

An Empirical Study on Fishing Productivity in The Mumbai Region

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ABSTRACT:

The fishery industries sector is also known as the "Sunrise Sector" in India. Indian fish farming has grown at a rate of more than 10% per year on average over the last decade. As per studies, fish production is deteriorating. There is little evidence that changes in fishing regulations or procedures are trying to reverse these declines. Our research has looked at fishermen's perceptions of the state of fish stocks, as well as current fisheries management and strategies in the Mumbai region. To understand the fishermen's perception towards the government's different schemes and production, a survey has been conducted among 100 fishermen in the Mumbai region. The present study must begin with a review of the literature in the field of fishermen in the Mumbai region. All primary data was collected in the Mumbai region and analysed using parametric and non-parametric statistical methods. The study's findings will help to identify fishermen's perceptions of the government's various schemes, as well as fishermen's expectations of the government.

Keyword: Fishermen's, Fishery industries, Government

Introduction:

India has made tremendous contributions to its fisheries sector over the last decade. India is the world's third largest fish producer, accounting for 7.96% of global production, and the second largest producer of fish through fish farming after China. In India, the fishery industries sector is also referred to as the "Sunrise Sector." The socioeconomic situation of fishermen in the Mumbai region was not good.

Maharashtra state is a major maritime state in India. It has a 720-kilometer-long coastline that stretches across five maritime districts: Thane, Mumbai and Suburban, Raigad, Ratnagiri, and Sindhudurg.

Mumbai is a metropolitan region with satellite towns in the Konkan division, covering an area of 6,355 square kilometres and a population of over 26 million people. Originally seven islands, they were merged to form one large island in the 18th century. Fishing is an influential traditional occupation in the naturally beautiful city of Mumbai, but the fishing industry is transforming dramatically and facing new challenges.

The Koli Community, Mumbai's original indigenous inhabitants, make up the majority of the fishing community. The Koli Community lives in 'Koliwadās,' or coastal houses, and works in markets close to residential areas. Koli fishermen are not the only ones who work in Mumbai's various fishing areas; there are also migrant fishermen from other Indian states such as Andhra Pradesh, Odisha, Gujarat, and Nepal, India's neighbouring country.

Review of Literature:

(Mukesh P. Bhendarkar et al., TJPRC, et al., 2017) had undertaken a study on "A study on the profile of socio-economic condition of fishermen in a selected village in Kabirdham district, Chhattisgarh state, India." This research was primarily concerned with the objective of this study was to conduct a survey of the socioeconomic conditions of fishermen who rely entirely or partially on fishing activities in two selected reservoirs, namely Saroda and Chhirapani reservoirs in Kabirdham district, Chhattisgarh. The study analyses the state of small-scale fishers, fishing operations, and cooperatives in terms of socioeconomic indicators and success performance in these reservoirs during the 2016–17 fishing season. During the survey, 83 fishermen were interviewed in six different fishing villages, all of whom were cooperative members. Despite

some progress in aquaculture development, the living standards of a state's fishermen community remain low, indicating that there is still a gap between traditional and modern fishing. They conclude that most fishermen are unaware of modern capture fishing techniques and continue to fish with traditional gear and craft. It was discovered that landless fishermen rely primarily on fishing. They are below the poverty line. They are mostly illiterate and live in katcha-style housing.

(Principal Investigator, UGC Major Research Project, Associate Professor of Commerce & Research supervisor, PG and Research Department of Commerce, Kanchi Mamunivar Centre for PG Studies, Puducherry – 605008. et al., 2017) in this major research project, "A study on the socio-economic and cultural profile of fishermen in Puducherry region, India." The study's objective is to investigate the socioeconomic conditions as well as the problems that fishermen face. To investigate the variables using the simple random sampling method, 200 sample respondents were interviewed with a pre-planned schedule of questions. According to the study's findings, 92% of respondents are Hindus, while only 8% are Christians. Fishermen who venture into the sea range in age from 41 to 45 years (43%) and have only a primary level of education. The vast majority of respondents live in government-provided tsunami shelters. The rest of them live in their own homes. Despite their low income, the vast majority of fishermen (86%) use the most recent mobile phones and are used to living with basic necessities such as televisions and other home appliances. The majority of fishermen (62%) are alcoholics. More than 30% of their total income is spent on liquor consumption. This is a source of concern in this community. The critical challenges facing fishermen have been identified as fish selling, price fixing, the marketplace, and investment finance. The fishermen expect the government to provide certain facilities, such as short-term loans, transportation, and the establishment of more fish markets and processing units open for fish marketing.

(Nirmale VH et al 2007) Examined the "Use of indigenous knowledge by coastal fisher folk of Mumbai district in Maharashtra" in an article. The study made an effort to investigate the traditional knowledge held by Mumbai's fishermen. The information was gathered from five fishing villages in the district that were randomly chosen to provide the data. Malwani, Erangalbhati, Khardanda, Sassoon Dock, and Jamshedji Bunder were among these villages. Using semi-structured interviews with fishermen and personal non-participant observation Indigenous knowledge for various aspects of fishery management has been documented. The construction, manufacture, and maintenance of fishing crafts and equipment are done by the fishermen using local materials and techniques. It was discovered that they used local knowledge to find fishing grounds, forecast storms and cyclones, and store and prepare the fish they caught. It was designed and carried out with the explicit goals of documenting coastal fishers' traditional knowledge of various aspects of fishery management and examining the fishers' justifications for using their traditional knowledge. They came to the conclusion that coastal fishing communities have access to a wide range of indigenous technical knowledge. Traditional fishing methods play a crucial role in maintaining marine fisheries and environmental protection, respectively. With the support of contemporary sciences and technology, these can play a significant and complementary role in fishing practises. Therefore, for the development of Indian fisheries, a careful blending of both traditional and modern methods is essential.

(Immanuel Sheela and Srinath Krishna 2000) studied the "Potential Techno-Economic Role of Women in Fisheries". According to the study, women make significant contributions to the fisheries sector. Women play an important role in fisheries in coastal areas, and they are also good navigators in some parts of the world. Modernization has reduced the role of fisher women, but they continue to play an important role in the fishing industry. The authors propose that women be assisted in participating in production activities without interfering with their domestic responsibilities.

Research objective:

- To study on challenges faced by fishermen in Mumbai region Post Covid 19.
- To study the life pattern of fishermen in Mumbai region
- To examine various factors affect the livelihood of fishermen in the Mumbai Region
- To make suggestions to enhance fishermen's livelihoods.

Scope of the Study: This study would be conducted to examine fishermen's perceptions of the government's various schemes in the Mumbai region and their productivity. It would also help us understand the fishermen's problems and expectations from the government.

Research Methodology

Research Design: The research is based on both primary and secondary data. The primary data was collected using a structured questionnaire, and 100 respondents (fishermen's) were carefully selected for this study. The samples were validated and taken for further analysis after being collected using a convenient sampling method. Secondary data is also collected from various database sites, journals, and articles. The data was analysed using parametric and non-parametric statistical methods.

Area of the Study:

The primary sample data are collected at random from various areas in the Mumbai region.

Research Approach:

The questionnaire method of survey is used to collect primary data from Mumbai fishermen. We asked all respondents to complete the questionnaire by explaining the specific aspects covered. It included both open-ended and closed-ended questions in a structured format that is very easy to understand at a glance.

Sample Technique:

A convenient sample (probability sampling method) of 100 fishermen in the Mumbai region was shared with the study, and they were requested to complete the questionnaire on a voluntary basis. The research was carried out from October to December 2022.

Data usage:

The analyses and interpretation are based on randomly collected primary data. However, for the conclusion and recommendations, both primary and secondary data, as well as verbal suggestions and information from respondents, are used. The data collected from these sources was analysed using various tools, such as the percentage analysis method and t-Test: Paired Two Sample for Means.

Hypotheses Testing:

H0 (Null hypothesis) = There is no significant difference in fishing productivity before and after COVID-19.

H1 (Alternate hypothesis) = There is significant difference in fishing productivity before and after COVID-19.

Socio Economic and Demographic Profile of fishermen's in Mumbai region

TABLE: 1 SOCIO ECONOMIC CONDITION OF MUMBAI REGION

SR. NO.	Age (In years)	No. of Respondents	Percentage
1	Less than 25	20	20%
2	25 – 40	30	30%
3	40 -50	25	25%
4	50-60	15	15%
5	Above 60	10	10%
	Total	100	100%
	Educational Level	No. of Respondents	Percentage
1	Illiterate	4	4%
2	Primary Level	35	35%
3	Secondary Level	40	40%
4	Above Secondary	21	21%
	Total	100	100

	Types of Family	No. of Respondents	Percentage
1	Joint Family	20	20%
2	Nuclear Family	80	80%
	Total	100	100%
	Marital Status	No. of Respondents	Percentage
1	Married	60	60%
2	Unmarried	40	40%
	Total	100	100%
	Size of Family	No. of Respondents	Percentage
1	Less than 3	25	25%
2	3-5	60	60%
3	6-8	10	10%
4	Above 8	5	5%
	Total	100	100%
	Annual Income	No. of Respondents	Percentage
1	Up to 3 Lakhs P.A	50	50%
2	Rs. 3 Lakhs to 5 Lakhs P.A.	30	30%
3	Rs 6 Lakhs to 8 Lakhs P.A	15	15%
4	More than 8 Lakhs P.A	05	05%
	Total	100	100%

t-Test: Paired Two Sample For Means

	<i>fishing productivity before COVID 19</i>	<i>fishing productivity after COVID 19</i>
Mean	360.8	234.2
Variance	67501.38776	42886.08163
Observations	100	100
Pearson Correlation	0.510330046	
Hypothesized Mean Difference	0	
Df	99	
t Stat	3.800863517	
P(T<=t) one-tail	0.000199725	
t Critical one-tail	1.676550893	
P(T<=t) two-tail	0.00039945	
t Critical two-tail	2.009575237	

Source: computed From Primary Data.

According to table 1, an examination of the socioeconomic and demographic status of a sample of fishermen in the Mumbai region reveals that the majority (30%) of fishermen are between the ages of 25 and 40. The majority of fishermen's have completed secondary school. The majority of fishermen's (80%) come from nuclear families. The significant proportion of fishermen's (60%) are married. The size of the family is 3-5 for the top 60% of the sample fishermen's, and 50% of the fishermen's annual income is up to 3 lakhs.

The p value for fishing productivity before and after COVID-19 were less than 0.05 therefor our null hypothesis rejected and alternative hypothesis accepted. It may also said that there is significant difference in fishing productivity before and after COVID-19.

Conclusion: It is believed that the productivity of fishing products has been drastically reduced because of numerous challenges face by fishermen, such as a lack of finance, inadequate government facilities, and insufficient weather conditions. Profitability has also been reduced. Fishermen's lifestyles in the Mumbai region have also deteriorated. The government should take appropriate steps to increase fishing productivity in the Mumbai region.

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