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A Discourse on the Fishermen of Kerala

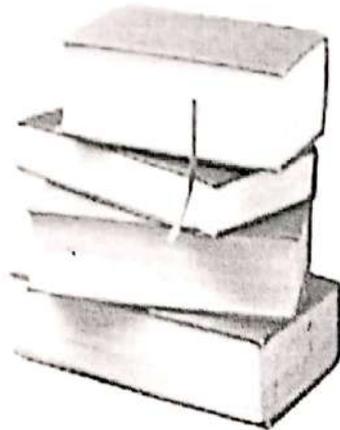
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What Are the Factors Affecting the Sustainability?- A Discourse on the Fishermen of Kerala

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Abstract

Kerala ranks quite high in terms of the overall development index in the world, with the only exception of the fisher and tribal community. In the view of the recent changes happened in the Kerala State, an investigation was carried out to evaluate the impact on ocean-related people on their sustainability. We selected the Districts such as Thiruvananthapuram, Ernakulam, and Kozhikode as an area where most of the regions are represented and the most intensive fishery activity reported. This paper presents the outputs of field surveys and questionnaire survey interpretation carried out along these regions. We have selected 150 fishermen from the area for the semi-structured interview and questionnaire discussion. We have interpreted the data with suitable statistical tools to bring out the major concerns of the traditional fisheries. We could observe a drastic change in the fishing sector, especially in the increased cost of fishing. This has brought out the enormous distress in the existence of the traditional fishing practices. Although the contribution to the GDP by the fisheries sector have shown an increasing trend, the fishermen are largely been left out from the benefits. The results shows that there has been a notable inefficiency in coping up with the situation demanded by the current context. More detailed studies are envisaged to have a better understanding of the natural/economical/ societal impact on the life of fishermen.

Keywords: fishermen, sustainability, Kerala

1. Introduction

Fisheries is an emerging sector in India with high possibilities for diversification of farming practices, rural and livelihood development, domestic nutritional security, employment generation, export earnings as well as tourism. India has a coastline of over 8,118 km, and an exclusive economic zone (EEZ) of over 2 million sq km. Indian fisheries and aquaculture is an important sector of food production providing nutritional security, besides livelihood support and gainful employment to more than 14 million people, and contributing to agricultural exports. With diverse resources ranging from deep seas to lakes in the mountains and more than 10% of the global biodiversity in terms of fish and shellfish species, the country has shown continuous and sustained increments in fish production since independence. The total fish production during 2017-18 is estimated to be 12.60 million metric tons, of which nearly 65% is from inland sector and about 50% of the total production is from culture fisheries and constitutes about 6.3% of the global fish production. There includes roughly 7,25,000 fulltime, and an equal number of part-time, fishermen engaged in fishing operations and over 1 million people engaged in pre- and post-harvest activities (Government of India 2001). After independence, India has experienced tremendous growth in the fisheries sector outpaced with radical technological changes. Simultaneously technological changes have encouraged production and exports. There was an increase in the fish production of the country from 0.7 million tons in 1951 to 5.7 million tons in 2000-01, 2.7 million tons were from marine capture fisheries. India is now the third-largest fish producer in the world, accounting for over 4.39

percent of the world's fish production. India's fish exports touched US\$ 1.2 billion in 2002 or about 1.21 percent of its GDP (GOI 2003). In India, there are more than 50 types of fish and shellfish products are being exported to 75 countries around the world. Recently fish and fish products emerged as the big share in agricultural exports from India, with 13.77 lakh tons in terms of quantity and Rs. 45,106.89 crore in value (NFDB 2018). This contributes to around 10% of the total exports and nearly 20% of the agricultural exports (Arunachalam et al 2008).

This study focuses on the growth and changing composition of such socio-economical security provisions in the fisheries sector of Kerala State in south India. We attempt to enumerate the achievements and the problems being confronted by a developing maritime state in taking concrete and definitive measures to ensure that a least considered section of the population, which was initially left out of the development process, is brought back into the mainstream.

2. Methodology

This study is both empirical and exploratory. It is based on the primary data. We have selected the Districts of Thiruvananthapuram, Ernakulam, and Kozhikode as an area where most of the regions are represented and the most intensive fishery activity reported. This paper presents the outputs of field surveys and questionnaire survey interpretation carried out along these regions. Participant and group of households were drawn through a multi-stage stratified sampling method (Sathiadhas 2005). We have selected 150 fishermen from the area for the semi-structured interview and questionnaire discussion. We have interpreted the data with suitable statistical tools to bring out the major concerns of the traditional fisheries

3. Results

3.1 Age composition of the respondents

Of the 150 people sampled, 33 percent of the respondents were in the age group of 40-50 who were the active participants in the fishing followed by the age group 50-60. There was a meager percent of participants of the age group between 20-30, who were engaging mainly to support their parents (Table 1). Even if the problems of health the aged persons in the group still continue in this field, as they don't have any other options. Another important determinant factor could be about their freedom of work while they do it by own and the unwillingness to work under the pressured circumstances offered by the manager or employer.

Table 1. Age composition of the respondents from the three districts of Kerala

Age	No: of respondents	Percentage
20-30	14	9.3
30-40	34	22.6
40-50	48	32.2
50-60	38	25.3
60 above	16	10.6
Total	150	100

3.2 Educational status of the Respondents

The educational status of the respondents reveals that the illiterate persons in the community are considerably high. Even though the increased educational developments and facilities are insufficient the number of persons have an education beyond the higher secondary level (Figure 1). This could be a major drawback that prevents them to come up from the deprived conditions. The reasons to occur this as a cyclic manner can also be a possible explanation.

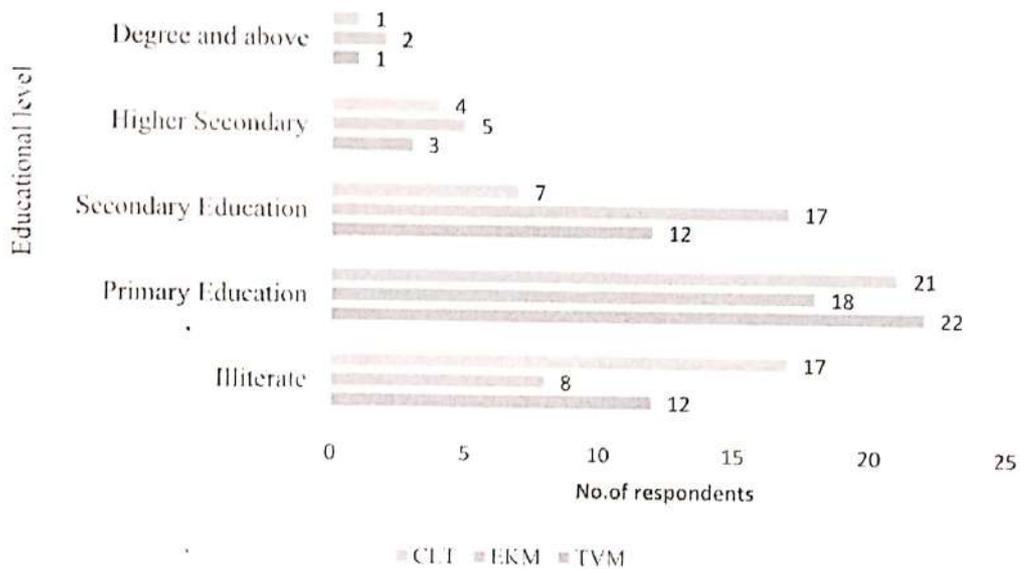


Figure 1. Educational status of the Respondents from the three Districts of Kerala

3.3. Occupation wise distribution

The observed pattern showed that there has been a notable difference in the occupational distribution. Most of them move with motorized boats followed by mechanized vessels with most updated technology and facilities. The third group was focused on the artisanal fishing and not much difference are observed in the number of people represented in each of the districts. Remaining two groups were focused on fish trading and other fishing and allied

activities (Figure 2).

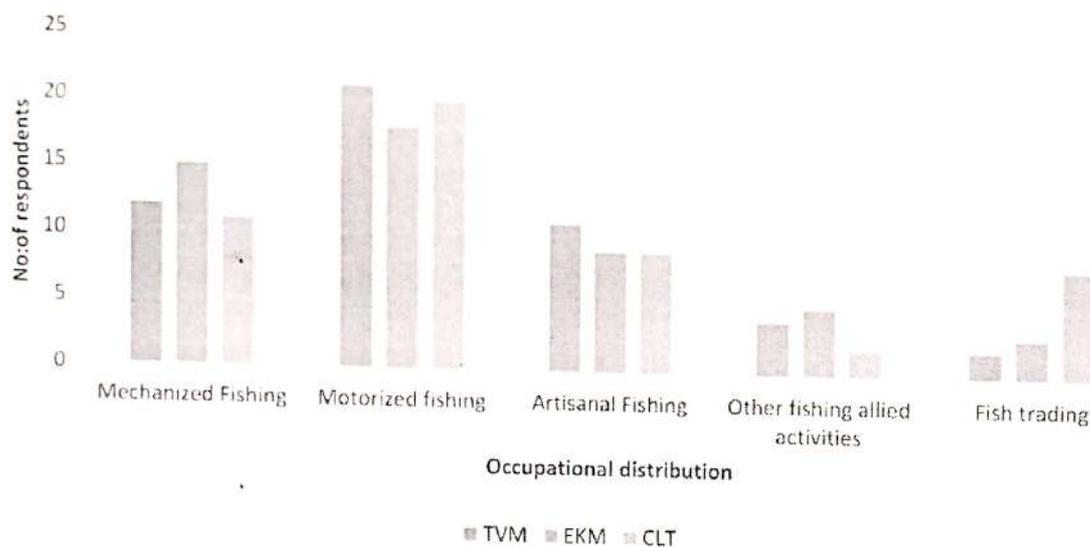


Figure 2. Various mode of operations in the fisherfolks.

3.4 Fishing Intensity

A variation in the fishing days in each district was observed. As expected the trawling ban and monsoon period were with lower number of fishing days (Figure 3, 4) . Across the districts, this was evident with slight variations in the number of days. The conflicts between the trawler crews and the Kattumaram fishermen grew in intensity over time. Many incidents are reported on the fighting between traditional fishermen vs boat crew away in the sea. If trawling is carried out in the same area as Katttumaram fishing there is great risk of damage to the latter fishermen’s gear as well as to their lives.

Moreover, since the catching capacity of the trawlers is very high, it affects the catch of

traditional fishermen. Even though there is a law stipulating twenty-two kilometers depth of sea only for traditional fishermen, the trawlers never followed the law.

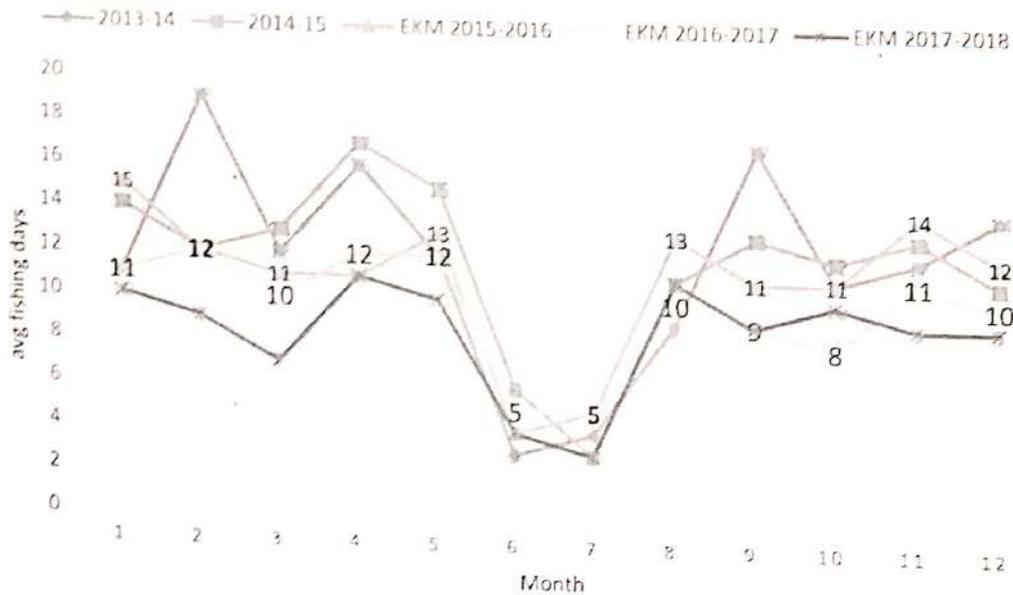


Figure 3. Fishing intensity at the different Districts

3.5 Sustainability

Framework for possible explanations over the Fisher's perception on different aspects is provided in Figure 4. Over the years, the government at large has neglected the protection and safety of the fishermen community. While looking into the governance, the government is responsible for the acts of omissions and commissions since most of the fishermen and by and large the fishing sector also regulated and controlled by the government. The situation is the same whether they are in the sea or on the land. Decades back itself, Food and Agricultural Organization (FAO) stipulated fourteen life-saving tools containing kit on the board of vessel to save the life of a fisherman. While fishing, it is learned that more than ninety-eight percent of fishing boats in Kerala lack these facilities on their board. Fishers' perception on the

intimidations of sustainability and the factors affecting the same are provided in Figure 5.

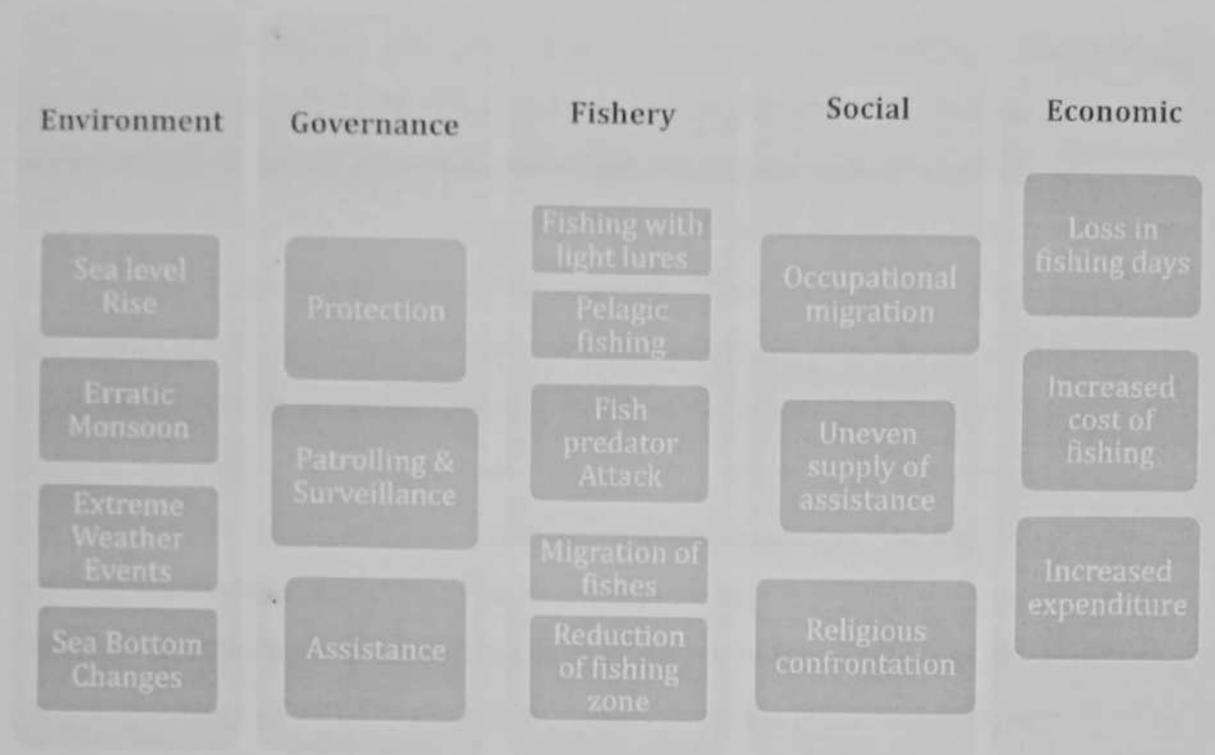


Figure 4. Framework for possible explanations over the Fisher's perception on different aspects



Figure 5. Fisher’s perception on different aspects

The environment parameter assessment of the three districts is also analyzed. Pollution was identified as a major threat to the related fishing activities (Figure 6). The changes that happened in the sea-bottom after the natural calamities Okhi and Tsunami were considered to be the most important reason for being with low productivity in the sea concerning fishes. In the present study, adaptive capacity that measures the potential of fishers to cope with the climate change was found to be the most impacted parameters. Financial capital i.e. income was found to one of the significant indicators of adaptability. The input cost of fishing was found to be increasing coupled with a decrease in the number of fishing days, which are effectively diminishing the revenue from the fishing and thus decreasing its adaptive capacity. The third worst impacted attribute was the negative income effect followed by the migration of fishers to other livelihood options. The anthropogenic drivers that include coastal tourism and increased use of plastic ranked the highest followed by productivity enhancement and infrastructure driver.

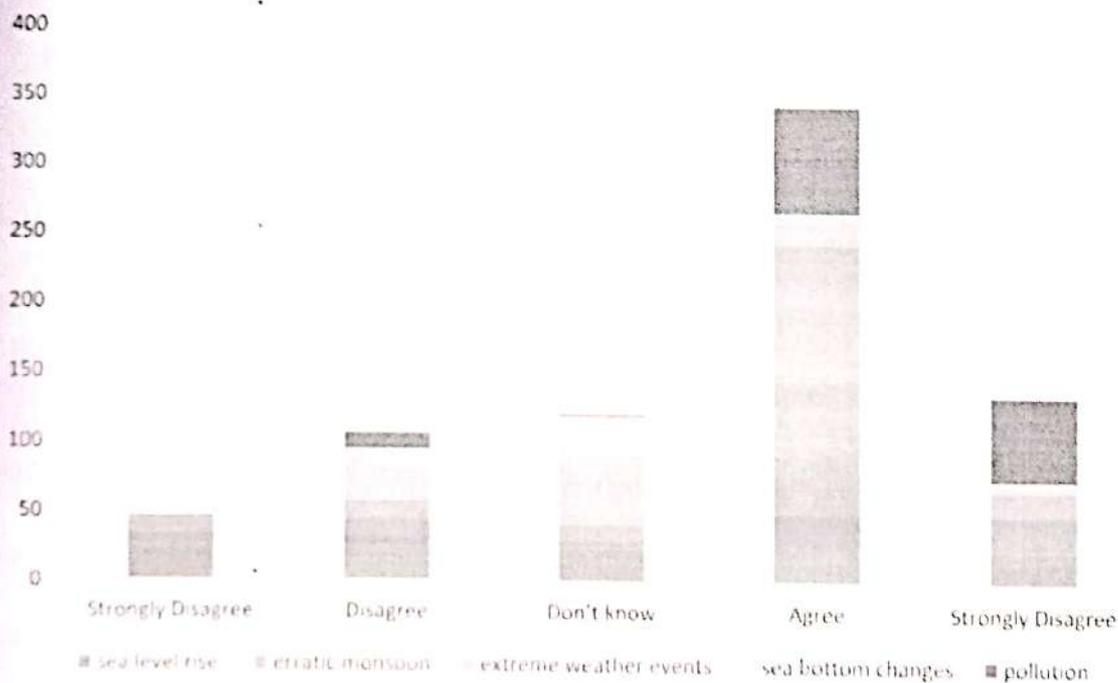


Figure 6.Environment parameter assessment of the districts

For effective fisheries management in a dynamic environment, fisheries managers not only require the knowledge of climate change but also need to understand the fishermen’s responses to climate variability. Thus it is of utmost importance to understand whether fishermen have perceived and responded to climate variability and their governance parameters have been analyzed (Figure 7)

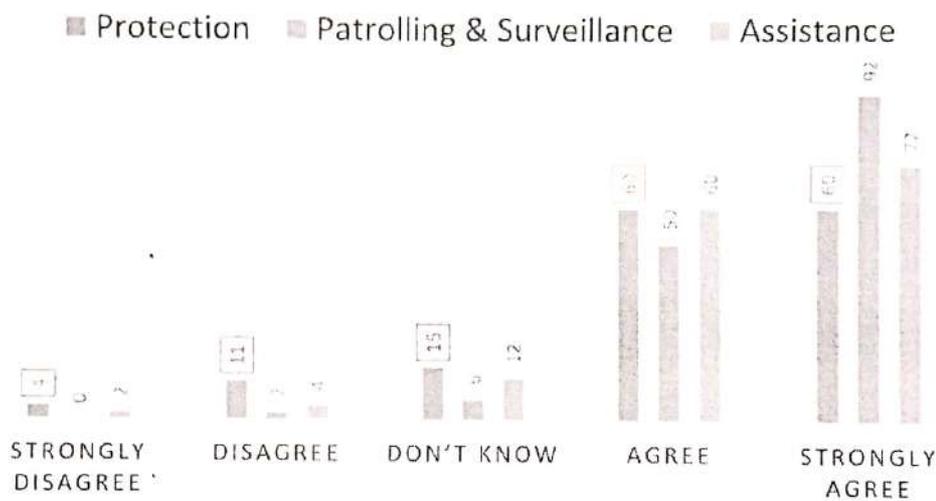


Figure 7. Governance parameter assessment conducted at various districts of Kerala

Overfishing emerged as the most important issue to plague the fishery indicating that fishermen have recognized the fact that overfishing of resources is taking place, even with light lures, etc. Overfishing has long been recognized by the scientific community as detrimental to the fisheries sector. Validation of this by the fishermen gives hope that they can be educated regarding the management of resources which are overfished. Habitat destruction has been seen critically by fishermen. The problems of juvenile exploitation and pollution were also flagged by a few. Presently the marine fisheries scenario is such that any fish can be sold in the harbor,

hence fishermen have no qualms about retaining under-sized fish and hence deterrents need to be put in place to avoid their capture and retention. According to some, the dedicated effort for reducing coastal industrial pollution is required as industries dump their wastes into the sea. (Figure 8). Pelagic fishing, followed by fishing with light lures and porpoise attack on the net with captured fishes were found to be the major reason for the reduction of fish resources identified by the respondents.

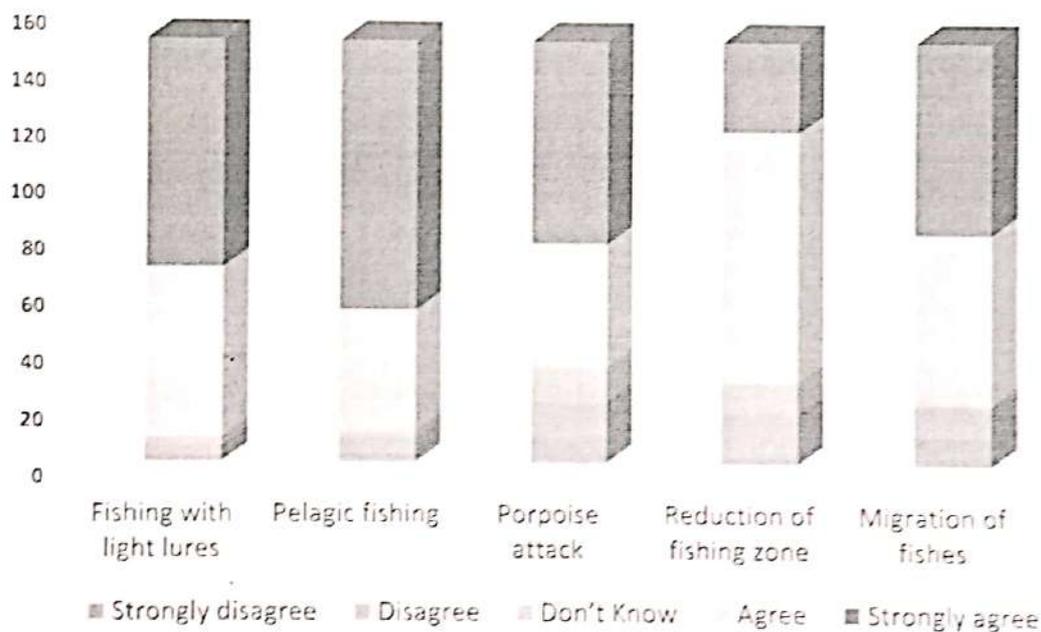


Figure 8. Fishery parameter assessment of the districts identified by the respondents.

A notable feature was 96 respondents have stated that they strongly agree upon the prevalence of the Uneven supply of funds in their society, followed by occupational migration and religious confrontation.

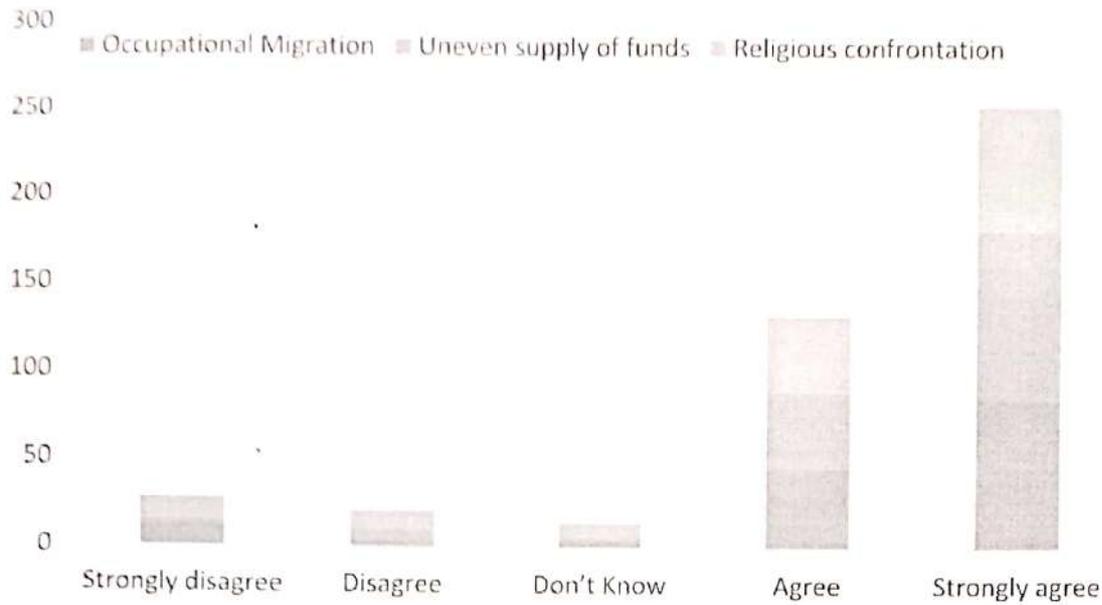


Figure 8. Social parameter assessment of the districts identified by the respondents.

The unusual prolonging of the windy days of monsoon as well as their unseasonal occurrence is severely reducing the total active fishing days in a year. The months following the monsoon was considered to be crucial as it was found to be the peak fish landing period and any aberrations in weather such as the occurrence of high-speed winds or cyclonic weather during this season could adversely affect the income and job opportunities of fishermen (Figure 9). The socio-economic standard of a society determines its ability to cope with adverse events and is mainly contributed by education facility, sanitation facility, access to drinking water and health care facility which are also considered as the critical factor for social development. The sensitivity of the fisherfolk increases due to their inadequate knowledge of climate change as a result of which they are not able to correlate the influence of climatic changes on their livelihood.

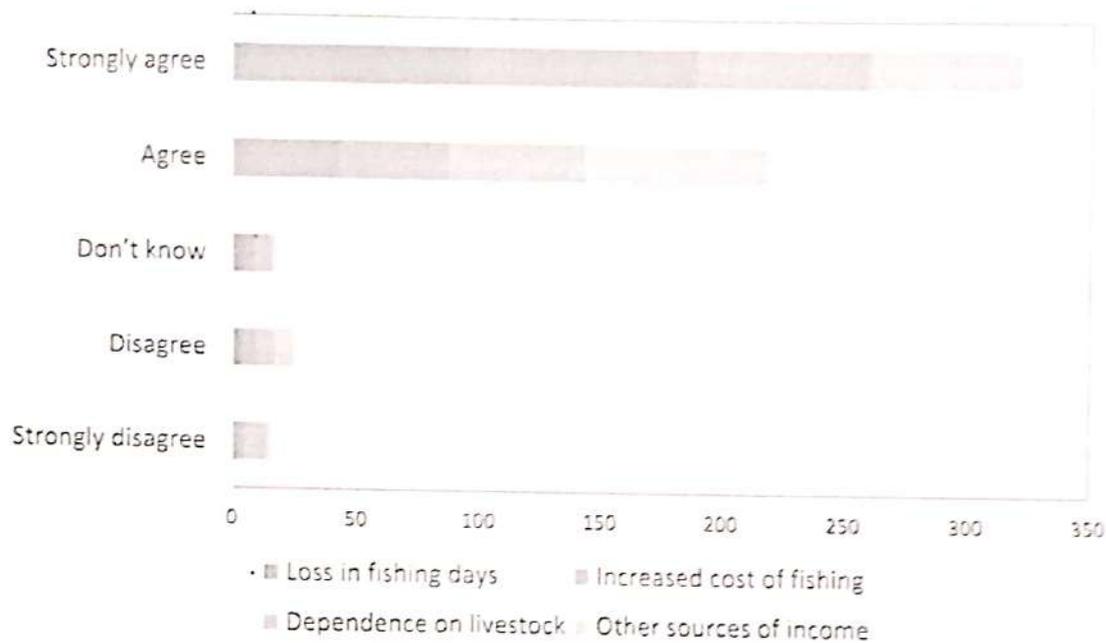


Figure 9. Economic parameter assessment of the districts identified by the respondents.

4. Discussion

The various levels of interpretation had happened for the question that what has made the fish reduction. Many of them believe that their nets were found damaged after clinging to the wooden logs and waste generated after the flood. They had also claimed that the taste of the fish also affected as the flood has affected the sea.

There is a need for the artisanal zone for fishing of artisanal small scale sector. The majority of the fishing people depend upon the coastal and nearshore waters, such zone will help to protect traditional fishermen from large scale fleets using destructive gear for the heavy catch. There is a need to safeguard the traditional fisherman fishing zone, for the traditional and mechanized fishing group. There is a need for restricting the number of mechanized fishing boats by enforcing strict rules and regulations to protect the interest of traditional fishermen. During the trawling ban period, sufficient financial help and other assistance need to be provided to village

people to support and maintain their day to day living. There have been reports as they go with money lenders which used to charge exorbitantly high-interest rates such as 20 to 24 percentage. There is a need for better and reasonable prices for fishermen produce. Marketing societies are to be organized for them and it should be organized by the fishing community themselves to strengthen their cooperative spirit. The fishing communities should be given the right to use coastal lands for an occupational purpose (landing, selling, salting, smoking, curing and drying of fish, parking and maintenance work of boats and implements, etc.). Infrastructural facilities shall be provided by the state government agencies for the development motorization of the poor small boat owners. There has been a notable increase in the interest of tourism-related activity in the areas. With water skies and boats that take charge of the regions where traditional fishermen use their nets and planks etc which is a matter of concern. They have also initiated a process of renting out their sea-facing homes with moderate facilities to generate income from other sources. It is envisaged that an inclusive mechanism from the Government and multisectoral stakeholders are essential for the upliftment of underprivileged life of fishermen.

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