An Anthropological Study of Marine Fishermen in Kerala

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Anxieties, Compromises and Survivals

By

B. Bindu Ramachandran

Cambridge Scholars Publishing

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This book is dedicated to the marine fishermen who always approach uncertainty with great expectations

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Project officers in different fisheries departments, the staff of research institutes like CMFRI, the office staff of the Directorate of Fisheries, FCWDS in Kozhikode and Kannur districts, the staff of municipalities, the office staff of the Society for Assistance to Fisherwomen (SAF), the staff of Fishermen Co-operative Societies and other government sources provided support in collecting the information at various stages of the study. I take this space to acknowledge all the above institutes for their published data.

I strongly believe that my academic achievements, if any, are only because of the wholehearted blessings from my parents and unaccountable moral support from family. My husband was the real shadow of encouragement throughout my research journey. He always supported me to fulfil my academic ambitions despite all the inconveniences from my part in managing domestic responsibilities. I am especially indebted to him.

A few words of formal gratitude are nothing to explain the help I have received from my son who supported me a lot in making academic discussions, designing the cover page and completing the analysis. I appreciate his patient discussions (on a topic which is not his area of interest) amid his academic works and official duties. My special thanks to him are endless for putting up with my busy work schedule.

Thanks to the Almighty for providing everything I needed.

PREFACE

This book focuses on the Hindu Mukkuva fishermen community (Arayans) living in the coastal areas of the Kozhikode and Kannur districts (under the government of Kerala) and Mahe (under Pondicherry, a Union Territory) in South India. The fisheries villages selected for study from these two areas are geographically situated on the same coast of the Arabian Sea within a stretch of 155km, but administered by two different governments. Along the coastal belt, the fisheries villages in Mahe are situated in the centre with the Kannur and Kozhikode districts of Kerala on both sides. This is a rare situation in the geography of Kerala, where people sharing the same economic resources, society, culture and locality are administratively partitioned by two types of governmental interventions. This study explains the anxieties of fishermen in the light of diminishing marine resources, technological transformation in the fisheries, and climate change, along with the types of compromises to which they must adapt in order to survive in this uncertain economy. This book gives a comparative picture of situations in both the study areas from the perspective of anthropology of development.

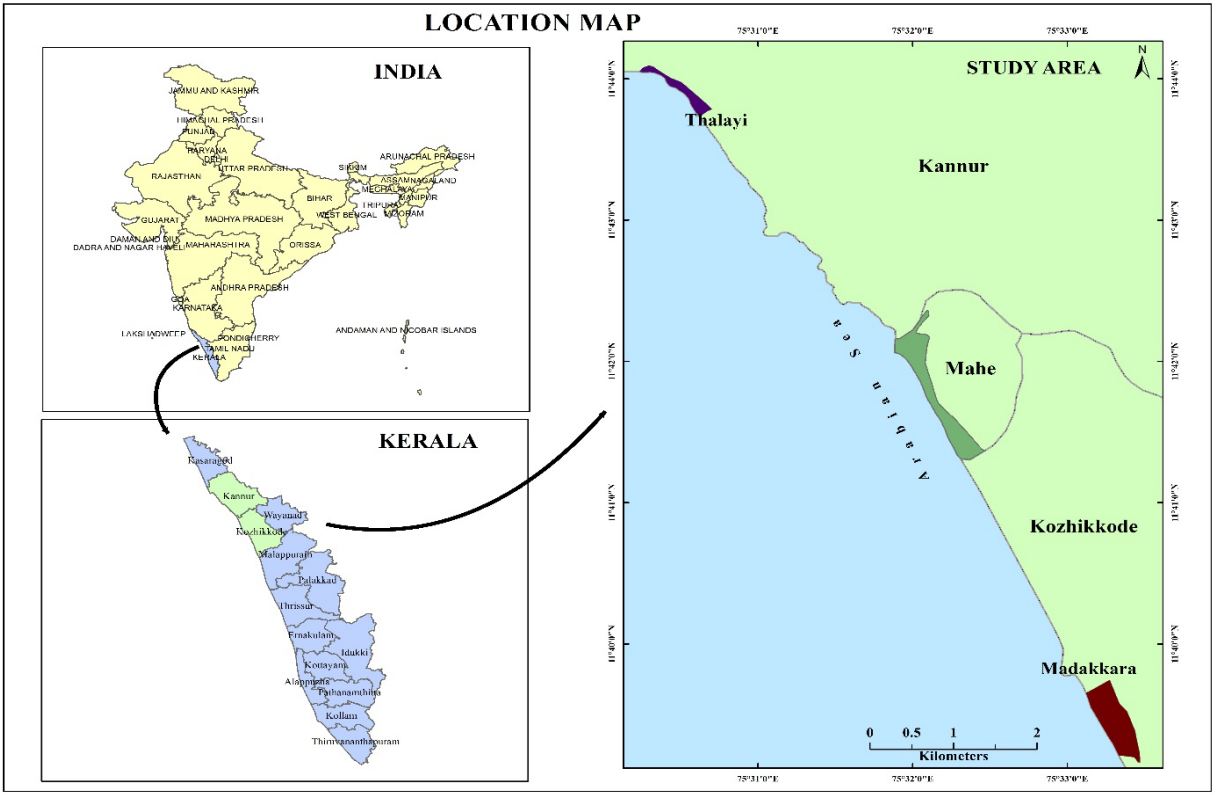
Since my school days, I have been interested in studying the marine fishermen for various reasons. My school was situated in Mahe very near to the coastal area. Some of my classmates were from the fishermen community and they used to share the agonies and situations at their houses when there was no income from the sea. They were absent in the classes for many days due to poverty during seasons of acute shortages of resources. They also shared the tensions when there were warnings about calamities and were worried about their fathers, brothers or kinsmen who were active fishermen. My interest in anthropology later helped me to study such a community where uncertainty defines their survival.

The first phase of fieldwork started in July 2015 with a household survey, and it took more than four months to finish. In the initial days of fieldwork, fishermen were not at all cooperative and hesitated to share information. They were frustrated and angry towards questions seeking their opinion on unscientific fishing operations, anomalies in distribution patterns and the impact of technological changes. Gradually, I established a rapport which helped me a lot in completing this study. The fishermen families in Mahe

and the two neighbouring districts in Kerala share the marine environment and resources in a very cooperative manner, and, on their part, they do not attach any discretion about differences in ruling government and administration.

This book contains five chapters. The first chapter is a general introduction to the problem and its significance, the objectives of the study, the methodology used, a review of the related literature, and the major limitations of the study. The second chapter describes the major landmarks in Indian fisheries with specific emphasis on the study areas from retrospective and prospective point of view. Chapter three discusses the new ways of survival in an uncertain economy of marine fisheries from a gender perspective. It also addresses the problems experienced by fisherwomen in the study areas. The fourth chapter describes the ways by which expectations and efforts are regulated and the different strategies adopted by them for survival. The fifth chapter concludes the book with major observations and findings of the study.

B. Bindu Ramachandran


LOCATION MAP
INDIA
JAMMU AND KASHMIR
HIMACHAL PRADESH
PUNJAB
HARYANA
DELHI
UTTAR PRADESH
RAJASTHAN
SIKKIM
ARUNACHAL PRADESH
ASSAM
NAGALAND
MEGHALAYA
MANIPUR
TRIPURA
MIZORAM
BIHAR
WEST BENGAL
GUJARAT
MADHYA PRADESH
DAMAN AND DIU
DADRA AND NAGAR HAVELI
MAHARASHTRA
ORISSA
ANDHRA PRADESH
GOA
KARNATAKA
LAKSHADWEEP
PONDICHERRY
TAMIL NADU
KERALA
ANDAMAN AND NICOBAR ISLANDS
KERALA
Kasaragod
Kannur
Wayanad
Kozhikode
Malappuram
Palakkad
Thrissur
Ernakulam
Idukki
Kottayam
Alappuzha
Pathanamthitta
Kollam
Thiruvananthapuram
STUDY AREA
N
Thalayi
Kannur
Mahe
Kozhikkode
Madakkara
Arabian Sea
0 0.5 1 2
Kilometers
75°31'0"E
75°32'0"E
75°33'0"E

CHAPTER ONE

INTRODUCTION

India is one of the top marine fish producing countries worldwide. It is also the second-largest producer of fish and freshwater fish in the world (Annual Report 2017-18, Department of Animal Husbandry, Dairying and Fisheries, Government of India). At present, fish is one of the indispensable items of global cuisine[1] and the income generated from fishing can largely substantiate the economic sector of the nation. In India, the income generated from the marine fisheries sector is significant[2] in the context of natural resource economies, providing income and employment to the most vulnerable and marginalized[3] sections of the population. Syda Rao et al. pointed out that, at the time of publication in 2016, there were about 4.0 million marine fisherfolk all along the coastline of India, residing in 0.864 million households. This represents an increase of about 14% over the last decade, both in terms of population and in the number of households (2016).

In Kerala, the marine fishing industry occupies a categorical place in the economic activities of the State with a contribution of 3% to its net domestic product (NDP) [The Economic Review, 2010]. Aerthayil opined that a very rich fauna of marine resources and the highly skilled section of fishermen in the area have made Kerala a leading producer of marine resources (2000). The massive socio-economic and political changes that

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[1] It is estimated that 96% of the 30 million population eat fish (Srivastava *et al.*, 1991). The all-India average is around 4 kg/capita/year (Government of India, 1996).

[2] Regarding the percentage share of major fish producing countries in world fish production between 2000 and 2011, India is the second-largest among the 24 countries. In 2002 the share was 4.64%, 4.74% in 2003, 4.60% in 2004, 4.87% in 2005, 5.11% in 2006, 4.96% in 2007, 5.56% in 2008, 5.39% in 2009, 5.73% in 2010 and 5.68% in 2011 (Handbook on fisheries statistics 2014).

[3] "Traditional fish workers in Kerala are socially marginalized and geographically isolated. They do not have any share in the economic and political life of the state. In this sense they are [a] true 'subaltern' class in Kerala" (Mathew, 2000, p. 34).

have happened in the post-independent India have created challenges in many economic sectors, including marine fisheries. Until 1960, the traditional marine fishery sector in Kerala was technologically determined by non-mechanized locally made crafts, dugout canoes, planks, nets, and gears of people's choice and convenience.

They used what was suitable for the nature of the coastal line and the environmental conditions. People engaged in the management of this 'common property resource' (Gordon, 1954) with intangible boundaries (because the concept of territory is not possible in the sea to the ordinary fishermen) used eco-friendly technologies for the sustainable management of the environment. In a decisive attempt to include economic forces in marine resource management, Gordon opined (1954) that common property resources like marine fisheries require additional effort and proper allocation of input in different fishing grounds for reducing both depletion or extinction of the resources and poverty among the fishermen.

The Indo-Norwegian Project—a bilateral technical assistance project—initiated modernization in the fishery sector in Kerala. As part of this project fish harbors were constructed in selected villages of the Kollam district along with the introduction of small mechanized boats. Working on community development was also one of the objectives of this project. For about three decades, from the formation of the State of Kerala in 1956, the development of fisheries was associated almost totally with the catching and exporting of shrimp. By the early 1960s, with the international demand for prawns, the orientation of this project shifted to the promotion of large, expensive trawl boats for harvesting Kerala's rich prawn resources for export to the world market (Kurien, 1985). In short, the traditional artisanal pattern of the Kerala marine fishery sector was transformed by the introduction of Indo Norwegian Project (INP) which was a turning point in the history of marine fisheries in Kerala. Instead of fully focusing on the primary objectives, later on the orientation of the project was changed to the export industry and subsequently a capitalistic mode of operation started with sophisticated technologies for more harvesting and processing. According to Kurien, it was the Indo-Norwegian Project that announced a struggle between tradition and modernity in the fisheries of Kerala, which in turn led to the disappointment and marginalization of the bulk of fishermen in the State. The impact of technological intervention paved the way for increased marine exports from Kerala, resulting in a radical decline in the marine resources (1985).

The Government of India's modernization of the fisheries sector (particularly the marine fishery sector) was initiated in the 1950s. Until this attempt, fishing (both marine and inland) was considered a caste or community based economic activity, especially in states like Kerala. Like any other socially and economically downtrodden sections of Kerala's population, fishing groups were also characterized by poverty, low educational attainment, and minimum material possessions, including the living space. In addition to that there were technological and socio-cultural barriers that acted as a hindrance to any attempts to develop[4] marine fisheries.

In the 1980s artisanal fishing was slowly starting to disappear, due to a decrease in marine resources and the introduction of a charter policy by the Government of India to exploit deep-sea resources with improved technology. The high cost of acquiring an equipped vessel created situations of unequal economic equations among the fishermen, challenging the whole process of the production-distribution system, and eventually leading to the total failure of the policy. Later the government introduced contract policies permitting foreign trawlers to exploit marine resources from the deep sea. These foreign trawlers were high-tech fishing vessels with the associated equipment and started fishing from the deep sea, upsetting the marine ecosystem and resulting in a massive reduction of resources. This has had seriously lasting effects on the survival strategies of both artisanal and non-artisanal marine fishermen.

The absence of improved skills and techniques suitable for a good catch along with anomalies in distribution methods created a crisis in the marine fisheries industry. Earlier marine fishing was community-based and considered to be the occupation of people from a lower social order. This stigma attached to marine fishing prevented the entry of capital and labour investment from outside which acted as a socio-cultural barrier. This has created ups and downs in social stratification and led to the emergence of investors from within the group to handle the system in an appropriate manner. This situation has continued for many years, keeping the labourers

[4] In an assessment of literacy, income, and health status of marine fishers in India, it was reported that the overall literacy rate for fishers was 79.37% and that among the literates 32.85% have a primary level of education, 53.88% have a secondary level of education and 13.10% have a tertiary (i.e. collegiate) level of education (CMFRI, Assessment of literacy, income and health status of marine fishers in India. List of significant achievements of Socio-Economic Evaluation and Technology Transfer Division [SEETTD] during the last five years).

as mere labourers and the investors as owners of crafts and gears who have acquired control over the management of resources. This trend shifted to a new scenario with the introduction of mechanization[5] in marine fishery.

The problems faced by the fishermen after mechanization are more serious compared to the previous situation.

Regarding the technological interventions in Kerala's marine fishery, non-mechanized traditional crafts were widely used until the 1960s. These traditional technologies like catamaran and dugout canoes had been developed following the adaptation[6] of fishermen to the coastal ecosystem, climate, type of fish and its availability. The indigenous knowledge of the fishermen in the identification of resources and preparation of fishing vessels and gears suitable to particular waters is interesting from the perspective of ecology. Fishermen with traditional technologies were able to catch good quantities also because of the abundant availability[7] of fish. Mathur observed that the traditional fishermen with mechanized boats fitted with outboard engines beyond 10HP motors are prohibited from fishing during periods where there is a ban on trawling, while the foreign trawlers are allowed to fish without any restraint at any time. The foreign trawlers dump their catches in the local markets resulting in the crashing of the prices of fish. Moreover, there is a poor harvest during the lean period owing to the depletion of fish resources due to overfishing. On the whole, the traditional fisherfolk of Kerala are badly affected by overfishing as everyone is influenced by the catch of the foreign trawlers (2008: 207).

It was identified and brought to the notice of several ruling governments that the low productivity of the marine fisheries economy was associated with the economic backwardness of the groups involved in this sector because of low production. To bring them into the mainstream of Keralan

[5] A craft with an engine permanently fitted to the hull which uses machine power for propulsion/fishing operations such as spreading the net, operating lines, etc. is identified as a mechanized craft. E.g. the trawler, purse seiner, gillnetter, liner, etc.

[6] Anthropologists generally agree that the physical environment normally exercises a restraining rather than a determining influence on how people in an area get their food, technology, and social and political factors.

[7] As fishing was done with eco-friendly technologies and fishermen's attitude towards sustainability of marine resources was of individual and group responsibility, they never hampered the marine environment. This resulted in an abundant availability of marine resources.

society, the changing governments of Kerala undertook various programmes and policies. Directives of State initiatives have increased fishermen's earnings through the acquisition of improved technologies[8] and production-oriented development measures.

The development attempts and initiatives[9] paved the way for many changes in the fisheries sector especially in the marine fishery.

Kurien and Thankappan Achari state that overfishing has not only created a fall in the marine fish harvest but led to an imbalanced distribution of the benefits and costs in the marine resource economy. This in turn paved the way for larger socio-political implications that today affect the State. In their opinion, five factors are contributing to overfishing: free accessibility of the marine resources; unsuitable technology; excess demand of fish in local and global markets; the population explosion among the coastal fishing communities; and the financial subsidies given by the government (2006). For the last fifty years, Kerala has experienced a great process of transformation in the marine fisheries economy incorporating rapid changes in production, distribution and consumption patterns. In the production sector, mechanization and unscientific catches invading the traditional eco-friendly utilization of marine resources is generating challenges for the sustainability of the fisheries. The intervention of businessmen in the wider market-oriented distribution sector has also initiated upheavals in the marine resource-based economy. The drastic changes that have happened in the above two sectors have ultimately resulted in changes in consumption strategies, gradually taking the marine fishermen away from their traditional subsistence and survival strategies. The economic liberalization and globalization of the 1990s also substantiated and radically changed the institution[10] of marine fishing industry in Kerala (CMFRI, 2013).

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[8] Plateau, J. P. 1984. 'The Drive towards Mechanization of Small-Scale Fisheries in Kerala, A Study of the Transformation Process of Traditional Village Societies', *Development and Change* 15, pp. 65-103.

[9] Ibrahim. 1992. *Fisheries Development in India*, New Delhi, Classical Publishing Company.

[10] Like any other economic system, marine fishery is also elaborately organized with wider personal networks, institutional collaborations, and the technological manifestations necessary to adapt to the particular economy depending fully on natural resources.

Significance of the study

After independence, the Government of India initiated various programmes focusing on the development of fisheries both marine and inland, with the major objectives of increasing fish production and (as a consequence) improving the socio-economic conditions of the fishermen community. The depletion of marine resources and its consequences have negative implications for the survival of coastal communities especially concerning livelihoods, food security, job opportunities, and traditional cultural identity. To provide a scientific base and an up-gradation for long term development, the Central Government started setting up Fisheries Research Institutes and different schemes under different policies.

The United Nations Convention on the Law of the Sea (UNCLOS), the United Nations Fish Stocks Agreement (UNFSA [UN,1995]) and the FAO Code of Conduct for Responsible Fisheries (FAO, 1995a) are a few of the instruments focusing on restoring fish stocks to the levels at which they are capable of producing their maximum sustainable yield (MSY).[11] In the mid-1980s experts and working group meetings on artisanal fisheries organized by the FAO and the World Bank noted that fisheries administrations and research institutions had given much attention to data collection on fish stocks, catch size, vessels, fishing gear etc., while the acquisition of socio-economic and demographic data on fishers had been abandoned (Tietze. U & G. Groenewold, 2000).

It is also important to understand that fishermen are a heterogeneous group[12] and are placed at different levels within the ecological, value chain and socio-cultural systems in fisheries. According to the International Collective in Support of Fish Workers (ICSF), fishing communities in India are not homogenous[13], as they belong to different castes. These

[11] Singh Tarun Kumar and Patnaik Shivani. Marine Fisheries; Their Current Status, Sustainable Management and Socio-Economic Status of the Marine Fishers of Odisha, Through Indian Marine Policy: A Case Study. *Research Journal of Animal, Veterinary and Fishery Sciences* l. 2(7), 10-19, July (2014).

[12] Groups are systems or patterns of social behavior which arise when pluralities pursue their individual and collective aims in common. Groups are not something different from social behavior; they are merely special semi-stabilized regularities of social behavior. Several men for example, who form a hunting party, establish a system of actions that bind them to each other. This group is not something over and above the social behavior of the men involved; it is the way they have ordered social behavior (Don Martindale, 1962: 39).

[13] The CMFRI (1977) points out the distinct tradition of Indian fishermen and their

communities have distinct social and cultural authority structures and traditional practices which depend on the location of the coast they inhabit[14]. In some areas of Kerala these castes and communities are distributed as homogeneous clusters along the coastal line and in other areas they are distributed intermittently purely based on occupation.

Studies have to be based in a dynamic conceptual framework, to assess the interactions between gender and the various subsystems within the sector. Different policy regimes formulated for sustainable fisheries have often come up with gender-neutral policies which are not able to absorb the vulnerability attributes of fishermen. A thorough gender analysis that takes into consideration gender roles and relations, assets and skills, and empowerment is needed before any policy formulation for sustainable development. A systematic and organized gender analysis is required to achieve useful outcomes in the process of gender mainstreaming and planned policy interventions (WFC, 2010). A complete attempt is required in India to address the various gender issues in marine fisheries in a holistic manner. The approach should be comprehensive with regards to the various sectors, for instance capture and culture, and should have better connections between different organizations, such as academic and research organizations, development departments and NGOs. An appropriate research agenda to address these issues would be a milestone in fisheries and aquaculture (Workshop Report, CMFRI; Cochin, 2012). To achieve the urgent attention of the required objectives, fisheries departments and development authorities would have to undertake a timely assessment of the status of marine resources along with the existing problems[15] of the fishermen to develop effective policies and management strategies.

In Kerala, the mechanized sector plays an important role in marine fishery, comprising about 66% of the industry, followed by the motorized[16] sector (27%) and the artisan sector (7%)[17]. Two decades since the introduction of

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distribution in all the major religions, namely Hinduism, Christianity, Islam and several communities which differ from State to State.

[14] Manju Pathania Biswas & M. Rama Mohan Rao, 2014.

[15] Fisher folk always face a shortage of money and live on a day to day basis. They have a high rate of dependence on moneylenders and traders (Dietrich and Nayak, 2002).

[16] Any craft with an engine temporarily fitted outside the craft which is used only for propulsion and not for fishing operations is identified as a motorized craft. E.g. Catamaran, plank built boat, dugout canoe, plywood boat, fiberglass boat, etc.

[17] G. Hari Kumar & G. Rajendran. *An overview of Kerala fisheries with particular*

outboard motors[18] in the artisanal fleet has resulted in the new phenomenon of capitalization of a major segment of artisanal fishery. It has also led to the excessive energy intensity of fishing operations making them economically unsustainable both for the large number of artisanal fishermen as well as the new entrants into the field of fishery (Kurien, 1985). Fishermen sold their catch to local merchants (either from the same community or others) at low prices, compelled by factors such as the decay of fish (if in excess), lack of access to a proper marketing facility and the fear of disturbance if it is sold outside the realm. Usually the local merchants also control the jurisdiction in which fishermen live. Panikkar and Sathiadhas opined that the variation in fish price is mainly characterized by wide variations at all stages of dealings in the marketing chain (1989). This is mainly contributed to by the perishable nature of fish and high variations in its short-term supply. Hapke opined that the aggregation of increased production in the mechanized/motorized sectors, the emergence of long-distance fish trade, and the domestic-based expansion of consumer demand has affected a transformation of marketing structures in the State's fishery economy. Mechanized and motorized fishing has also affected a geographical shift in landing sites toward centrally located harbors. Changes within the share system of the artisanal sector have also occurred and have led to the general practice of auctioning on almost all shores (2001).

In short, it is understood that the financial involvement of the fishermen in marine resource management was stopped or diverted after mechanization, which led to an increased vulnerability in subsistence and survival. The disparities are visible (as displayed in reports by the CMFRI) between the mechanized, motorized and traditional (non-mechanized) sectors. This is also a clear indication of the differences in economic gains of the fishermen engaged in manipulating the same resources in the same environment but with different technologies. Sathiadhas pointed out that "there is a high incidence of poverty in the coastal rural sector explicitly revealing that the majority of these people still could not get much of the benefits of the economic development taking place in our country" (2009: 774).

In Kerala, with the efforts of the State government, a systematized marine fish marketing strategy was developed gradually. Marketing co- operatives

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emphasis on aquaculture. IFP Souvenir 2007.

[18] Overall analysis of the last forty years shows that the coastal line which was once known for the traditional gear and crafts used for the fisheries has given way to larger vessels and mechanized trawlers (Dhanuraj 2004).

were developed to support the fishermen with reasonable income for their catches and provide subsidies for the fishermen. In regions where there are poor or no marketing facilities, intermediaries (Dallal) and wholesale merchants took advantage of the situation and it severely affected the economic returns of the marine fishing economies. But today modern communication devices like mobile phones play a vital role in achieving economic revenue for the fishermen. However, other problems persist. Fishermen in the study areas reported that the agreement of transaction from the sea itself sometimes resulted in great losses to the fishermen if the catch was abundant. The group/boat who identify the catch immediately informs the intermediaries and they fix the maximum price before reaching the coast. The intermediaries, after arranging the immediate steps of the transaction, announce the news of an abundant catch. The fishermen who reach the coast first with their products will get the maximum price and others have to sell at lower prices.

ICT is used everywhere in the fisheries sector; from resource assessment, capture, or culture, to processing and commercialization (FAO, 2007). Access to ICT and the exchange of key information can assist the fishing communities in making informed decisions on a variety of matters, including whether to engage in specific fishing operations, trade at a local market, or to participate in a meeting that can help to reduce their vulnerability and improve their opportunities (Marciniak, 2010). Right from the third five-year plan, the changing State governments paid adequate attention in providing infrastructure facilities to marine fishermen to uplift them and bring them up to the level of the mainstream of society. Differences in policies and programmes along with methods and procedures for implementation designed by respective State and Central governments make differences in the development paradigms. In the case of marine fisheries, the policies designed by the Central government are uniform for all States and Union Territories, but the State policies often differ keeping the fishermen as the stakeholders. At the most basic level, marine resources and fishermen are the two important aspects of marine fishery's sustainability. This is substantiated with the traditional knowledge of the fishermen, the tireless inputs of their labour, acquaintance with the marine environment, and attitudes towards ecosystem management.

In India the livelihoods and way of life of fishing communities are threatened[19] as they struggle to cope with dwindling fish stocks and

[19] Annual income and land ownership are very low and the housing facilities insufficient. Alongside this there is a very high level of indebtedness among the

increasing regulatory regimes[20]. Unequal access to marine resources coupled with lack of basic amenities due to uncertain income has created dissatisfaction among the marine fishermen towards their traditional economy.

Technological interventions[21] including information communication techniques have led to the unpredictable distribution of the catch in the field of competitive marketing. Though several schemes and programmes have been introduced and lots of changes have occurred in the various sectors of the fisheries economy of the State and Union Territory during the last half the century, no systematic and comprehensive inquiry aimed at examining such changes has been carried out to date.

When examining the process of transformation of the Indian marine fisheries management situation after independence, it can be seen that a State's fisheries administration exercises control over the total system of marine fisheries, thereby keeping the local communities away from the process of decision-making. Among fishing communities, the role played by traditional community-based institutions was worth mentioning in resolving the issues related to socio-economic matters, but after modernization it has reduced and been kept aside as stunted. (Paul 2005; Kurien 1995 and 2001). Social conflicts and inter-community stratifications (due to economic disparities between the fishermen with traditional technologies and the mechanized section); illegal and over- exploitation of marine resources; entry of foreign trawlers into the jurisdiction of national fishing grounds; and over-exploitation of resources without local wisdom or ecofriendly technology are some of the areas of concern[22] beyond the control and management of local community based social institutions. All these distresses along with a decrease in resources and issues of sustainable livelihood in the marine fisheries as a result of mechanization

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fishing community (Arya, 2003).

[20] Urquhart J., Acott T. and Zhao M., Introduction: Social and cultural impacts of marine fisheries, *Marine Policy,* 37, 1-2 (2013) in Singh Tarun Kumar and Patnaik Shivani (2014).

[21] The mechanized and motorized fishing boats in Kerala use GPS and echo-sounders along with mobile phones (Srinivasan & Burrel, 2013).

[22] Mathur (2008) wrote that "fishing communities are characterized by a population steeped in poverty and low standards of education. Economically they hold a very weak position and the few who have the means and genuine interest to improve their lot are faced with insurmountable problems. There is therefore, a strong feeling of helplessness among the fisherfolk, especially among the younger generation".

have created serious socio-economic, political and cultural challenges. Sustainable solutions to the resource crisis and economic uncertainty in marine fishery are possible only when the concerned State and the stakeholders of the resources take the responsibility of resource management with wholehearted accountability.

In the above crucial circumstances, urgent attention is required from development administrators, planners, social workers, academics and researchers to understand and analyze the socio-economic problems of fishing communities with special reference to the targeted policies and programmes of both the Central and State governments, respectively. The impact of the depletion of marine resources on the fisheries economy should also be considered for implementing new development agendas. This research is significant for its comparative analysis of the problems (social, economic, political and cultural) experienced by the fishermen residing in the coastal belts of Mahe and Kerala under the administrative jurisdiction of the States of Pondicherry and Kerala. These two study areas are situated in the same coastal belt but are under two separate government administrations.

Objectives

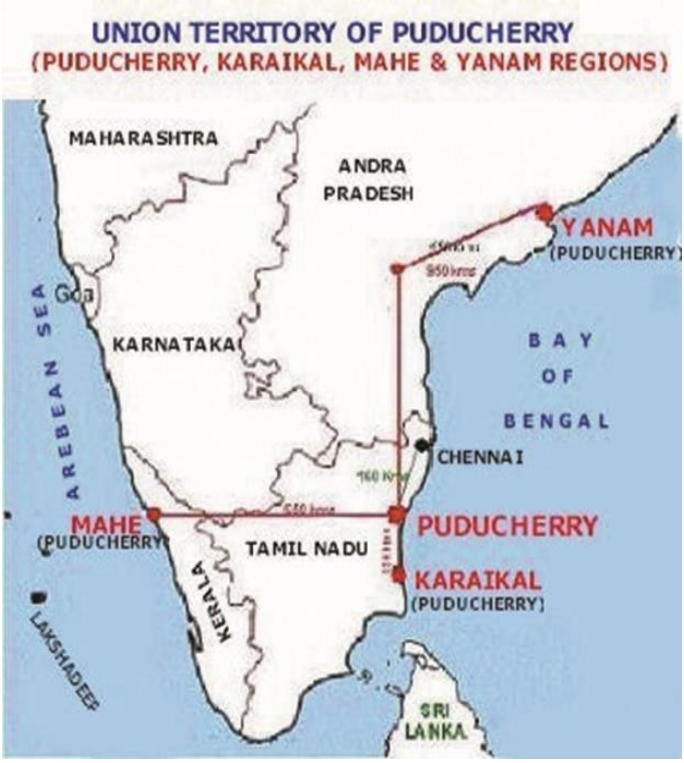
This study has the following objectives:

- To get a comparative understanding of the impact of government interventions and the way development has unfolded differentially on the marine fishermen in the study areas.
- To study the institution of marine fishery from a retrospective and prospective viewpoint.
- To understand the gendered ways of effort regulation and new survival strategies due to economic transformation.
- To explore the role of women fish vendors in the distribution system and their unique experiences of the development process.

Methodology

The present research was conducted among the Hindu Mukkuva, a fishermen community distributed in the coastal belt of Kerala and Mahe. Of the 6000 km coast of India, Kerala has a coastal line of 589.5 km, making up around 10% of India's coast. Within this 589.5 km, in the north approximately 1.3 km of coastal line is administered by the municipality

of Mahe and is under the jurisdiction of the government of Pondicherry, a Union Territory. Pondicherry is one of the smallest Union Territories in India with 0.09% of India's total population and 0.01% of the area. There are 27 marine fishing villages and 23 inland fishing villages/ hamlets scattered in and around the Union Territory of Pondicherry. This territory comprises four former French settlements in India: Pondicherry, Karaikal, Mahe, and Yanam. Of the four regions, Pondicherry and Karaikal are very close to the State of Tamil Nadu, whereas Mahe is in Kerala and Yanam in Andhra Pradesh.



Source: www.mapsofindia.com

Mahe is situated at a distance of 653 km from Pondicherry and is located on the West Coast of India. The region is limited to the west by the Arabian Sea. Even though Mahe is geographically located in the state of Kerala, with Kannur and Kozhikode as its two neighboring districts, this

municipality is administered by the government of Pondicherry with clear State boundaries. Even though there are five revenue villages in Mahe Taluk, 90% of the marine fishermen families are located in the Mahe revenue village. A few fishermen families not engaged in fishing are found distributed in other revenue villages of Mahe. Government interventions are the same to all despite the area of location.

Map of Kerala showing the two study areas.

The present work is a comparative study of the life experiences and development paradigms among the Hindu Mukkuva marine fishing communities in Kerala and Mahe. Hindu Mukkuva families geographically located in the jurisdiction of Mahe are administered by the Government of Pondicherry and those in the coastal belt of Kerala are under the administration of the Government of Kerala. Traditionally they have been

engaged in marine fishing and most of the families continue with the same occupation and social traditions[23].

Innis (1951: 126) and Thurston (1987: 107) recorded that the Mukkuvar probably migrated from Ceylon and settled in Malabar but they have not substantiated this statement with evidence. According to Francis Buchanan, "The Mucua or in plural Mucuar, are a tribe who lived near the sea-coast of Malayala (to the inland parts of which they seldom go, and beyond its limits, anyway, they rarely venture)" (Buchanan 1807: 527). Iyer (1909, 1:266) has stated that the word Mukkuva is connected with the Canarese Moger, which means 'to dive'. *The Gazetteer of Malabar* (1908) describes the Mukkuvas as a caste of fishermen following matriliny in the north and patriliny in the south.

In the beginning stage of this study in 2015, both the States were administered and ruled by a United Democratic Fund (UDF) led government but now the administration of Kerala is in the hands of the Left Democratic Fund (LDF) and Pondicherry is retained by the UDF. The development objectives and State policies for the marginalized are different in the two states. The study is both descriptive and analytical. It is descriptive concerning the contemporary socio-economic situations and development paradigms in the two research areas, whereas the analytical part of the study focuses on interpreting the objectives and reaching research conclusions. The basic approach followed in this study highlights the impact of State interventions on the development of Hindu Mukkuva fishermen in various aspects of their lives. Primary data is given special significance for analyzing the objectives and secondary data is used to substantiate the interpretations derived, in addition to highlighting the importance of the study. Regarding the analysis of data, both qualitative and quantitative techniques were used. The Statistical Package for Social Sciences (SPSS) was used to analyze data along with other quantifications.

Selection of sample fisheries villages

Sample fisheries villages were selected based on the information collected from the State Fisheries department information sources in Mahe and Kerala. The coastal line of Kerala is spread over nine districts:

[23] The marine communities involved in fishing on the west coast of Kerala are segmented into Mukkuva, Mokayan, Bovis-Mogeyar and Mogavirar of Malabar, Mukkuva, and Valans of Cochin and Arayans of Travancore (Mathur 2008).