

SOCIO ECONOMIC CONDITIONS AND CULTURAL AND HISTORICAL PERSPECTIVE OF PULICAT FISHERMEN, TIRUVALLUR DISTRICT- A REVIEWS

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Abstract: *the objective of the study is to explore the literature survey on the socio-economic condition and cultural and historical perspective of Pulicat fishermen. The Historical perspective of the region and its people is found and the current situation of the fishermen like livelihood and ecosystem is elaborated and the review works stated that, Decision-makers must improve sustainable wetland management through institutional upgrades, capacity building, and policy and legal reforms. Ecotourism may also help the economy thrive and create jobs. On the other hand, regions should implement quick disaster mitigation measures (structural and non-structural measures) and efficient disaster preparedness methods in order to lower the chances of catastrophe and promote sustained socioeconomic development.*

Key words: *Pulicat Fishermen, Eco system, livelihood, Padu fishing system, tribal welfare, sustainable development*

I. INTRODUCTION

The Pulicat lake's Tamil name, Pazhaverkadu, means "forest of rooted fruit," indicating mangroves. Only isolated pockets of brackish mangrove forests persist along the lake's mudflats. The lagoon, one of the east coast's most productive ecosystems, is threatened by pollution and uncontrolled reclamation. Straddling the borders of the states of Andhra Pradesh and Tamil Nadu, the Pulicat lake is essentially a brackish water lagoon, rich in floral and faunal diversity. Spread over 450 square kilometres, the lagoon is fed by three rivers--the Arani, the Swarnamukhi and the Kalangi. The Pulicat lake's biodiversity has been celebrated by zoologists and ecologists alike with researchers recording 168 species of fish and around 12 species of prawns in the lagoon's brackish waters.

The east coast lagoon is dangerous. Ennore thermal power plant and Kamarajar port are frighteningly close to the lagoon in Tamil Nadu, while Krishnapatnam port and Durgarajapatnam port are in Andhra Pradesh. ISRO's Sriharikota High Altitude Range sits on a barrier island between Pulicat Lake and the Bay of Bengal. Wetlands are surrounded by MoEFCC-mandated "eco-sensitive zones" (ESZ) designed to buffer shocks from infrastructure development around ecologically-sensitive protected areas. The Andhra Pradesh Forest Department lowered the ESZ of Pulicat lake from 10 km to 2 km. Conservationists say the buffer zone reduction is unjustified and invites ecological disaster.

The Pulicat system, Buckingham canal, and Ennore stream have all been recognised as ecologically vulnerable sites by the MoEFCC's Coastal Regulation Zone notification. This zone prohibits new and expanded industries. Despite this, the Kamarajar port has drawn up development plans to roughly triple its cargo handling capacity. Ennore's thermal power plants and port use water from Ennore creek, part of Pulicat lagoon, for operation and maintenance. Thermal facilities dump hot water into the creek, hurting fish and local livelihoods. During 46,000 acres of the lagoon have been reclaimed over the past few decades, according to Xavier Benedict of the AARDE Foundation.

Concerning is the quantity of aquaculture farms around the lagoon. The farms' untreated wastewater changes the turbidity and composition of the lagoon and Buckingham canal. "Aquaculture farms employ antibiotics to generate shrimp that are released indiscriminately," says marine ecologist Rahul Muralidharan.

The introductory part of the study gives an overview of the Pulicat lake and dependence of the fisherman at the adjoining areas of Tamilnadu. The second part is dedicated to literature survey and third part is for brief discussion on the chosen topic and fourth part offers suggestions and conclusion.

II. REVIEW OF LITERATURE

Potukuchi Thryambakam (2015) studied wetland tourism in Andhra Pradesh's Pulicat lake area. 6% of the world's surface is wetland. Wetlands are important for local flora, animals, and humans, as well as surrounding communities. Tourists love wetlands. They help tourism. They offer food, water, and raw materials for tourism infrastructure, and they control ecological processes like climate and water purification. Pulicat Lake in Andhra Pradesh's P.S. Nellore District is one. Pulicat lake is the third most important wetland for Indian shorebirds. Waterfowl, pelicans, herons, egrets, storks, flamingos, ducks, gulls, and terns migrate to the lake. This research

report explored risks, pollution, and human impacts on the flora and fauna of Pulicat Lake, fishing, and the pollution from pesticides, sewage, agricultural chemicals, and industrial effluent, which are becoming a major threat to the lake's existence. Wetlands are among India's most vulnerable ecosystems, and their degradation and loss continue. Natural factors, biological issues, and lack of potential are key wetland impacting variables, but anthropogenic factors provide the greatest threat. Most of these anthropogenic variables are +caused by focusing on immediate benefits and values of wet wetlands instead of long-term and sustainable benefits and values. To reverse these emerging problems and conserve these fragile but crucial wetlands, Indian wetlands need an integrated problem-solving approach involving relevant stakeholders from policy level to grassroots community. All stakeholders in wetlands should cooperate and contribute. Higher-level decision makers must strengthen sustainable wetland management through policy and law, institutional improvements, and capacity building. He opined that, ecotourism may contribute to economic growth and employment creation. Tourism is labor-intensive and gives small-scale opportunities for poor, women, and youth. Indigenous people and jobs. The best ecotourism is community-based and a community-owned and -managed option in such places that takes care of natural resources to profit from tourism. This income is helping them. Conservation, business, Direct and indirect actors in community development Beneficiaries

Francis and Aram (2017) evaluated Pulicat estuary's fishing management. It's the second largest brackish water body in India, after the Chilika estuary in Odisha. The 759 km² estuary has several islands. Only 360 km in the south is active; the north is inactive. Araniri, Kalangi, and Swarnamukhi feed the lagoon. Anthropogenic, developmental, industrial, and environmental challenges endanger the estuary and the livelihood of fishermen. The estuary's (lake's) depth has reduced from 6 m to 1 m, threatening the people's livelihood. 100 lake and 100 sea fishermen were given questionnaires. All were 18-65-year-old active fishermen. 20 stakeholders, including civil society members, were interviewed in depth. Sea and lake fishermen are very different. Caste and economic norms give lake fishermen a bad reputation. Sea and lake fishermen live very differently. (2) Caste and economic status stigmatise lake fisherfolk socially. (3) Violating the padu fishing system causes confrontations. Inequality causes friction amongst fishing communities. (5) Ignorance of lake fishermen and exploitation by fishing and coastal community development agencies cause conflict. (6) Lake fishermen lack modern fishing technologies, unlike sea fishermen, causing conflict. (7) Caste differences across villages produce confrontations among lake fisherfolk. (8) The study improves our understanding of impact by describing how it can be modelled, concentrating on knowledge level as a communication strategy's intermediate outcome. In 1985, the government offered 840 Pulicat locals jobs in Ennore Thermal Power Station, but only 150 were hired as temporary workers. Unpaid, they all quit and returned to Pulicat. (10) There's no fish market. There's no cold storage for fish. Stopping engine subsidies. In breach of CRZ laws, the government allows private prawn farms on the river. A court case temporarily halted the petrochemical project. Corporate businesses have authority to create harbours upstream of this delicate habitat, which is against Pulicat people' interests. (14) The government pledged to pay 70% of the bar mouth opening cost, but hasn't. Plans call for a training wall with a perpetually open bar mouth. On rainy days, children in Leema et al. 93 Pasiyavaram, Idamani Island, must use boats to school. After the 2004 tsunami, some lake fisherman began using boats given by the Madras Social Service Society (MSSS). They stopped padu fishing but began sea fishing, causing disputes. (17) Fishing-related conflicts, castes, religion, safety, security, health, hygiene, and marketing cause village conflicts. Sea fishermen have improved communication with government, non-government, and other institutions that help them. These agencies' prejudice causes conflict with lake fisherman. The study suggests developing concise message design for better fisherman communication. (2) Government and NGOs should help lake fishermen. (3) Lake fisherfolk are so uninformed that it takes a long time to bring them together across caste and other internal obstacles. (4) The Pulicat ecology should be preserved by limiting development and promoting local livelihoods. Overall, the study contributes to future design and deployment of convergence of communication for controlling conflicts and improving Pulicat Lake fishermen's livelihood activities. The government, which is responsible for the ecosystem, is destroying it for development. Saddest of all is that technically qualified government personnel work with politicians to plan and execute development projects that harm the ecosystem. There are additional planned projects that will harm the Pulicat estuary's environment.

Balasubramani Karuppusamy et al. (2021) studied micro-administrative units in Tamil Nadu's coastal plains. Using Census data and field questionnaires, they examined socioeconomic vulnerability and multihazard hazards in Tamil Nadu's coastal plains. TN's coastal lowlands are vulnerable to cyclones, floods, tsunamis, and storm surges. The high proportion of socially weaker people, the dominance of primary workers, and the female ration make this region vulnerable. The spatial variations in socio-ecological vulnerability and multi-hazard hazards in TN's coastal plains have not been examined at the village level. As district-level risk assessment doesn't provide useful information for micro-level plans, this study used village/ward data. The hot spot analysis of socio-economic vulnerability and multi-hazard risk surveys revealed three important coastal regions needing rapid policy intervention: 1) Puducherry to Nagapattinam, encompassing Cuddalore district Northern Thiruvallur district (north of Chennai) and Thoothukudi industrial belt villages. To reduce catastrophe risks and

ensure sustainable socio-economic development, these regions should undertake prompt disaster mitigation measures (structural and non-structural measures) and effective disaster preparedness strategies.

Madhana Rekha(2021) studied Pulicat lake fisherwomen's economic contributions. Women are important in fishing. They support their families financially and handle domestic duties. This study article examines the hardships of Tamil Nadu's Pulicat lake fisherwomen. The report shows an increase in aquaculture exports. While fisherman gather fish in deep waters, fisherwomen preserve and sell it. The study shows middlemen and commission brokers exploit Pulicat Lake fisherwomen. Fisherwomen's contributions to India's GDP are unfortunate. Low educational attainment and societal limitations hinder women's engagement in fisheries development. Poverty and illiteracy hindered their access to information. They lacked skill and self-confidence in availing the government initiatives and projects offered for the welfare of fishers. NGOs' training of fisherwomen has enhanced their self-confidence, but they still can't escape poverty.

Sandhiya (2021) analysed the region's history, economy, and religion. It's a combination of marshes and lagoons with great heritage significance. Historiography offers man-made heritage a unique character. Pulicat port is one of the natural harbours on India's Coromandel coast. Dutch colonists popularised it. The Dutch East Indian Company headquartered here. Pulicat Lake, India's second biggest brackish water lagoon, is 450 km² and shallow. The British reduced the value of a once-important commercial zone.

Thirunavukkarasu et al. (2011) investigated Pulicat Lake's coastal resource management needs and problems. Coastal zones are under a number of environmental stresses. Global authorities are researching solutions to better manage environmental change in coastal areas. Environmentalists, stakeholders, coastal communities, and researchers worry about environmental demands. Pulicat Lake, India's second-largest lagoon, features a rich but fragile environment. This lagoon provides nursery and breeding habitats for marine animals and commercial fishing. The study also examined Pulicat Lake's biodiversity, ecological crises, lake-mouth closure difficulties, siltation, lake shrinkage, pollution, overfishing, degradation, and destruction of natural habitats. It also focuses on fishermen's socioeconomic development, including livelihoods, social organisation, literacy, fishing pattern, marketing outlet, income, and NGO involvement. A healthier lake requires integrated policy approaches that incorporate scientific disciplines to address the complexity of social and environmental processes in the coastal and marine environment.

III. SOCIAL AND HISTORICAL PERSPECTIVE OF PULICAT REGION

Pulicat was initially mentioned during the Chola Empire. Inscriptions at Thiruppalaivanam's iva temple call Pulicat Pazhaverkadu, Pular Kottam, Puliur Kottam, and Payyar Kottam. According to a 15th-century inscription on the Adinarayana Perumal Temple in Pulicat, the region was first called 'Pralaya Kaveri'¹ during Vijayanagara dominion. During the reign of King Deva Raya II, 'Anandaraya' was given the governorship of the region, changing 'Pralaya Kaveri' to 'Anandarayan Pattinam'². In Pulicat's Catholic Church, the name 'Pavazha Maanagar' means 'Big City of Corals.' So, it's possible that 'Pavazhakkadu' became 'Pazhaverkadu', the current Tamil name. The Dutch corrupted Pazhaverkadu into Palliacatta, also called Palleakatta and Polikat, after their arrival. Dutch held Palliacatta until 1781 AD, when they surrendered. British corrupted Palliacatta to Pulicat⁴ around 1825 CE. The Cholas, Cheras, and Pandyas fought for power throughout ancient south Indian history. The Cholas were a strong political power from the early first century BCE to the first century CE. They were followed by the equally competent Pandyas and Cheras⁵. With the demise of the Tamil kingdoms in the third century CE, a large chunk of Tamil land, including the north, came under the Pallava Kings of the north⁶. In the 9th century CE, a southern Tamil empire pushed north. This northern area, which harmonises closely to today's Chingleput district was formerly called Thondaimandalam and whose shoreline was studded with ports containing Arab settlements⁷. Pulicat was a major Arab settlement. Pulicat was a trading port during the "Golden Age of the Cholas" (10th century AD). The Chola-era Samayeswarar temple in Pulicat shows this. In 1518 CE, the Portuguese constructed Pulicat, their first commercial post on the Coromandel coast. By 1545 CE, 600-700 casados (Portuguese army reservists married to Indians) lived in the region. The battle of Talaikotta in 1565 CE⁹ caused Pulicat's collapse as a trading harbour. The Hindu kingdom of Vijayanagara was defeated by the Muslim alliance of Bijapur, Ahmednagar, Berar, Golconda, and Bidar. The conflict caused Vijayanagar's Pulicat to lose importance. The Dutch wanted to boost trade from Pulicat, so they built a factory there. First, the Raja of Vellore allowed them to build in Pulicat¹⁰. The King of Chandragiri encouraged them to trade there. Venkat II forbade the Portuguese from living or trading at Pulicat and built a stone building there to store his army supplies. Under imperial patronage, the Dutch built a factory at Pulicat¹¹. Pulicat became the Dutch Coromandel coast headquarters in 1616. In 1620 CE, English agents arrived in Pulicat and their trade went smoothly for a year. The Dutch opposition, which culminated in the disaster of Amboyna, made the English position indefensible at Pulicat, and in 1623 CE, they left for a shelter further north. Following the episode, the English were not seen in Pulicat for almost a century. The English withdrawal enabled the Dutch retake Pulicat. By the treaty of 1824 CE, Pulicat came under the English Company in 1825 CE¹³, and after independence, Madras State took authority. Society Hindu women in Pulicat often couldn't remarry. Some indigenous groups, like Vedar, accepted remarriage after the husband's death. Vijayanagar-era Pulicat reported Sati. When King Venkata I of Pulicat died in 1614 CE, his three wives burned themselves with his body. Sati was also practised

by the region's fishermen. After Muslims overran Vijayanagar, Sati was banned. Due to economic necessity, fishing community and artisan class women have independence in society. Hindus in Pulicat felt marriage was a societal responsibility based on caste or horoscope matching. First cousin and cross cousin weddings were common among fishermen's society.

III-A: ECOSYSTEMS, LIVELIHOODS THREATENED

The Padu system of fishing is still used in Pulicat lake, south India. It divides the lagoon into grids and rotates fishermen's access to fish. Padu only allocates fishing areas to men from four Pattinaver fishing hamlets. Though caste-specific, the Padu system is an excellent example of regulating and managing coastal commons, ensuring members have equitable access to fishing areas while fostering a feeling of communal social responsibility. To avoid damaging the lagoon's ecosystem, don't over pressurize it. Sand extraction shouldn't choke rivers at every turn.

IV. SUGGESTIONS AND CONCLUSION

1. To preserve and improve Pulicat's natural and animal diversity, study the behaviours and needs of winter visitors, especially flamingoes, pintail, garganey, Caspian tern, avocets, to create adequate habitats.
2. Maintain woods and favourable circumstances for fishing, farming, etc.
3. Regulate tourism to encourage waterbird and faunal protection.
4. Maintain and improve Pulicat Lake's flora and animal variety.
5. Regulate tourism to encourage waterbird and faunal protection.
6. Increase mangrove diversity and fish seed resources. Teach responsible fishing.
7. Know seaweed, mud crab, etc. culture activities.
8. Flexible loan arrangements
9. Development affecting fishermen, women, children, and youth.
10. Shallow-bottomed boats for lagoon patrol.
11. Prepare an area-wide management plan and conservation strategy.
12. More NGOs, SHGs (Self help Groups)
13. Find alternative jobs for the community uplift.

The study concludes that, institutional enhancements, capacity building, policy and legal reforms must improve wetland management. The economy and jobs may benefit from ecotourism. Regions should undertake swift disaster mitigation (structural and non-structural measures) and efficient disaster preparedness strategies to minimise catastrophic risks and enhance socioeconomic development to address the complexity of social and environmental processes in the coastal and marine environment, a healthier lake necessitates integrated policy approaches that involve scientific disciplines. On the other hand, it is regrettable that women fishermen contribute to India's GDP. Women's participation in fisheries development is hampered by low educational attainment and social constraints. Their ability to access information was hampered by poverty and illiteracy. They lacked the knowledge and self-assurance necessary to take advantage of government programmes and projects provided for the wellbeing of fishermen. Fisherwomen who have received training from NGOs have more self-confidence, yet they are still trapped in poverty.

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