

Exploring the Hardships of Retail Fish Vendors in Ernakulam District, Kerala State

Dr. P. Sekar¹, Reshma Venugopalan²

¹Associate Professor & Head, Department of Commerce, Sree Narayana Guru College, Coimbatore- 641 105, Tamil Nadu.

²Ph.D Research Scholar, Department of Commerce, Sree Narayana Guru College, Coimbatore- 641 105, Tamil Nadu.

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ABSTRACT

This research paper will deal with examining the problems and threats faced by fish market vendors in Ernakulam district, Kerala. The main aim of the study is to find out the key financial, operational, and environmental challenges of fish vendors, discuss the main problems of operations like price fluctuation and seasonal changes, and measure the degree of satisfaction with the income, working conditions, and market facilities. The primary data on which the study will be based is the survey of 75 respondents who will be given a structured questionnaire. The data were analysed using different statistical methods which included percentage analysis, weighted average ranking, correlation analysis as well as factor analysis. The findings of factor analysis indicated that three key dimensions of the challenges, i.e. financial risks, operational problems, and environmental factors, can be responsible of the substantial portion of the total variance. Diverging all these, financial risks became the most decisive aspect upon the vendors. It was found that the most important issues that affect the operation of the vendors are price variations, seasonal factors, and buying pressure in bulk. It is also found that income levels, working conditions and market facility availability have a significant effect on vendor satisfaction. Depending on the results, the research recommends that the livelihood and general satisfaction of fish market vendors should be improved through financial assistance, better infrastructure, and proper policy interventions. All in all, the research is an important contribution to understanding the challenges of fish vendors and can be a viable solution to their better economic conditions and terms of work.

Keywords: Fish Vendors, Risks and Challenges, Vendor Satisfaction, Market Facilities, Price fluctuations

INTRODUCTION

The fish selling industry is a component of the informal economy, particularly in areas that have the sea as a primary source of income. Fish market vendors are very important in the context of making sure that fresh fish is distributed efficiently to end consumers after landing centers in Ernakulam district of Kerala. They play a position of connecting fishermen and the customers hence playing a huge role of supplying the local supply chain, creation of employment and food security. The industry does not only contribute to the livelihood of thousands of families, but also has a major contribution to the daily nutritional requirements of the people. The fish market vendors are subjected to demanding and uncertain conditions in spite of their relevance. Financial instability is considered to be one of the greatest concerns among the vendors and this is mainly because prices keep varying in the fish market very frequently. The cost is usually determined by demand, supply, and the availability of catches and therefore vendors cannot determine the income and keep the level as they could not predict their earnings. Moreover, the needs of bulk purchases force the vendors to use a large sum of capital on daily basis and this predisposes them to more financial risks more so when sales are low or unsold stock generates losses. This problem is also aggravated by the fact that fish is perishable which increases the instances of waste and decreases the profit margin. A factor that also impacts performance of fish vendors are

operational challenges. Stock turnover is crucial in such business but is not usually easy because of the uncertainty of the customer demand and supply that changes with time.

Besides, the high rivalry between sellers in the densely populated marketplaces makes the profitability of a single vendor lower, and potential growth is restricted. The absence of appropriate business management practice and access to the contemporary selling method also make it more difficult to enhance their efficiency and profitability. Another complexity of the fish vending business is the environmental factors. The changes in seasons significantly affect the availability of fish because fishing will be determined by the weather conditions and the fishing restrictions that the government may issue at specific seasons. Heavy rains, storms, and excessive heat weather might interfere with market activities, lower the number of customers, and it will influence the quality of fish. These are external forces that are not controlled by vendors, but they directly affect their revenues and business survival. Besides financial and operational problems, fish vendors usually operate in unfavorable market conditions having poor infrastructure. Some of the markets do not have the basic amenities like drainage systems, toilet amenities, clean water, and cold storage facilities. All these inadequacies not only influence quality and preservation of fish but also provide poor working conditions. Consequently, the job satisfaction among the vendors is poor and this might affect their overall productivity and well being. In light of these problems, it is necessary to conduct a systematic study and analysis of the multiple risks and problems of fish market sellers. The knowledge of these issues will assist in the recognition of main areas that should be intervened and supported. Thus, the given research is devoted to the examination of the key problems and threats faced by fish market sellers in the Ernakulam district. It also focuses on the major operational problems like price variations, seasonal variations, and the competition and evaluates the satisfaction of the vendors in terms of revenue, working conditions, and market amenities. This research is likely to contribute to a valuable input to the policymakers, the local authorities and stakeholders to formulate effective strategies and support systems. Covering these challenges, one can enhance the economic well-being, working conditions, and general quality of life of fish market vendors, thus, guaranteeing the sustainable development of the significant sector.

STATEMENT OF THE PROBLEM

Vendors of fish markets in Kerala in Ernakulam district are very important in the distribution of fresh fish and the local economy. These vendors have to cope with many challenges and threats that can obstruct their livelihood and sustainability in business despite their contribution. The fish selling business is very unpredictable, as it depends on the changes in price, seasonality, and unpredictable supply, and this have a direct influence on the income and profitability of the fish vendors. Financial instability is one of the biggest issues of fish vendors. Investment in bulk purchasing, which is done daily with such a fluctuating market price and perishability of fish, usually causes a lack of income and financial losses. Moreover, they have operational problems that diminish their earning capabilities which include difficulty in stock turnover, intense competition among the vendors and the degree of waste with low margins. These issues render vendors unable to live a stable and sustainable business. Ambient conditions are another cause of the problems that fish vendors go through. The availability of fish is influenced by seasonal fluctuations, fishing bans, and bad weather and interferes with normal business activities. Thus, this paper will examine the most significant issues and threats fish market sellers face and determine the most influential factors on the activity and level of satisfaction. These issues should be understood so that effective measures and policies can be made to enhance the livelihood and working conditions of the fish market vendors.

REVIEW OF LITERATURE

The research studies that have been conducted in the recent past have clearly illustrated the problems and dangers that the fish market vendors, in various parts of the world, are also exposed to. According to Singh et al. (2024), climate change, overfishing, and changing demand significantly influence fish vendors as they cause unstable incomes and a rise in uncertainty. Walton and Hladki (2024) also noted that the lack of order in the food supply chains in the seafood industry such as unauthorized fishing and a lack of traceability produce price volatility and low market confidence among vendors. Mercado and Herrera (2024) pointed out that the sustainability problems and exhaustion of resources affect the small-scale traders directly, which makes the

consistency of supply and profitability of the vendors hard. At the operational level, Dela Cruz and Torres (2023) noted that fish vendors have to encounter daily risks like fluctuation of prices, high competition, and limited access to financing opportunities, which negatively affect their business development. Rahman et al. (2022) discovered that poor infrastructure (no cold storage, and sanitation facilities) results in high rates of spoilage and loss of money among vendors. As Adeyemi and Oladipo (2021) indicated, restricted access to credit and reliance on intermediaries compares to low bargaining power and profit margins of vendors. There is general indication in all these studies that operational inefficiencies and financial limitations are some of the leading risks in fish vending operations. Socio-economically, Kumari and Singh (2022) pointed to the fact that females who sell fish are limited in the resources and decision-making space by gender inequality and social constraints. Bene et al. (2021) observed that small-scale fish vendors tend to be in informal spaces with little institutional back-up, which exposes them to economic shocks. Islam and Choudhury (2020) stressed that the fact that vendors lack education and business skills further restricts their capability to change in line with changing market conditions.

These results indicate that social and institutional determinants are critical in the development of risks experienced by vendors. The risk associated with supply chains is also commonly presented in the literature. The study conducted by Ahmed et al. (2023) revealed that time loss in transportation, unstable supply, and ineffective logistics management are serious obstacles to the quality of products and trade of fish vendors in the country and the demand of customers. Tlusty et al. (2020) emphasized that the local fish markets are affected by global supply chain disruptions and sustainability issues and, consequently, affect the work of vendors. Similarly, Das et al. (2022) found that the reliance on intermediaries makes it more vulnerable and decreases income stability among fish vendors. Another beneficial dimension is the one that researchers refer to as health and occupational risks. Nair and Joseph (2023) found that fish sellers are subjected to strenuous work, extended working hours, and medical risks as well as fatigue and infections. As stated by Paul et al. (2021), the adverse effects of working in a poor environment and the absence of protective measures have a negative impact on the well-being and productivity of vendors. Sharma and Gupta (2022) discovered that occupational risks are further raised due to the exposure to extreme weather and the lack of proper facilities in the market. The analyzed studies, in general, show that fish market sellers have to grapple with an array of economic, operational, social, and health-related issues. These risks have been found to be interconnected and show that a combination of interventions is necessary to enhance the livelihoods and sustainability of fish vendors as reported by Singh et al. (2024), Rahman et al. (2022), Ahmed et al. (2023), and other research.

SCOPE OF THE STUDY

The current research paper is aimed at examining the issues and dangers that fish market sellers in Ernakulam district of Kerala face. The study is also limited in its scope as it only understands the financial, operational, and environmental problems that influence the daily operations of fish sellers. It discusses major events like variations in price, season, stock turnover, competition as well as weather condition which impact on their business operations. The measurement of the satisfaction of the vendors towards the earnings, working environment and access to the market facilities are also discussed in the study. It will seek to determine the effects by these factors on the general livelihood and stability of fish vendors. The information on the research is obtained through a chosen group of vendors, and the conclusions are made on the basis of their answers and experience. The study is however limited to the fish market sellers in Ernakulam district only and might not be extended to other areas. It lacks the views of fishermen, wholesalers or the consumers. Nevertheless, these shortcomings do not rule out the value of the study that can aid in understanding issues that fish vendors have to deal with and propose solutions of how their working conditions and economic welfare can be improved.

NEED FOR THE STUDY

The fish vending industry is one of the most significant in the local economy, but the issues that fish market sellers have to deal with usually end up being unstructured and underexplored. Vendors face several issues like fluctuation of prices, seasons changes, financial uncertainties, and unfavourable working environment and this directly impacts their livelihood and income. It is critical to understand each of them to discover the most critical factors that impair their business performance and well-being. The trend is to analytically examine the

financial, operations and environmental risks associated with fish vendors in order to offer appropriate solutions. Majority of the vendors work in unofficial settings with little access to financial aid, good infrastructure and up to date amenities. It is, therefore, significant to investigate their issues and determine their satisfaction levels with income, working conditions and facilities in the market. The research is required to offer a helpful information to the policymakers and the local authorities to take action to improve the environment of the fish market. It is also useful in proposing feasible solutions to improve the productivity of the vendors, risk minimization, and stability in income. Hence, the research is critical towards facilitating sustainable growth and well being of fish market sellers in Ernakulam district.

SIGNIFICANCE OF THE STUDY

The current paper is relevant because it contributes to the comprehension of the considerable problems and threats fish market sellers address in their everyday business activities. It gives good information about financial, operation, and environmental matters that impacts their livelihood and stability of the business. The study findings can be applied by policymakers in formulating effective support programs and welfare initiatives in order to enhance the economic status of vendors. The study will be able to help the local authorities to improve the infrastructure in the market and the working conditions by having major issues of the working environment like sanitation, storage, and basic facilities. It also allows vendors to determine their key challenges and engage in more efficient approaches to increase profitability and efficiency. Moreover, the research has a value in the academic literature devoted to informal sector workers and provides a premise in the future studies of the field. On the whole, the study contributes to formulating feasible action plans to enhance the satisfaction of the vendors, the stability of revenues, and the persistence of the fish vending industry.

OBJECTIVES OF THE STUDY

1. To identify and analyse the major challenges and risks faced by retail fish market vendors in Ernakulam district.
2. To examine the issues affecting the operations of fish vendors, such as price fluctuations, seasonal changes, and competition.
3. To assess the level of satisfaction of fish market vendors regarding income, working conditions, and market facilities.

RESEARCH METHODOLOGY

Research methodology is a systematic process that is taken to undertake the research and realize the objectives of the research. It contains the research design, methods of data collection, sampling techniques, and data analysis tools.

Research Design

The study takes the descriptive research design because it tries to describe and analyse the problems and risk involved in the fish markets vendors in Ernakulam district. Such design assists in being aware of the existing situations, issues and the level of satisfaction amongst the vendors.

Sources of Data

The article is grounded on primary and secondary information:

Primary Data: This is obtained by directly going to fish market vendors using a questionnaire.

Secondary Data: The secondary information was gathered in the form of books, journals, articles, reports, and websites on the topic of fish marketing and the informal sector research.

Sampling Technique: Respondents will be selected through a convenience sampling technique because fish market vendors are easily accessible in the study region.

Sample Size: The researchers work with 75 fish market sellers in the Ernakulam district.

Data Collection Method

A structured questionnaire is used to gather data; this questionnaire consists of questions associated with financial risks, operational aspect, environmental aspect, and level of satisfaction of vendors.

Tools for Analysis

The data obtained is discussed through the following statistical tools:

1. **Weighted Average Ranking:** This is employed to rank the most important issues of the fish vendors.
2. **Factor Analysis:** This is an approach that will be used to determine the key dimensions of issues and threats to vendors.
3. **Correlation Analysis:** This is used to check on the relationship existing between the variables of satisfaction including income, working conditions and market facilities.

DATA ANALYSIS AND INTERPRETATION

(a) To identify and analyse the major challenges and risks faced by fish market vendors in Ernakulam district.

Table no: 1 KMO and Bartlett’s Test for Factor Analysis of Challenges and Risks Faced by Fish Market Vendors

Test	Value
KMO Measure	0.742
Bartlett’s Test Sig.	0.000

The KMO and the Test of Bartlett is employed to determine the suitability of the data to be utilized in the factor analysis. The value obtained in the KMO is 0.742 and this implies that the sample data is sufficient and suitable to be used in factor analysis. Typically a KMO value of above 0.7 is good. The value of Bartlett’s Test is 0.000 that is less than 0.05 and it shows that there is a significant relationship among the variables. Thus, the research variables can be analyzed by the factor analysis to determine the greatest challenges and risks of fish market vendors in the Ernakulam district.

Table no: 1 (a) Total Variance Explained of Factors Affecting Fish Market Vendors

Factor	Eigenvalue	% of Variance
Financial Risks	3.12	39.0%
Operational Issues	1.84	23.0%
Environmental Factors	1.21	15.1%
Total	—	77.1%

The table indicates the proportion of variance of each of the factors that were found in the factor analysis. The study brought out three significant factors. The Financial Risks factor has an eigenvalue of 3.12 and 39.0 percent of the total variance, which is why it is the most significant factor influencing fish market vendors. The second factor, Operational Issues, has got an eigenvalue of 1.84 and is accounting 23.0 percent of the variance.

The third one is Environmental Factors with an eigenvalue of 1.21 and a variance of 15.1. Overall, these three factors account for 77.1% of the total variance, which implies that they are the significant challenges and threats of fish market vendors in the study area.

Table no: 1 (b) : Rotated Component Matrix Showing Factors Influencing Challenges and Risks of Fish Market Vendors

Variables	Financial Risks	Operational Issues	Environmental Factors
Bulk Purchase	0.812	—	—
Price Fluctuation	0.785	—	—
No Proper Income	0.798	—	—
Stock Turnover	—	0.731	—
High Competition	—	0.764	—
High Waste, Low Margin	—	0.802	—
Seasonal Change	—	—	0.844
Weather Conditions	—	—	0.821

The rotated component matrix depicts the grouping of standards of each variable under the various factors. The financial risks factor is strongly related to such variables as Bulk Purchase (0.812), Price Fluctuation (0.785), and No Proper Income (0.798). Variables under Operational Issues are the Stock Turnover (0.731), High Competition (0.764) and High Waste with Low Margin (0.802). Environmental Factors are connected with the variables Seasonal Change (0.844) and Weather Conditions (0.821). This finding means that the primary types of challenges and risks encountered by fish market vendors in Ernakulam district are financial, operational and environmental.

(b) To examine the key issues affecting the operations of fish vendors, such as price fluctuations, seasonal changes, and competition.

Table no: 2 Weighted Average Ranking of Key Issues Affecting the Operations of Fish Vendors

S.No	Statement	SA (5)	A (4)	N (3)	DA (2)	SDA (1)	Total Score	Weighted Average	Rank
1	Bulk purchase creates financial pressure	25	30	10	6	4	291	3.88	3
2	Stock turnover is difficult	20	28	12	10	5	273	3.64	5
3	Seasonal changes affect occupation	28	30	8	5	4	298	3.97	2
4	Price fluctuations create uncertainty	30	32	6	4	3	307	4.09	1
5	Weather conditions impact business	24	29	9	8	5	284	3.79	4
6	No proper income	18	27	14	10	6	266	3.55	6
7	High competition	16	25	15	12	7	256	3.41	7
8	High waste, low margin	14	22	16	13	10	242	3.23	8

The ranking of key issues that influence the operations of fish vendors as shown in the table above was calculated according to weighted average scores. Price fluctuation is the first most weighted with the highest weighted average score of 4.09 indicating that it is the most serious problem experienced by the vendors. This is then accompanied by seasonal changes (3.97), bulk purchase pressure (3.88), which has demonstrated that they are affected a lot by both financial and seasonal factors. The average concerns in relation to the daily business activities are weather conditions (3.79) and stock turnover (3.64). Issues of less importance are no proper income (3.55), high competition (3.41), and high waste with low margin (3.23), which show rather less but still significant problems. All in all, the findings point to the fact that the biggest operation issues of fish vendors are related to economic instability and environmental issues.

(c) To assess the level of satisfaction of fish market vendors regarding income, working conditions, and market facilities.

Table no: 3 Correlation Analysis of Vendor Satisfaction with Income, Working Conditions, and Market Facilities

Null Hypothesis (H₀): There is no significant relationship between income, working conditions, and market facilities in determining the satisfaction level of fish market vendors.

Correlations		Satisfaction with Income Earned	Satisfaction with Working Conditions	Satisfaction with Market Facilities	Satisfaction with Overall Business Stability
Satisfaction with Income Earned	Pearson Correlation	1	.983**	.978**	.878**
	Sig. (2-tailed)		.000	.000	.000
	N	75	75	75	75
Satisfaction with Working Conditions	Pearson Correlation	.983**	1	.963**	.880**
	Sig. (2-tailed)	.000		.000	.000
	N	75	75	75	75
Satisfaction with Market Facilities	Pearson Correlation	.978**	.963**	1	.862**
	Sig. (2-tailed)	.000	.000		.000
	N	75	75	75	75
Satisfaction with Overall Business Stability	Pearson Correlation	.878**	.880**	.862**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	75	75	75	75

** . Correlation is significant at the 0.01 level (2-tailed).

The relationship between income, working conditions, and market facilities and overall satisfaction of fish market vendors is evaluated via the correlation analysis. When the p-value (significance value) is below 0.05, the null hypothesis is rejected and this means that there is no significant relationship among the variables. This means that income level, quality of working conditions, and availability of market facilities are other factors that have a significant role to play in determining the level of satisfaction among the vendors. The fact that all of them are positively correlated implies that better results in them are associated with an increase in the level of satisfaction among the vendors. That is why the stability of income, working conditions and the improvement of the market infrastructure may contribute greatly to the overall satisfaction of the fish market sellers.

FINDINGS

- The KMO value of 0.742 shows that the sample is sufficient to use in the factor analysis and the data is valid. Test significance value (0.000) by Bartlett supports the idea that the relationship between the variables is strong, therefore they are appropriate to proceed with the analysis.
- All three factors obtained provide the overall picture of the data, as they explain 77.1 percentage of the total variance. The contributions of financial risks are the greatest and it is the greatest challenge that vendors experience.
- High factor loadings are used to group the variables into financial, operational, and environmental variables. This indicates that the problems that vendors experience are highly classified into these three major areas.
- The most significant problem that has the highest ranking is price fluctuation then seasonal changes, and bulk purchase pressure. The low margin and competition waste are ranked lowest and, hence, have a relatively less impact.
- The correlation between income, working conditions, and market facilities and vendor satisfaction is high. This shows that when these aspects are improved then there would be an increase in satisfaction levels in fish market vendors.

SUGGESTIONS

- The government should implement price control measures or cushions to mitigate the effects of unpredictable price changes on the revenues of the vendors. Vendors can be assisted by having easy access to microfinance, loans at low interest and subsidies to allow bulk purchasing and ease the financial strain.
- The working conditions should be improved by improving basic facilities like good storage, drainage, sanitation and clean water. Affordable cold storage will assist in spoilage minimization, waste minimization as well as increasing the profit margins.
- The vendors are to be trained on stock management, reduction of waste, and new methods of selling goods to enhance efficiency. The state and local officials are expected to continuously check the problem of vendors and adopt the policy to raise their quality of living and their happiness rates.
- The spaces covered with market and protective infrastructure ought to be established to minimize the effects of unfavourable weather conditions. The local governments may establish vendor areas or licensing programs to have a fair competition and prevent overpopulation of markets.
- Some support programs such as minimum income assurance or cooperative selling models can be used to assist vendors to have a more stable income. A bargaining power of the vendors can be encouraged to create cooperatives, and access to resources can be enhanced.

CONCLUSION

The current research on the issues and threats the fish market vendors go through in Ernakulam district presents that there are numerous challenges that confront the vendors and this influences both livelihood and their business activities. The review has indicated that financial risks, especially fluctuations in prices and unreliable income are the biggest issues affecting their stability. Stock turnover, competition, high waste with low margin, and other operational problems put them under a significant pressure on their daily operations as well. The three big dimensions of challenges which were identified in the factor analysis include financial, operational and environmental factors and which summarize a significant part of the problems encountered by the vendors. Financial risks proved to be the most overwhelming among them, which implies that the measures of financial stability and support are necessary.

The seasonal changes and weather conditions are also the environmental factors that are significant in influencing the nature of the fish vending business. The ranking analysis also indicates that vendor issues are higher in price variations, seasonal changes, and pressures of buying in bulk rather than competition and waste management, though they are also significant factors. Moreover, the research confirms that income levels, working conditions and market facility availability have a strong impact on the level of satisfaction of vendors. On the whole, it can be concluded in the study that the livelihood and satisfaction of fish market vendors are necessary by enhancing financial stability, market infrastructure, and better support. Such challenges can be addressed through proper policies and interventions so as to achieve sustainable development of the fish vending industry and better economic livelihood of the fish vendors within the study region.

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