
	Food shortage	6
	Borrow to meet needs	3
	Family problem	2
	No problem	6
	Total	100

Source: Survey data

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