Research Square

Preprints are preliminary reports that have not undergone peer review. They should not be considered conclusive, used to inform clinical practice, or referenced by the media as validated information.

Uncertain Livelihoods, and Unequal Futures: A Case Study of Traditional Fisherfolk in Malabar, Kerala, India

Sayyid Abdulla Shakir
shakir.bahassan@gmail.com

University of Calicut

Abdul Raoof
NAM College Kallikandi

Subair Kalathil
Parul University

Research Article

Keywords: Occupational uncertainty, coastal livelihood, fishing communities, social exclusion, capability approach, social capital

Posted Date: October 22nd, 2026

DOI: https://doi.org/10.21203/rs.3.rs-10957919/v1

License: This work is licensed under a Creative Commons Attribution 4.0 International License. Read Full License

Additional Declarations: No competing interests reported.

Abstract

Traditional fishing communities in Kerala face occupational uncertainties due to trawling bans, off-season restrictions, fishing moratoriums during adverse weather, and resource scarcity. These challenges generated social and economic impacts, resulting in inequality and unrest within fishing communities. The data were collected from three fishing villages in the Malabar region of the state, with an emphasis on a qualitative methods approach. The findings show that occupational bans, policy gaps, and limited state support undermine economic security while intensifying exclusion and marginalisation.

1. Introduction

Uncertainty has become a defining feature of the informal employment sector, as neoliberal policies and climate change increasingly shape market dynamics (Standing, 2021). This trend is particularly evident in informal sectors, where livelihoods remain inherently unstable and are primarily safeguarded by social safety nets (Davis, 2006). In the Global South, traditional occupational groups such as farmers and artisans, alongside emerging groups like gig workers and delivery riders, experience these inequalities, shaped by environmental vulnerabilities and insufficient governmental support (O'Brien et al., 2007). Traditional fishing communities are at the forefront of these challenges, facing multiple layers of uncertainty, including resource depletion, disruptive weather events, and regulatory interventions that often prioritise industrial interests over community welfare (Béné, 2003; O'Brien et al., 2007). This article examines these dynamics within the traditional fishing communities of Malabar, Kerala. It contends that state-imposed seasonal trawling bans, off-season fishing moratoriums, and government interventions collectively produce significant impacts on fisherfolk. The study demonstrates that occupational uncertainties, limited government support, and policy gaps undermine economic stability and intensify exclusion, marginalisation, and inequality.

To address this multifaceted social phenomenon and examine the community's experiences amid uncertainty, the study is guided by the following research questions.

1. To examine how state-imposed fishing bans and environmental uncertainties affect social and economic inequalities among Malabar fisherfolk.
2. How does the existing social structure shape the differential experiences of this inequality?
3. To identify the resilience capacities within these communities and explore how policies can strengthen them.

This study of uncertainties and unrest among traditional fishing-dependent occupational groups provides a critical perspective for understanding the origins of social unrest. It contributes to development debates by challenging top-down, growth-oriented models and emphasising the necessity of bottom-up, inclusive policy formulation. The analysis highlights vulnerabilities that arise when development policies prioritise resource conservation without corresponding investment in community welfare and alternative livelihoods, a recurring issue in Global South contexts. Furthermore, the study offers a comprehensive examination of the relationship between the state and the community. The observed tension between the enforcement of fishing bans and community experiences reveals a significant gap between policy objectives and actual outcomes, elucidating how communities perceive state legitimacy and navigate bureaucratic systems.

The article is organised into four sections. The first section situates the arguments within existing literature and outlines the theoretical frameworks. The second section provides an overview of the fieldwork context and details the qualitative and quantitative methods employed for data collection. The third section presents the core findings, analysing how fishing bans and social structures jointly contribute to inequality and uncertainty. The final section discusses the broader implications of these results, demonstrating how micro-level analysis of societal issues can inform understanding and policy development.

2. Conceptual Framework

To analyse the vulnerabilities faced by fisherfolk in Malabar, this study employs a multi-theoretical framework, including Weber's theory of life chances, Putnam's concept of social capital, social exclusion, and the capability approach, to examine the complexities of occupational uncertainty, social inequality, and community resilience.

For example, Weber's concept of life chances elucidates the creation of inequality; Putnam's concept of social capital examines community networks and resilience; social exclusion theory analyses processes of marginalisation; and Sen's capability approach evaluates well-being and freedom. These frameworks collectively provide the analytical tools necessary to address the study's core research questions. Their integration allows the analysis to move beyond purely economic explanations, capturing the social, political, and cultural processes that shape the uncertainties fisherfolk experience annually.

2.1 Life Chances and Uncertainty

Max Weber's concept of 'life chances' provides a foundational understanding of inequality, framing it as a differential in access to opportunities that shape individuals' lives, rather than merely disparities in income (Weber, 1978). Social positions—determined by relative power to access markets and control over assets, skills, and resources—directly influence prospects for health, prosperity, and dignity (Giddens, 1971). For traditional fisherfolk in Malabar, seasonal fishing bans and non-catching days due to adverse weather are not temporary obstacles but enduring conditions that significantly affect daily life. By officially suspending livelihoods for extended periods, these policies effectively deny fisherfolk their primary means of accessing opportunities, resulting in what Standing (2011) describes as 'deliberate institutionalised insecurity'.

These insecurities do not affect all community members equally. Those already experiencing hardship are disproportionately impacted, often compelled to incur debt or sell essential means of production, such as nets or boats (Béné, 2003). Such circumstances deepen the divide between more and less advantaged groups, systematically restricting the life chances of the most vulnerable and perpetuating cycles of poverty (Davis, 2006). From a Weberian perspective, even well-intentioned bans may function not only as conservation measures but also as mechanisms that reinforce social inequality.

In Kerala, the concept of life chances is particularly pertinent, as fishing communities remain socially and economically disadvantaged despite the state's notable development achievements. Although Kerala performs well on social development indicators, fishing communities are frequently excluded from adequate housing, higher education, employment security, and formal economic opportunities. Seasonal bans interact with these pre-existing inequalities, rather than affecting all groups uniformly. The life chances framework is thus instrumental in understanding how uncertainty is institutionalised through policy, governance, and the unequal distribution of resources.

2.2 Process of Social Exclusion

The experiences of fishing communities during non-fishing seasons can be understood through the theoretical lens of social exclusion. This perspective enables moving beyond viewing poverty as a fixed condition and instead examining how people are actively denied the resources, rights, and opportunities that facilitate full participation in society (Sen, 2000; Levitas, 2005). In this view, marginality is not something people "are"; rather, it is the result of continuous processes that push them outside the mainstream.

Off-seasons and no-catching days become powerful factors in these exclusionary processes. Economically and socially, fisherfolk are gradually disconnected from markets due to unstable incomes. Moreover, the problem is worsened when government support or welfare schemes are inadequate, delayed, or fail to accommodate the voices and knowledge of fishing communities (de Haan, 1999). On a social level, bans also deepen existing inequalities based on their social position and social capital. In many cases, dominant groups systematically reinforce discrimination and limit the opportunities for those already struggling (Coulthard, 2012; Jackson, 1999).

Recent research on coastal development and blue economy initiatives similarly shows that development policies largely displace traditional fishing livelihoods while supporting commercial and infrastructure-oriented interests. Ammavasi et al. (2025) argue that marine spatial planning and blue economy frameworks are increasingly shaping coastal regions in India. While these policies are glorified as promoting sustainable development, they largely generate conflict between pro-development supporters and traditional fisheries livelihoods. Climate change further intensifies exclusionary processes by disproportionately affecting the already vulnerable coastal population. Arthur (2019) argues that climate vulnerability in Indian coastal regions cannot be understood in isolation from social and economic factors. People with limited access, such as those with weak institutional representation, are no more likely to experience severe disruption during ecological crises.

Studies on fisheries governance suggest that exclusion operates through unequal participation in policy-making processes. Fishing communities are treated as passive recipients of welfare schemes rather than active participants. Their ecological knowledge, occupational experiences, and everyday concerns are largely neglected in fisheries management decisions. This weakens trust between communities and governmental institutions while reproducing experiences of political exclusion. In Kerala, these dynamics are particularly visible in the relationship between development and coastal marginalisation. Even though the fisheries sector continues to contribute significantly to the regional economy, fishing communities still face poor housing conditions, unemployment, limited educational mobility, and underrepresentation in political parties.

While existing studies discuss poverty and vulnerability among fisher folks, fewer studies address how social exclusion operates through the development and policy process. Many studies focus on economic indicators without adequately examining how exclusion is reproduced through unequal seasonal fishing bans, which are linked to the broader processes of social and political exclusion in the

Malabar region. This study addresses this gap by analysing how uncertainty, governance, and coastal development intersect to produce exclusionary outcomes among fishing communities through the lens of social exclusion.

2.3 Social Capital and Community Network

Social capital is an important tool for understanding the relationships and collective life of fishing communities. It is defined as the networks, shared norms, and trust within a community that help people work together and support one another for mutual benefit (Putnam, 2000). This framework highlights how relations and informal credit systems can support or worsen vulnerability, as fishing is not possible for several reasons. Central to this analysis is Putnam's distinction between bonding and bridging capital. Bonding capital refers to strong, inward-looking ties within similar groups, such as caste associations, fellow religious groups, and family associations. Bridging social capital, in contrast, refers to social connections with diverse social groups (ibid).

During the no-fishing period, these networks are especially activated. Bonding capital serves as the first line of defence through informal credit systems within groups, the sharing of food and resources, and emotional solidarity, allowing individuals to cope with economic shocks (Islam & Walkerden, 2015). At the same time, bridging capital becomes a critical channel to formal resilience, enabling households to connect with local authorities or organisations to access relief measures and alternative livelihood opportunities. Studies on fishing communities show that social networks are not merely survival mechanisms but also adaptive capacities and tools for livelihood diversification. (kafak,2020) Her work on urban fisheries highlights how fishing communities increasingly face uncertainty through their networks by engaging in informal labour and occupational diversification.

However, as Portes (1998) describes, the 'other side' of social capital must also be understood. At times, the networks that support some can function as mechanisms of exclusion for others. Dominant groups may concentrate resources within their networks, systematically excluding marginal groups from the support system (Coulthard, 2012). Similarly, boat owners (*Mudalalis)* may leverage their bonds to protect and enhance their own assets, leaving labourers (coolies) who lack such connections further marginalised. This framework illustrates how pre-existing social inequalities are maintained and worsened during the fishing ban, as access to life-sustaining networks is determined by one's social position prior to the crisis.

In this study, the social capital framework will be employed to examine how traditional fishing communities are utilising their social ties to survive non-fishing seasons. These strategies include mobilising resources through various local mechanisms to meet their needs, such as marriage and housewarming, as well as through intra- and inter-community relations.

2.4 The Capability Approach and Well-being

The capability approach facilitates understanding the effect of fishing bans on people's lives. Instead of focusing on material conditions, it examines people's rights to live the lives they value (Sen, 2000). It means considering what people are actually able to be and what they want to be, such as being healthy, educated, or respected. By focusing on these basic principles, Sen's capability approach critically examines how policies such as fishing bans limit the freedoms that enable people to live meaningful and dignified lives. Through this lens, the fishing ban can be analysed not only as an economic restriction but also as a form of capability deprivation. It severely constricts the freedom of fisherfolk to maintain health, economic security, nutritional well-being, and social dignity.

The approach also requires that policies be evaluated not merely by their intentions but by their impact on people's opportunities and freedom (Nussbaum, 2011). In the context of fisheries governance, this means environmental conservation measures cannot be assessed solely by ecological outcomes. But their social implications for livelihoods, wellbeing, dignity, and adaptive capacity should also be considered. The capability approach is therefore especially useful for analysing uncertainties in the fisheries sector because it moves beyond a purely economic perspective to encompass human dignity, well-being, and freedom. Fishing bans may protect the marine ecosystem, but they can harmfully affect fisherfolk's ability to sustain dignified lives if supportive systems are absent. In the context of Kerala, this approach also asserts the importance of participatory, bottom-up interventions. Policies designed without incorporating the voices and experiences of fishing communities may fail to address the problems they face. To ensure capabilities, it therefore requires not only economic support but also institutional recognition, participatory governance, and long-term social investment.

In short, Weber's life chances, Putnam's social capital, social exclusion theory, and Sen's capability approach offer a holistic lens for understanding the vulnerabilities of Malabar's fisherfolk. These frameworks examine how structural inequalities, social networks, and exclusionary practices combine to determine who struggles and highlight the freedoms and opportunities that policies ensure a decent life for the people. Vulnerability, from this perspective, is not just about poverty or uncertain livelihoods—it is produced through social, economic, and political forces. At the same time, these theories reveal how communities draw on social networks and traditional practices to cope with uncertainty and sustain their resilience.

3. Research Methods and Context

3.1 Kerala Model Development and Coastal Marginalisation.

Kerala, a southern Indian state, has achieved notable advancements across various developmental indicators, resulting in improved living standards for its people, as reflected in key social indicators such as infant mortality rates, educational facilities, and public health. The journey of social development is attributed to the state's proactive role in developing social welfare policies through decentralisation in planning development strategies (Chakraborty, 2009). In terms of the Human Development Index (HDI), the state consistently ranks among the top, comparable to developed countries. For instance, the life expectancy in Kerala is approximately 70 years, and the birth rate is 16 per 1,000 people, which is comparable to the United States, where the life expectancy is 72 years. The birth rate is 18 per 1,000 population. (Panikar, 1975; Véron, 2001). The state's development experience has challenged the conventional understanding of development, which holds that societal development is primarily an outcome of economic development and growth. Instead, the Kerala model of development demonstrates that social development can be achieved even without rapid economic growth. (Parayil, 2000). This paradox has drawn considerable attention from scholars and is described as 'normal Kerala within an abnormal country'(Alexander M, 2000).

As parallel to celebrated narratives of 'Kerala model development', many scholars have drawn attention to its limitations and contradictions. They argue that the state government's development programs or initiatives did not benefit all sections of society equally, thereby systematically excluding certain marginalised groups from the developmental process. (Kannan & Pillai, 2004). For instance, while land distribution in the state is often regarded as a landmark in its development, it does not benefit all social groups. The primary beneficiaries were upper-class Hindus, middle-class Hindus, and Christians, whereas backward Hindus and many Muslims were largely excluded from the redistribution process (Kabir, 2010). In terms of education, Kerala's achievements are remarkable, with Keralites' educational attainment comparatively higher than the national average. However, the suicide tendency among educated individuals is above the national average because of the lack of job opportunities in the state, according to their educational qualifications (Odathakkal et al., 2023).

3.2 Fisheries and Fishing Communities

While Kerala's developmental achievements are widely celebrated, the fisheries sector and fishing communities highlight some of the paradoxes and exclusions of this model. Fisheries, as an economic sector, play a vital role in Kerala's economy, supporting the more than 10 lakh fisherfolk across 222 fishing villages. (*Department of Fisheries - Kerala*, n.d.). Among the coastal states and union territories of India, Kerala has rich natural resources, including water from various rivers, and benefits from the monsoon season, during which it brings a variety of fish seeds and forms mud banks (*Cheru*) in the sea. These factors make the Arabian Sea a rich repository of fish and ultimately led the Government to implement fisheries development projects. (Dietrich & Nayak, 2002). To maximise resource utilisation, the state government, with support from national and international agencies, has implemented numerous projects. The Indo-Norwegian project of 1953 (INP) was one such project, implemented in the Kollam district as part of the mechanisation of the fisheries sector. (Gerhardsen, 1958).

At the national level, fisheries play a key role in India's economy, making the country the second-largest fish producer (Kumar, 2024). The sector is also a major contributor to India's position as one of the leading seafood-exporting nations. During the fiscal year 2023–24, seafood exports increased by 2.267 per cent in quantity terms (Service, 2024). Within the national context, Kerala holds a higher position in the fisheries sector. In 2023–24, the fisheries sector contributed 0.89 per cent to the state's Gross Value Added (at constant prices) (Department of Fisheries, 2025). The state recorded a total fish production of 8.32 lakh metric tonnes, of which 69.86 per cent is from marine fisheries (Bureau, 2025). Kerala also ranks third among seafood-exporting states by quantity and second by value. In 2023–24, seafood exports from Kerala were valued at ₹7,231 crore (State Planning Board, 2025).

Despite the significant contribution of the fisheries sector to the economy, the social status of fish workers is highly marginalised. Lack of education, low land ownership, and socioeconomic vulnerabilities have accelerated their exclusion from this development model. (SALI, 2023). Further, the emergence of mechanised fisherfolk has adversely reshaped the socioeconomic relations of traditional fisherfolk, as these groups have introduced large, mechanised fishing vessels with the support of the non-fishing community and these only led to overfishing and resource scarcity but also triggered intra-community conflict among fishers. (Kurien & Achari, 1990). Additionally, state-sponsored development projects in coastal areas worsened the situation, and many were implemented in ways that constrained fisherfolk's traditional livelihoods. (Bachan, 2023).

Compared to the other regions of Kerala, Malabar holds a unique historical position shaped by its long cultural and trade interactions with foreign communities, especially Arab communities, from the eighth century, and it was one of the major business destinations in southern India. (Mondini, 2025). However, following the British invasion, Malabar's economic condition deteriorated, and existing social relations

began to disintegrate. This decline was the result of the East India Company's policies, which were primarily focused on economic interests leading to growing socioeconomic inequalities and the weakening of traditional social structures. (Sandeep, 2014). At the same time, the Princely States of Cochin and Travancore, which remained under the rule of local kings despite British influence, witnessed numerous social reform movements that led to significant socioeconomic reforms. As a result, these regions advanced in education and economic development, whereas the Malabar province, by contrast, continued to stagnate. (Preethi et al., 2022; Tharakan, 1984).

Even after amalgamation of Malabar (comprising Kasaragod, Kannur, Wayanad, Kozhikode, Malappuram, and Palakkad), the socioeconomic conditions in Malabar remained more vulnerable than those in the rest of Kerala. As we discussed earlier, the welfare measures, such as the establishment of educational institutions and healthcare facilities in Travancore and Cochin, resulted in significant regional disparities within the state. Due to the rigid agrarian structure of Malabar, the people benefited less from the state governments' land distribution policies. (Mannathukkaren, 2011; Singh, 2011).

From a fisheries perspective, the coastal belt of the Malabar region plays a crucial role in economic development through fishing and allied activities, as well as in promoting beach-based tourism. During the colonial period, the Malabar region became a significant site for the export of fisheries products, alongside other natural resources. The Britishers established the 'Fisheries Development Board' to regulate the sector and oversee the processing of fish products. Between 1880 and 1930, several fish-curing and fish-oil production centres were established across the Malabar coastal belt, aiming to export fish byproducts to foreign markets. However, its economic benefits primarily accrued to the British administration rather than to the local fishing communities. (Jineesh & Ramdas, 2025)

Even with Kerala's celebrated post-1956 development model, regional disparities persisted between Malabar and the former Travancore-Cochin areas. (Kabir & Krishnan, 1992). For instance, in 2011–12, the Travancore-Cochin region had an average of 559 public buses per district, compared to only 230 in Malabar; within this, Thiruvananthapuram had 1,440 buses, whereas Kasaragod had just 161(Sajid, 2019). In terms of income per capita, Malappuram ranked lowest in the state, followed by Wayanad, Kasaragod, and Palakkad, all of which are from the Malabar region. Health infrastructure also highlighted these disparities, for example, in Malappuram, a single primary or community health centre served over 100,000 people. (Sajid, 2019).

Food security mechanisms further illustrate the imbalance. In the southern districts, one public distribution outlet served 1,900 people, while in northern Kerala, one PDS outlet served 3,200 people (Jose & Kumar, 2025). Such imbalances are also reflected in human development outcomes. According to the Kerala Human Development Report, Malappuram ranks lowest among the state's districts. (State Planning Board, 2025). Situating Malabar within this ‘development’ context, this paper analyses the vulnerabilities of fisherfolk, who are ‘doubly marginalised’ groups in the region. The following section outlines the research design employed to examine these issues in greater depth.

3.3 Research Design

To examine the nuanced dimensions of uncertainty, community tension, exclusion, and inequality in the fishing community, this study employs primary qualitative methods. The rationale for adopting a qualitative approach lies in the study's objective of capturing the lived experiences, perceptions, and emotions of the fishing community at the micro level. Primary data were collected through semi-structured interviews and participant observation. In addition, secondary sources such as government documents, newspapers, and magazines were analysed to triangulate the findings.

For data collection, a total of 122 respondents were interviewed, including 81 fishermen, 10 fisherwomen, 17 members of the non-fishing community residing in the same locality, and the remaining respondents from local financial institutions. Most interviews were conducted in person, while a few were conducted by telephone. In addition, three group discussions were organised to capture collective dynamics at the community level. These methods enabled the study to capture both individual and collective viewpoints, thereby enriching the research's qualitative depth.

4. Findings and Discussions

4.1. Uncertainty and Exclusion

“When the periods of Varuthi (scarcity) are continuous, there is an intense sense of uncertainty and fear, as we do not know how long the situation will continue. As a dependent woman on my husband, I face multiple challenges in everyday life. A major difficulty lies in adjusting to my husband's mood swings, which stem from his frustration at returning without fish after long hours of work, incurring financial losses from fuel costs, and from the time and health compromises. From his perspective, it is difficult to place blame, as the absence of income leaves him without hope." (Khadeeja, personal communication, November 25, 2024)

The narrative clearly illustrates how fishing communities live amid persistent uncertainty during periods of fish scarcity and highlights the forms of trauma they experience. Economic insecurity extends beyond the immediate loss of livelihood; it shapes individual and collective life. At the individual level, it manifests as Psychological Stress, Mental Health Issues, Family Strain, Weakening of Social Cohesion, and can even lead to divorce. (Western et al., 2012). However, this economic downturn is affecting the fishing community in different dimensions. (see graph 4.1)

(Graph 4.1 Economic vulnerability of Fisher folks. source: fieldwork data)

This graph illustrates the economic vulnerability of fisher folks in the Malabar region during non-fishing periods. More than one-third of respondents (35.2%) faced an income shock of 90–100%, indicating a complete absence of earnings. This group represents the most severely affected households, often facing livelihood insecurity. 19.8% of fisherfolk faced an 80–90% decline, signifying a high level of economic strain. Combined with those facing 90–100% shocks, more than half of the fisherfolk (55%) fall into the 'severely vulnerable' category. Another 28.6% of respondents experienced shocks ranging from 70% to 80%, while 16.5% reported losses of 60% to 70%. Although these groups experience relatively lower income declines, they remain substantially affected, with income reductions still exceeding 60%. In contrast, boat owners are comparatively less affected by the crisis, given their greater capacity to overcome economic shocks. As illustrated in the graph above, overcoming such crises becomes particularly challenging for all categories of fishers once uncertainty exceeds a certain threshold, especially during the off seasons. These findings directly reflect Weber's concept of life chances by highlighting how unequal access to assets, institutional support, and occupational mobility shapes differential capabilities to survive the *Varuthi* period. This indicates how uncertainty is experienced differently based on family background and work participation.

Beyond the economic crisis resulting from the ban, these communities also face inter-community conflicts over fishing activities during this period. The ban, first implemented in 1988, was introduced with the primary objective of conserving marine resources, as this season coincides with the spawning and fertilisation periods of many fish species (Aswathy & Sathiadhas, 2006). Why is the ban only on us? The motorised country boat workers also damage fish breeding grounds — they use the same nets as we do (Arjun, personal communication, December 10, 2024). The counterargument from traditional fisherfolk is that 'We catch fish by seeing them directly in the sea. Mechanised boat workers use machines and nets to pull fish from the deep sea. However, we only catch fish from the upper part of the water' (Samad, Personal communication, December 3, 2024). This attitude gradually led to non-cooperation among fisherfolk and a lack of support during trawl-ban periods.

Government-imposed fishing bans as part of climate change measures have deepened uncertainty among coastal communities. As one elderly fisherman explained, 'such bans have become common in Kerala after Cyclone Okhi in 2017' (Dasan, Personal Communication, November 18, 2024). His observation highlights a broader trend of increasing state intervention in traditional fishing practices in the name of security. Since 2000, non-fishing has been increasing, averaging 63 days per year, highlighting the weakened livelihoods in this sector. This finding supports recent studies, which argue that environmental governance largely structures traditional fishing livelihoods through security-oriented interventions, ecological regulations, and restrictions on marine access (Vivekanandan, 2021). While such regulations may be environmentally necessary, their social consequences remain uneven because fishing communities often lack sufficient institutional protection during this forced occupational inactivity.

The rapid loss of economic resources severely reduces people's opportunities in life, thereby deepening marginality and exclusion. The ban affects health, security, and social mobility, pushing many households from vulnerability into extreme poverty. For instance, in terms of education, fisherfolk are among the weakest communities in the state (Balan, 2023). This uncertainty poses a barrier to education, an important factor influencing their children's life chances, especially when pursuing higher education. In a state like Kerala, there is high competition in education, and more than half of higher secondary students rely on private tuition centres to improve their performance (Vidyadharan, 2024). The uncertainty of fishing income, combined with rising private education costs, presents a significant challenge for families already struggling with financial vulnerability. 'We do not know even how many months we can fish in a year. In these situations, how can we afford private tuition for our children? (Saidalavi, personal communication, November 26, 2024). Another respondent reflected: 'I passed my tenth standard with high marks, but I could not study further. I did not get admission to a government school, and we could not afford private institutions. (Ashique, personal communication, November 12, 2024).

The life experiences cited above illustrate how the recurring uncertainty is gradually pushing the community to the margins of the mainstream. A significant factor contributing to this condition is the burden of rising, unrepayable debts. As one fisherman explained, "Last year my debt was around three lakh, and I managed to clear almost all of it, but this year my debt has doubled, and we have not had any fish for the past five months." (Vinod, Personal communication, November 14, 2024). His account illustrates how the loss of fishing days reduces household income and increases financial pressure, and further it leads to greater dependence on borrowing, making existing debts harder to repay and deepening economic vulnerability. The findings reveal that financial insecurity, unstable incomes, and unequal

access to higher education constrain fisherfolk's ability to translate these social aspirations into long-term social mobility. This demonstrates how capability deprivation operates not only through income poverty but also through restricted access to social opportunities and future life chances. Similar patterns have been found in the studies conducted in several coastal states within India, like Maharashtra, Tamil Nadu and Andhra Pradesh (Mukherji,2022; Shaji et al., 2020)

4.2 Women, Work, and Gendered Vulnerabilities

Globally, women's contributions to fisheries remain under-researched, despite their constituting nearly half of the workforce engaged in fishing-related activities (Ogden, 2017). In India too, academic work on fisherwomen's socioeconomic conditions has been limited, with the southern states—particularly Kerala and Tamil Nadu—rarely offering comparative studies. Within Kerala, academic focus has predominantly remained on the southern coastal belt, leaving women's work in the Malabar region understudied (Archari, 1990; Cecilia Jane, 1995; Gulati, 1982, 1983). Field narratives reveal that this academic and policy invisibility is historically misleading. Older respondents recalled that women in their youth were actively involved in fishing and allied activities—loading and unloading, drying, curing, processing, and marketing (Imbichumma, personal communication, November 12, 2014). Others recalled selling fish as vendors in neighbouring villages (Sumathi, personal communication, November 24, 2024). These recollections highlight the history of fisherwomen's economic agency, which has often been overlooked in both public and scholarly discourse. From the early 1990s, fisheries cooperatives and minority welfare boards supported women-led cooperative initiatives, particularly in small-scale value-added production, such as fish pickles, operated in the coastal belt of Malappuram district. As one respondent recalled, "when I was young, our fish pickle products were exported to different parts of the district" (Thangamani, personal communication, November 8, 2024). However, the decline of these enterprises gradually limited women’s occupational opportunities, deepening economic dependence. These narratives show that modernisation in the fisheries sector and changing coastal economies have transformed women’s traditional labour roles into more precarious forms of informal self-employment. Instead of strengthening long-term economic autonomy, many institutional interventions reposition women within an unstable, low-investment sector characterised by fluctuating demand and weak market access.

The establishment of the Society for Assistance to Fisherwomen (SAF) in 2005 aimed to reverse this trend by promoting self-employment ventures, including restaurants, tailoring shops, grocery outlets, and garment units, in the state (Shakir, 2017). While such interventions signalled a recognition of women's economic role, fieldwork suggests that these initiatives remain weak and uncertain. Fisherwomen entrepreneurs face multiple barriers, including inadequate training, limited skill upgrading, weak resource mobilisation, and restricted markets. Out of the 112 SAF-supported units in Malappuram, 45 are tailoring and garment shops, with only one seafood restaurant; similar patterns were observed in the Kozhikode and Kannur districts. (Department of Fisheries, 2023)

Women explained the constraints shaping these occupational choices. For instance, tailoring was considered ‘approachable’ because it required a lower investment and less training than other ventures (Kadeeja, personal communication, November 12, 2024). However, the tailoring sector itself is unstable: "tailoring and garments are ever-changing and updating, and we are trained only in basics, so the number of customers is declining day by day" (Sulejana, personal communication, November 16, 2024).

This field narrative asserts that Women's dependence on men's earnings further reinforces the uncertainty these entrepreneurs face. As one respondent explained, "most of our customers are from our locality, and most women depend on their father or husband who works in the sea. If they are earning, then women will come to us; otherwise, how will they come for stitching clothes?" (Ragini, personal communication, December 8, 2024). These reflect how women's entrepreneurial success relates to men's occupation in fisheries. For many enterprises, variable demand and the high costs of sustaining operations create barriers to long-term running and stability. Many ventures operate from rented premises, and prolonged income uncertainties often lead to shutdowns. "We were not able to meet the rent and running costs of the shop, so we had to shut down" (Sakeena, personal communication, November 10, 2024).

These experiences highlight the limitations of institutional support in addressing deeply rooted vulnerabilities. Women's enterprises, while framed as empowerment initiatives, often reproduce occupational uncertainty by positioning fisherwomen in low-investment, low-skill sectors that remain highly unstable. In short, these field insights reveal how fisherwomen's labour remains shaped by gendered uncertainties—where structural inequalities, market volatility, and institutional interventions intersect to reproduce occupational uncertainty. Despite state-supported entrepreneurship schemes, fisherwomen's ventures are insecurely positioned in informal economies that are deeply dependent on men's earnings and lack opportunities for skill upgrading.

4.3. Interdependent Livelihoods and Coastal Institutions

The uncertainty surrounding fishing livelihoods extends beyond the fisherfolk themselves, shaping the economic stability of other occupations within fishing hamlets. Local enterprises—most notably tea shops, grocery outlets, and small restaurants—are dependent on the fisheries economy. Their earnings are directly linked to the timing of fishing expeditions and the seasonal availability of catch, which determines customer flows from both fishers and outside buyers who frequent the shore. The recent decline in fishing has reduced

business opportunities, affecting the livelihoods of shopkeepers and service providers (Kasim, Personal communication, November 14, 2024). In several cases, the decline has affected small enterprises' ability to cover basic operating expenses, such as monthly rent, highlighting the interdependent vulnerabilities of coastal economies.

Religious institutions in coastal belts—such as temples, mosques, and madrassas—are also deeply dependent on the fishing economy. Their routine expenses, including building maintenance and staff salaries, are primarily funded through collective contributions from the fishing community. In earlier periods, financial difficulties during non-catching days were quickly recoverable, a situation employees understood and accommodated. Currently, the situation is worsening, and many employees have resigned due to pending salaries for several months. One employee said that his salary had been delayed for more than 20 months (Noushad, personal interview, December 18, 2024). These findings show how occupational uncertainty within fisheries restructures collective social life by weakening 'institutions' that depend upon coastal livelihoods. This extends the analysis of fisheries vulnerability beyond the individual level and highlights the interconnected nature of economic, social, and institutional resilience within the coastal communities. This analysis demonstrates how uncertainty functions as a widespread social force, shaping vulnerability and exclusion.

4.5 Social Capital and Collective Resilience

In a social context where most rely on similar livelihoods and share similar experiences, it is essential to examine how they overcome these challenges and the institutions with which they are engaged. Most respondents reported similar responses when asked about this. (See graph 4.5)

(Graph 4.5. Surviving mechanism of fisherfolk during uncertainty,

Source: Fieldwork)

The field data indicate that the majority of fisherfolk (91.2%) rely on financial institutions during periods of uncertainty. A smaller share (6.6%) turns to local moneylenders, often reflecting limited access to or distrust of formal institutions. Only 2.2% reported depending on friends for debt, highlighting the marginal role of informal social networks in sustaining livelihoods during crises. This distribution highlights dependence of fishing households on local financial systems, while also indicating the persistence of informal credit sources for a few respondents.

Fisherfolk often rely on local cooperative banks rather than nationalised banks, primarily due to easier access and more flexible procedures. In fact, more than half of cooperative bank customers in coastal regions belong to fishing communities. (Kabeer, personal interview, December 26, 2024). Instead of selling off assets such as ornaments, families typically prioritise short-term loans by pledging gold. As one female respondent said: "At the early time of my marriage, I felt very uncomfortable pledging ornaments; now it has become common. For the past few years, I have not worn my *Meher*, as it remains in the bank against my husband's loan" (Mariyumma, personal interview, December 8, 2024). This narrative illustrates not only the economic shocks faced by fisherfolk but also the normalisation of household financial indebtedness, in which women's assets are used as collateral for survival.

The debt burden among fisherfolk varies significantly by the type of fishing vessel and the nature of fishing. Non-motorised fishers, for instance, have experienced lower levels of debt than their counterparts engaged in motorised or mechanised fishing, indicating differences in capital investment requirements, economic risks, and livelihood practices (see Table 4.1).

Debt Amount (INR)	Number of Respondents	Percentage (%)
More than 1,00,000	16	17.6%
80,000–1,00,000	40	44.0%
50,000–80,000	20	22.0%
Up to 50,000	15	16.5%
Total	91	100%
(Table 4.1		

Distribution of Respondents by Debt Amount in 2024

Source: Fieldwork)

The data indicate that a significant proportion of respondents (44 per cent) reported a debt burden of ₹80,000- ₹1,00,000, making it the most common debt category. About 22 per cent had debts ranging between ₹50,000 and ₹80,000, while 17.6 per cent were indebted for amounts exceeding ₹1,00,000. A smaller, though notable, group (16.5 per cent) reported debt levels of up to ₹50,000. These figures highlight considerable variation in indebtedness, with most respondents concentrated in the medium debt range. Those reporting debts exceeding ₹1,00,000 were primarily trawler workers and mechanised boat owners. In such cases, debt burdens arise from higher operational costs, extended periods of non-catch, and the responsibility of supporting co-workers. This highlights how occupational differences within the fisheries sector shape not only economic outcomes but also household vulnerability and livelihood precarity.

Support from political parties played an important role in helping fishing communities during off-seasons and non-catching days. Major political parties in the state, like the Indian National Congress (INC), the Communist Party of India (Marxist) [CPI(M)], and the Indian Union Muslim League (IUML), regularly organised large relief distributions—mainly raw food materials—in coastal areas, especially around festivals like Onam and Eid. It provided crucial support to fishing communities in coping with repeated occupational hardships (Venu, personal communication, November 8, 2024). However, the community leaders now emphasise that such large-scale relief initiatives have declined over the past two decades. Political leaders relate this reduction to two connected factors: first, the significant increase in the number of needy people, which makes relief initiatives more difficult; and second, the prolonged nature of livelihood crises, which has limited the capacity of parties to maintain timely interventions (Koyamon, Personal Communication, December 4, 2024). This decline indicates a broader shift in the relationship between political organisations and coastal communities, as earlier forms of selective, visible assistance have become increasingly unsustainable amid growing uncertainty.

Field observations highlight that, beyond livelihood activities, fishing communities rely heavily on local financial institutions to mobilise the funds for *kurikalyanam* or *chaya salkaram* (tea party). These are forms of community-based crowdfunding that provide substantial support during major occasions, such as weddings and housewarming ceremonies (Thacholi, 2024). While such practices were common across the Malabar region, particularly in Kozhikode and Malappuram districts (Puliyullathil & Varma, 2023), they remain especially active and institutionally significant within fishing communities today. Following Putnam's framework, these networks can be understood as expressions of bonding social capital that reinforce solidarity and reciprocity within the community.

However, interviews also reflect on growing ambivalence toward these practices. As one respondent described, "Kurikalyanam is a double-edged sword. It helps us survive hardship, but if someone plans a wedding during the non-fishing times, we feel afraid to mobilise a large amount." Another participant, who had recently married, said that although the system enabled him to settle nearly four lakh rupees of his debt, he still needed to deposit funds in the bank to contribute to future weddings or communal occasions (Hamsa, Telephonic interview, August 18, 2025). Such narratives illustrate how practices of mutual support, while vital, also generate new forms of financial strain and uncertainty.

As the data in Graph 4.5 indicates, only around 7 per cent of fisherfolk rely on moneylenders for their survival. This proportion is comparatively lower in the Malabar region than in other fishing hamlets (Celestine, 2022). One key reason for this pattern lies in religion's influence. Among Muslim fisherfolk, who constitute the majority in these areas, borrowing from moneylenders is avoided primarily because paying interest is prohibited under Islamic jurisprudence. Borrowing from relatives or friends also remains limited, reflecting the relatively closed nature of social networks within fishing communities. Historically, however, the situation was different; fisherfolk could secure financial support during "no-catch" seasons from non-fishing communities from the same locality. As one respondent from a non-fishing community explained, such assistance was feasible when periods of non-fishing were predictable, since their own livelihoods also depended indirectly on fishing and allied activities. In the present context, however, the growing uncertainty and prolonged duration of no-catch periods make support more difficult, leading to a decline in such inter-community assistance (Manaf, Personal communication, December 8, 2024).

Overall, the resilience of fisherfolk during periods of uncertainty reflects the complex interplay of institutions, social networks, and cultural norms. Dependence on cooperative banks illustrates the institutionalisation of credit, while practices such as *Kurikalyanam* signify the role of bonding social capital in reinforcing community solidarity. However, these mechanisms also generate new challenges, exposing households to financial strain. Occupational differences further shape debt levels and vulnerability, with mechanised fishers facing higher risks. These findings demonstrate that economic survival is contingent upon broader social and institutional structures, and that social capital can both facilitate coping and create risks.

5. Conclusion: From Uncertainty to Capability Justice

The experiences of fisherfolk in Malabar show how occupational uncertainties result in multidimensional deprivations that extend beyond income and livelihood losses. From a capability perspective, bans and periods of no-catching days, as well as off-seasons, limit the basic

freedoms needed to achieve basic rights such as being healthy, educated, and socially respected. For instance, fishing communities are often unable to invest in children's higher education beyond basic levels, despite Kerala's celebrated educational achievements. Women's narratives of pledging ornaments for survival indicate the loss of dignity and agency within households. At the same time, the frustrations expressed by men underscore the psychological pressures of being unable to secure a livelihood. In this sense, the fishing ban is not merely a matter of resource scarcity; it constricts the real opportunities available for fisherfolk to pursue a decent life.

Sen's idea of conversion factors helps to explain why the effects of uncertainty are uneven within the community. Even when resources such as government loans or subsidies are available, their outcomes vary across different groups. Boat owners are often able to convert credit into productive investment, thereby protecting their long-term livelihoods. In non-mechanised boat workers, labourers are compelled to use the same loans for daily use, leaving them trapped in cycles of debt and capability deprivation. These examples illustrate how the same policy inputs generate unequal outcomes and produce pre-existing social inequalities.

The interviewees' reflections also point to broader dimensions of capability loss beyond the economic. The decline in community contributions to religious institutions and the weakening of small local businesses tied to fishing incomes show how the uncertainties destabilise overall collective forms of life. Women -in fact- bear a double burden of financial uncertainty and emotional strain, highlighting the unequal distribution of agency within households. From this standpoint, capability deprivation is both an individual and a collective phenomenon. It limits not only personal freedoms but also the shared social institutions and solidarities that sustain community life.

These field realities assert the need for public policies that address the 'freedoms' of fisherfolk rather than merely offering short-term assistance. This requires interventions that safeguard educational access, improve healthcare delivery in coastal belts, and create opportunities for alternative livelihoods during periods of scarcity. More importantly, policies must be designed to strengthen the dignity and agency of the most vulnerable, including women, wage-dependent labourers, and small-scale operators. The important policy suggestions from the communities are: Ensure the fuel subsidy, ensure minimum wage on the days officially forced to stay off work, under the fisheries ministry, establish a common savings platform and make it mandatory for registered fisherfolk to make daily deposits during fishing seasons, distribute the money during off-seasons, and make reservations for fisherfolk in higher educational institutions.

Declarations

Competing interest

The author(s) declare that there are no conflicts of interest.

Funding

No funding was granted for the development of this study.

Authors:

1)Sayyid Abdulla Shakir.

Community engagement fellow,

CH Muhammed Koya Chair for Studies on Developing Societies

University of Calicut

Calicut, India

Email: shakir.bahassan@gmail.com

2) Raoof CK

NAM College Kallikandi,

Assistant Professor, Sociology

Kannur India

Email: raoofck1@gmail.com

3) Subair Kalathil

Parul Institue of Law

Parul University

Vadodara, India

subairklalathil@gmail.com

Corresponding Author:

Sayyid Abdulla Shakir.

Community engagement fellow,

CH Muhammed Koya Chair for Studies on Developing Societies

University of Calicut

Calicut, India

Email: shakir.bahassan@gmail.com

Authors' Contribution to Developing This Article

Sayyid Shakir: Collected data, thematically analysed and developed the draft

Abdul Raoof: developed secondary data analysis, supported in writing

Subair: reviewed the article.

Ethics Declaration

Formal ethical approval was not obtained from an institutional or independent research ethics committee for this study. However, the research was conducted in accordance with established principles of research ethics and responsible social science research. Participation was voluntary, and participants were informed of the study's purpose and their right to decline to participate or withdraw from the discussion at any time. Informed consent was obtained from participants prior to the interviews and discussions. To protect participants from potential social, economic, or institutional consequences, all identifying information has been removed or anonymised. Participants' names, specific personal details, and other identifying characteristics have not been disclosed in the manuscript. The field narratives and quotations have been presented in a manner intended to protect participants' confidentiality and privacy. The study followed the principles of respect for persons, voluntary participation, informed consent, confidentiality, anonymity, and minimisation of potential harm throughout the research process.

References

1. Adger WN, Hughes TP, Folke C, Carpenter SR, Rockström J (2005) Social-Ecological Resilience to Coastal Disasters. Science 309(5737):1036–1039. https://doi.org/10.1126/science.1112122
2. Alexander MW (2000) Normal Kerala within Abnormal India: Reflections on Gender and Sustainability. In: Parayil G (ed) Kerala the Development Experience: Reflections on Sustainability and Replicability. Zed Books, pp 139–156
3. Archari TRT (1990) *A Study of Fisherfolk Organizations in Kerala* (p. 7). Food and Agriculture Organization of the United Nations. https://openknowledge.fao.org/server/api/core/bitstreams/7ff7044f-44de-42f9-b651-078bd5027d1b/content
4. Arthur R (2019) Shoring Up: Climate Change and the Indian Coasts and Islands. In: Dubash NK (ed) India in a Warming World, 1st edn. Oxford University Press, Delhi, pp 537–559. https://doi.org/10.1093/oso/9780199498734.003.0029
5. Aswathy N, Sathiadhas R (2006) Socio-Economic Impact Assessment of Monsoon Trawl Ban on Marine Fisheries Sector of Kerala, India. Cochlin University of Science & Technology
6. Bachan DKHA (2023) Vizhinjam Seaport Sparks Fear among Locals, Environmentalists over Coastal Erosion | Thiruvananthapuram, Kerala. Www Landconflictwatch Org. https://www.landconflictwatch.org/conflicts/vizhinjam-international-seaport-conflict#

7. Balan SS (2023), January 20 *Living in the Margins: Why Kerala's Fisherfolk Lag Behind in Higher Education*. The News Minute. https://www.thenewsminute.com/kerala/living-margins-why-kerala-s-fisherfolk-lag-behind-higher-education-172249
8. Béné C (2003) When Fishery Rhymes with Poverty: A First Step Beyond the Old Paradigm on Poverty in Small-Scale Fisheries. World Dev 31(6):949–975. https://doi.org/10.1016/S0305-750X(03)00045-7
9. Bureau BK (2025), May 2 *Call to Revamp Kerala's Aquaculture Sector to Boost Exports*. BusinessLine. https://www.thehindubusinessline.com/economy/agri-business/call-to-revamp-keralas-aquaculture-sector-to-boost-exports/article69530823.ece
10. Cecilia Jane B (1995) Gender, Exchange, and Person in A Fishing Community in Kerala, South India. London School of Economics and Political Science. [Published]
11. Chakraborty P (2009) Intra-Regional Inequality and the Role of Public Policy: Lessons Learned from Kerala. Economic Political Wkly 44(26/27):274–281
12. Coulthard S (2012a) Can We Be Both Resilient and Well, and What Choices Do People Have? Incorporating Agency into the Resilience Debate from a Fisheries Perspective. Ecol Soc 17(1):art4. https://doi.org/10.5751/ES-04483-170104
13. DAVIS M (2013) Planet of Slums. New Perspect Q 30:11–12. https://doi.org/10.1111/npqu.11395
14. Department of Fisheries (2019c) Fisherfolk Families Living Within 50m From the High Tide Line of the Kerala Coast. Department of Fisheries, p 82
15. Department of Fisheries (2023a) *Society for Assistance to Fisherwomen, working report* (p. 33) [Annual report]. Kerala State Government
16. Department of Fisheries (2025c) *Annual Report 2024-25* (p. 204) [Annual report]. Ministry of Fisheries, Animal Husbandry & Dairying. Government of India
17. *Department of Fisheries | Fisheries Department—Kerala*. (2025a), August 26 https://fisheries.kerala.gov.in/en/home-2?
18. Dietrich G, Nayak N (2002c) Transition or Transformation? A Study of The Mobilisation, Organisation and Emergence of Consciousness Among The Fishworkers of Kerala, India, 1st edn. Tamilnadu Theological Seminary, Department of Social Analysis
19. Gerhardsen GM (1958) *The Indo-Norwegian Project*. 118–122. https://eprints.cmfri.org.in/5574/
20. Giddens A (1971) Capitalism and Modern Social Theory: An Analysis of the Writings of Marx, Durkheim and Max Weber. Cambridge University Press. https://doi.org/10.1017/CBO9780511803109
21. Gills R, Padua S, Ramachandran C, Thomas S, Rajesh KM, Harshitha R, Varghese E, Vivekanandan E, Ratheesh KR, George G (2025) Climate change, adaptation pathways, and mitigation measures in coastal Karnataka: Socio-ecological perspectives from marine fishing communities. *Proceedings of the Indian National Science Academy*, *91*(4), 1278–1297. https://doi.org/10.1007/s43538-025-00582-0
22. Gulati L (1982) *The Role of Women from Fishing Households: Case Study of A Kerala Fishing Village* (Working Paper No. 144; p. 13). Centre for Development Studies
23. Haan A (1999) Social Exclusion: Towards a Holistic Understanding of Deprivation. *Http*://Lst-Iiep.Iiep-Unesco.Org/Cgi-Bin/Wwwi32.Exe/[In=epidoc1.in]/?T2000 = 011016/(100)
24. Islam R, Walkerden G (2015) How Do Links Between Households and NGOs Promote Disaster Resilience and Recovery? A Case Study of Linking Social Networks on The Bangladeshi Coast. Nat Hazards 78(3):1707–1727. https://doi.org/10.1007/s11069-015-1797-4
25. Jackson C (1999) Social Exclusion and Gender: Does One Size Fit All? Eur J Dev Res 11(1):125–146. https://doi.org/10.1080/09578819908426730
26. Jineesh PS, Ramdas P (2025) The Sea-Food Industry in British Malabar (c.1880–1930): A Social History. Mahakavi Moyinkutty Vaidyar Mappila Kala Akademi 4165–80. https://doi.org/10.5281/ZENODO.15087635
27. Jose A, Kumar L (2025) The Existence of a North–South Divide in Kerala | Economic and Political Weekly. Economic Political Wkly 58(11):49–56
28. Kabir M (2010) On the periphery: Muslims and the Kerala Model. In: Raman KR (ed) Development, Democracy and the State. Routledge
29. Kabir M, Krishnan TN (1992) *Social Intermediation and Health Transition: Lessons from Kerala* (Working Paper No. 251; p. 42). Centre for Development Studies. https://opendocs.ids.ac.uk/articles/report/Social_intermediation_and_health_transition_lessons_from_Kerala/26444227?file=48092338
30. Kannan KP, Pillai NV (2004) *Development as a Right to Freedom: An Interpretation of the 'Kerala Model'* [Report]. The Institute of Development Studies and Partner Organisations.

https://opendocs.ids.ac.uk/articles/report/Development_as_a_right_to_freedom_an_interpretation_of_the_Kerala_Model_/26443651/1

31. Kumar M (2024), April 3 India Aims to Expand Seafood Exports to $12 bln in Two Years, Sources Say. *Reuters*. https://www.reuters.com/world/india/india-aims-expand-seafood-exports-12-bln-two-years-sources-say-2024-04-03/
32. Kurien J (1978) Entry of Big Business into Fishing: Its Impact on Fish Economy. Economic Political Wkly 13(36):1557–1565
33. Kurien J (1995) The Kerala Model: Its Central Tendency and the Outlier. Social Sci 23(1/3):70. https://doi.org/10.2307/3517892
34. Kurien J, Achari TRT (1990) Overfishing along the Kerala Coast: Causes and Consequences. Economic Political Wkly 25(35/36):2011–2018
35. Levitas R (2005) *The Inclusive Society? Social Exclusion and New Labour* (2nd edition). Palgrave Macmillan
36. Mannathukkaren N (2011) Redistribution and Recognition: Land Reforms in Kerala and the Limits of Culturalism. J Peasant Stud 38(2):379–411. https://doi.org/10.1080/03066150.2011.559014
37. Mondini S (2025) Muslim Communities and Trade along the Malabar Coast: A State of the Art. South Asia: J South Asian Stud 48(2):368–385. https://doi.org/10.1080/00856401.2025.2496587
38. Nussbaum MC (2011) Creating Capabilities: The Human Development Approach. Belknap Press of Harvard University
39. O'Brien K, Eriksen S, Nygaard LP, Schjolden A (2007a) Why Different Interpretations of Vulnerability Matter in Climate Change Discourses. Clim Policy 7(1):73–88. https://doi.org/10.1080/14693062.2007.9685639
40. Odathakkal J, I.P, S., Kuncheria J (2023) Suicide Ideation among College Students in Kerala, India: Issues to be Addressed. Youth Voice J, 5–28
41. Ogden LE (2017) Fisherwomen—The Uncounted Dimension in Fisheries Management: Shedding light on the invisible gender. Bioscience biw165. https://doi.org/10.1093/biosci/biw165
42. Panikar PGK (1975) Fall in Mortality Rates in Kerala: An Explanatory Hypothesis. Economic Political Wkly 10(47):1811–1818
43. Parayil G (ed) (2000) *Kerala: The development experience; reflections on sustainability and replicability* (1. publ). Zed Books
44. Political Science Solution (2025), August 5 *India Ranks Second in Global Fish Production: Union Minister Highlights Achievements and Challenges - Political Science Solution*. https://politicalsciencesolution.com/india-ranks-second-in-global-fish-production/
45. Portes A (1998) Social Capital: Its Origins and Applications in Modern Sociology. Ann Rev Sociol 24(1):1–24. https://doi.org/10.1146/annurev.soc.24.1.1
46. Preethi V, Thorat VA, Dhekale J (2022) Disparities in Socio-economic Development in Kerala: A Disaggregated Analysis. Economic Affairs 67(3). https://doi.org/10.46852/0424-2513.3.2022.2
47. Puliyullathil P, Varma S (2023) A Study on Degradation of Practice of 'Panapayattu' – A Traditional Interest Free Rural Financial System of Malabar of Kerala Through Behavioral Finance. In: Ranjit Singh, Kajol K (eds) EMERGING ISSUES IN BEHAVIOURAL FINANCE. Bloomsbury Publishing India Pvt. Ltd., pp 101–113
48. Putnam RD (2001) *Bowling alone: The collapse and revival of American community* (1. Touchstone ed). Simon & Schuster
49. SAF Kerala.org (2025), September 21 http://www.safkerala.org/
50. Sajid M (2019) Exclusion and Regional Disparity in 'Kerala Model' of Development: A Threat to the Sustainable Development. NDIA 2019: POPULATION AND SUSTAINABLE DEVELOPMENT. Population and Sustainable Development in India
51. SAMUEL L (1998) *Women In the Fishing Economies of Kerala, India: An Examination Of Their Day-to-Day Experiences* [Thesis]. University of Guelph
52. Sandeep T (2014) Acquiring the Power of Natives: The Socio-Economic Transition of Malabar into the Colonial Economy, 1792–1812. Int J Social Sci Manage 1(4):160–163. https://doi.org/10.3126/ijssm.v1i4.11180
53. Sen A (2000) Social Exclusion: Concept, Application, and Scrutiny. Office of Environment and Social Development, Asian Development Bank
54. Service EN (2024), June 21 *India exported 17,81,602 MT of seafood, witness 2.67 per cent increase*. The New Indian Express. https://www.newindianexpress.com/states/tamil-nadu/2024/Jun/21/india-exported-1781602-mt-of-seafood-witness-267-per-cent-increase
55. Shakir SA (2017) Fisherwomen in Development: Some Reflections from Kerala 'Experiences'. Int J Res -GRANTHAALAYAH 5(7):140–150. https://doi.org/10.29121/granthaalayah.v5.i7.2017.2116
56. Singh P (2011) We-ness and Welfare: A Longitudinal Analysis of Social Development in Kerala, India. World Dev 39(2):282–293. https://doi.org/10.1016/j.worlddev.2009.11.025
57. Standing G (2021) *The Precariat: The New Dangerous Class* (Special COVID-19 edition). I.B. Tauris. https://doi.org/10.5040/9780755637089

58. State Planning Board (2025) *ECONOMIC REVIEW 2024* (p. 692) [Government]. Kerala State Planning Board
59. Sustainability – (2025), September 3 *MPEDA*. https://mpeda.gov.in/?page_id=589
60. Thacholi S (2024) Money As a Gift: Anthropological Insights on Panappayattu System in North Kerala. J Hum Sci 4(2):16–26
61. Tharakan PKM (1984) Socio-Economic Factors in Educational Development: Case of Nineteenth Century Travancore. Economic Political Wkly 19(45):1913–1928
62. Véron R (2001) The New Kerala Model: Lessons for Sustainable Development. World Dev 29(4):601–617. https://doi.org/10.1016/S0305-750X(00)00119-4
63. Vidyadharan S (2024), October 10 Kerala Least Costly for School Education, but Spends High on Private Tuition. *Indianexpress*. https://www.newindianexpress.com/states/kerala/2025/Sep/10/kerala-least-costly-for-school-education-but-spends-high-on-private-tuition
64. Vivekanandan E (2022) Barriers and Opportunities for Climate Change Adaptation in Marine Fisheries in India. In: Kurup BM, Boopendranath MR, Harikrishnan M, Shibu A (eds) Impact of Climate Change on Hydrological Cycle, Ecosystem, Fisheries and Food Security, 1st edn. CRC
65. Weber M (1978) Economy and Society: An Outline of Interpretive Sociology. University of California Press
66. Western B, Bloome D, Sosnaud B, Tach L (2012) Economic Insecurity and Social Stratification. Ann Rev Sociol 38(1):341–359. https://doi.org/10.1146/annurev-soc-071811-145434

Figures

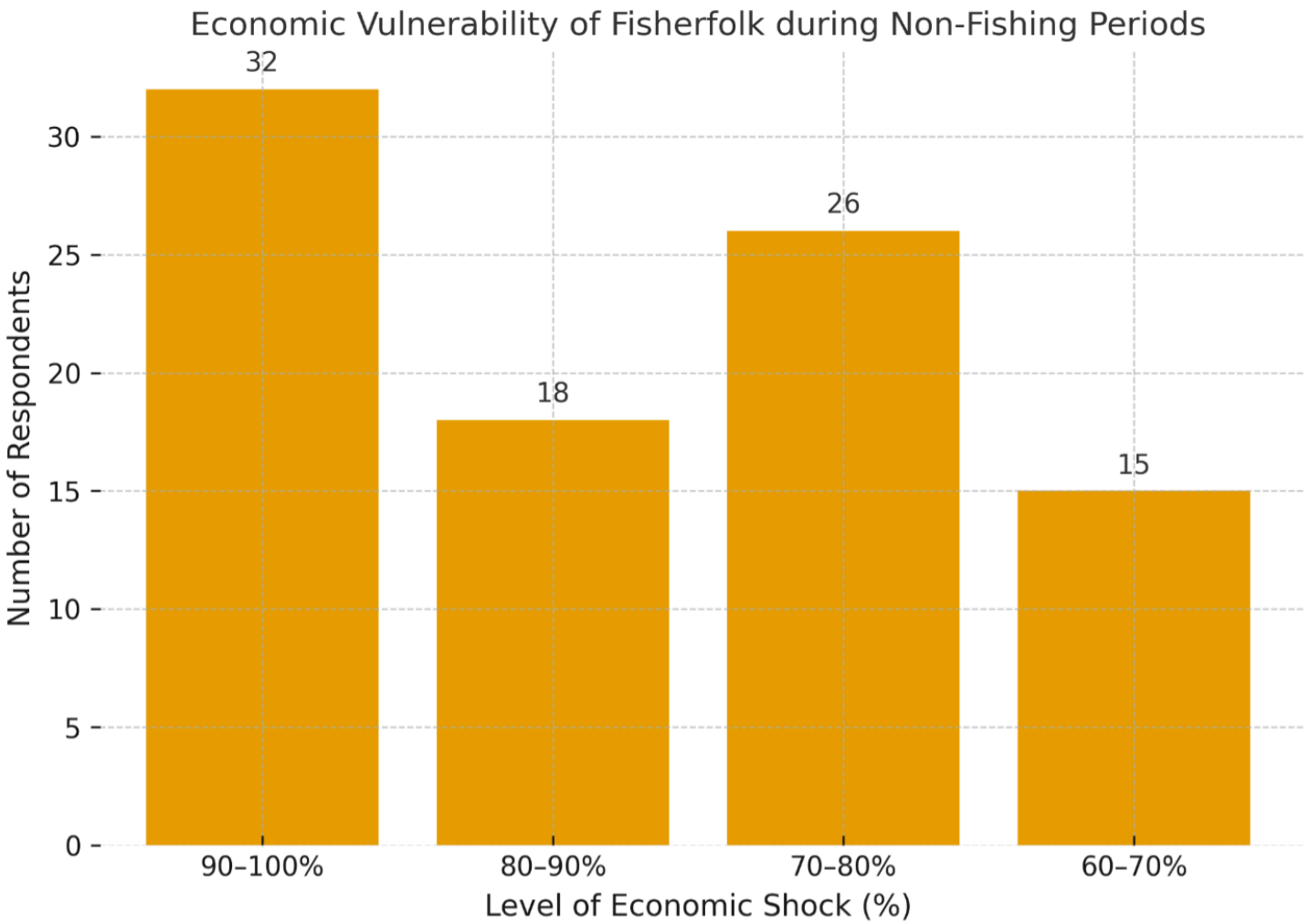

Figure 1

Graph 4.1 Economic vulnerability of Fisher folks. source: fieldwork data

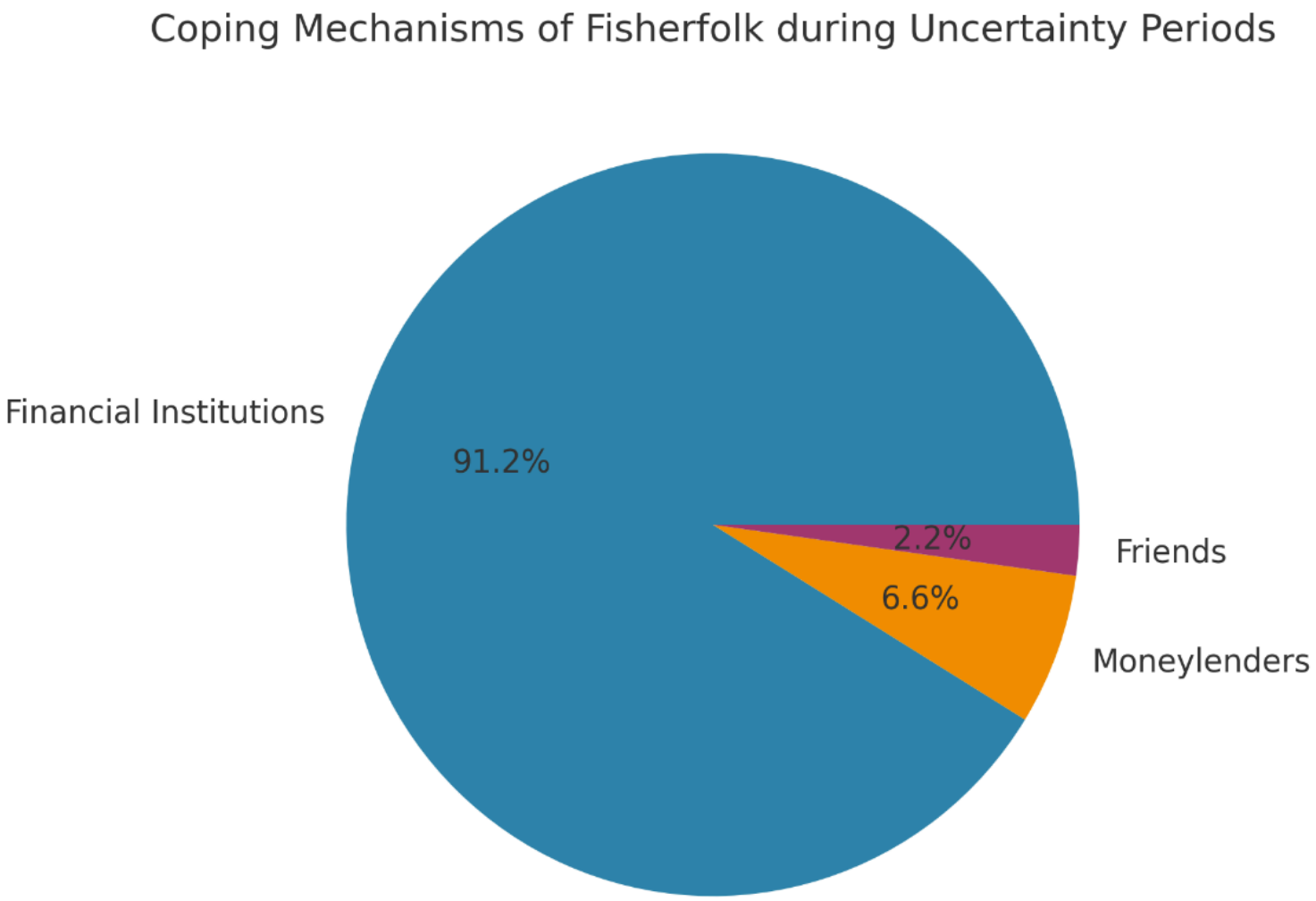

Figure 2

Graph 4.5. Surviving mechanism of fisherfolk during uncertainty,

Source: Fieldwork