

OPEN ACCESS

Manuscript ID:  
ECO-2020-08043285

Volume: 8

Issue: 4

Month: September

Year: 2020

P-ISSN: 2319-961X

E-ISSN: 2582-0192

Received: 23.06.2020

Accepted: 05.08.2020

Published: 01.09.2020

Citation:

Thrishma, SP, and  
G. Veerakumaran. "A  
Study on Financial  
Performance of Kerala State  
Co-Operative Federation  
for Fisheries Development  
Limited (MATSYAFED)."

*Shanlax International  
Journal of Economics*,  
vol. 8, no. 4, 2020,  
pp. 59-67.

DOI:

[https://doi.org/10.34293/  
economics.v8i4.3285](https://doi.org/10.34293/economics.v8i4.3285)



This work is licensed  
under a Creative Commons  
Attribution-ShareAlike 4.0  
International License

# A Study on Financial Performance of Kerala State Co-operative Federation for Fisheries Development Limited (MATSYAFED)

**S.P. Thrishma**

*College of Co-operation, Banking and Management  
Kerala Agricultural University, Thrissur, Kerala, India*

 <https://orcid.org/0000-0001-9221-6594>

**G. Veerakumaran**

*Professor and Head, Department of Co-operative Management  
College of Co-operation, Banking and Management  
Kerala Agricultural University, Thrissur, Kerala, India*

## Abstract

*Fishing is a traditional activity in Kerala because from time immemorial fishermen community involved in both marine and inland fishing for their livelihood. To develop the fishermen community and to solve their socio-economic problems, fisheries co-operatives were established. MATSYAFED is acting as the apex level institution for all the primary level fishermen co-operatives in Kerala. A humble attempt was made to conduct a study on "Financial Performance Evaluation of Kerala State Co-operative Federation for Fisheries Development Limited (MATSYAFED)" to evaluate its financial performance. The tools used for the analysis of the data were ratio analysis and compound annual growth rate (CAGR). From the financial performance analysis, it is evident that they have a strong short-term liquidity position and have a good inventory turnover ratio. The debt-equity ratio is higher than the rule of thumb (1:1). i.e., debt is higher than equity. The ratio analysis reveals that the MATSYAFED is efficiently managing its funds to various schemes and programs for the development of the fishermen community. As a whole, compared with many other apex cooperative federations, MATSYAFED is performing better, thanks to the management team.*

**Keywords:** Fishermen, Apex cooperative, MATSYAFED, Sources of funds and Ratio analysis

## Introduction

India is a developing country having diversified natural resources. However, it is facing several developmental issues. Underutilization and misutilization of natural resources are the major factors that cause many developmental issues in India. So, it is relevant to consider the efficient utilization of natural resources, which helps to attain development up to a certain extent. Here arises the significance of fisheries resources in the Indian economy. India is a significant fish producing state in the world having an 8118 km long coastline, stands 2nd in the world's aquaculture production, and 3rd in the world's fisheries production. The total fish production in India is estimated at 12.59 million metric tonnes, both inland and marine sectors (NFDB, 2018). Kerala is having 590 km of coastline and 236300 active fishermen. It stands among the top five positions of fish producing states in India. Fishing is a traditional activity in Kerala because from time immemorial fishermen community involved in both marine and inland fishing for their livelihood. To develop the fishermen community and to solve their socio-economic problems, fisheries co-operatives were established.

MATSYAFED is acting as the apex level institution for all the primal level fishermen co-operatives in Kerala.

### Statement of Problem

Kerala is the 12th largest economy, which contributes to 28% of the total fish production in India. It is renowned for its development model with rapid progress in socio-economic conditions. However, the socio-economic conditions of the fishermen community of the state are still in a deplorable state. Fisheries Co-operatives in Kerala made considerable improvements in the life of fishers by providing credit facilities, required inputs and equipment, as well as marketing facilities. MATSYAFED is the apex federation of primary level fishers' welfare co-operative societies with the objective of ensuring the socio-economic development of the fishermen community through various schemes and policies. Evaluation of overall performance and working of MATSYAFED helps to understand the extent to which the co-operatives are involved in the betterment of the fishermen community in Kerala. Financial performance evaluation gives the current and past financial position of MATSYAFED. The assessment of factors leading to the efficiency and weakness paves the way for improvement. Hence, a humble attempt was made to conduct "A Study on Financial Performance of Kerala State Co-operative Federation for Fisheries Development Limited (MATSYAFED)."

### Objective and Methodology

The objective of the study is to evaluate the financial performance of MATSYAFED. Secondary data were used for the study. It was sourced from the annual reports of MATSYAFED, journals, research papers, and websites. The study was restricted to the MATSYAFED head office only. The data collection was carried out during January 2020. The study was conducted for ten years, from 2009-10 to 2018-19. The tools used for the analysis of the data were ratio analysis and compound annual growth rate (CAGR).

### Review of Literature

Some pertinent review of the literature was made to understand the nature of studies carried out in this domain.

Mathews (2018) in her study entitled "Impact of Fisheries Co-operative Societies on the Livelihood Activities of Marine Fisher folk-A Study with Special Reference to Port Fishing Village in Kollam District, Kerala" discussed the impact of welfare schemes under Matsyafed and Government of Kerala in the upliftment of marine fish folk with special reference to the port fishing village in Kollam district. The main objectives of the study were to assess the awareness of fishers regarding the schemes implemented by the Government and to evaluate the impact of various schemes to improve the socio-economic condition of marine fishers. Both the primary and secondary data were used for the study. Primary data was collected using an interview schedules, and secondary data includes journals, articles, magazines, and information from websites. The findings of the study revealed that though the fishermen are not well educated, they are aware of the schemes of the Government. Matsyafed is playing a major role in empowering the fishermen community by providing financial assistance, subsidized kerosene, engine oil, diesel, gas, etc., and facilities for beach level auction. The study found that fishers are efficiently utilizing the various services of fisheries co-operatives and improving their livelihood pattern.

Ambilikumar (2017), in his study on "Performance of primary level fishermen development and welfare cooperative societies in Kerala," attempted to examine whether the members of FDWCS are availing the various benefits offered by MATSYAFED. The study was conducted with the objectives to know the extent of participation of members in fisheries cooperatives, to understand the reason for participation and non-participation and to know about the various schemes offered by FDWCS to their members. The collection of data was from the 240 members of 24 FDWCS in Thiruvananthapuram and Kollam districts using interview schedules. The major finding of the study was that the FDWCS couldn't ensure a reasonable price for the catch. It was noted that nobody is availing education loan and a few got loan for house construction. About 54.17% of the societies were not offering any microfinance facilities to their members. Most of the female members are unaware of the schemes offered by FDCWS compared to men. Only 34%

of respondents in Thiruvananthapuram district and 55% from Kollam district have participated in beach level auctions. This creates a contradiction between the objective of fisheries co-operatives and the actual level of participation of fishers. The study concludes that the fishermen have joined the co-operatives with a lot of expectations. Still, the real fact is that all their expectations are not satisfactorily fulfilled by the fisheries co-operatives.

Arundhekar (2017), in his research paper entitled "Functioning of fisheries co-operative societies: A special reference to Uttara Kannada District, Karnataka State," attempted to study the role of fisheries co-operatives in molding the lifestyle of fishermen community in Uttara Kannada district. The collection of data was carried out by interviewing 150 members of different co-operatives selected using a simple random sampling technique. The findings of the study revealed that the majority of the respondents were using financial assistance for the purchase of net and other instruments; societies provide updated market information to the people and help them to market the excess catch.

Jeyanthi et al. (2017) have conducted a study on "Fishers' perception of co-operative services and willingness-to-pay (WTP) for improved fish marketing services at Namakkal, Ernakulum" with 75 respondents. Binary logistic regression analysis was the tool used for the study. The study found that 94% of the respondents strongly agreed that they could earn profit by selling fish through co-operatives; 80% of the respondent thought that co-operative is the best credit source for fishers w, which helps to improve their standard of living. Moreover, 50 % of the respondents have expressed that the co-operatives have no role in fisheries resources management. The members with more years of experience in selling fish through auctioning tend to show more WTP for better services. The study concludes that the active participation of members in co-operatives is the important factor which determines the willingness to pay for better marketing facilities by the fishermen.

Halder and Saha (2015), in their study entitled "An Insight into the Performance of Fishermen Co-operative Societies in Tripura," attempts to study the performance of fishermen co-operatives and its role in developing the socio-economic condition of the

backward section people in a rural area of Tripura. Based on the primary and secondary data collected from the fishery department and Government of Tripura, the study found that the number of active fishermen co-operatives in Tripura is decreasing over the years. However, the study concludes that the co-operative movement in Tripura had made a great change in the lifestyle of fishers by providing employment opportunities and eliminating poverty. This study shows how the rural fishermen in Tripura are actively participating in the fisheries co-operatives and thereby increasing the fish production.

Tyagi et al. (2014), in their research paper entitled "Performance of fishing co-operative societies in implementing fish conservation measures," carried out the study at Hirakud and Surada in Orissa. Three hundred members from selected primary fisheries co-operative societies were interviewed for the collection of data. The data were analyzed with the help of a conservation performance index. The study concludes that the performance of fishing co-operative society at the Surada reservoir is higher in implementing fish conservation measures compared to the Hirakud reservoir.

Tyagi et al. (2013), in their research paper "Functioning of fishing cooperative societies in selected states of India," studied the internal functions of the 58 fishing cooperative societies in Himachal Pradesh, Madhya Pradesh, and Uttar Pradesh. A total of 580 members of fish cooperatives were interviewed, and the results were obtained through the sum of perceived opinion and experience of fisher folk members through 6 dimensions, namely: communication, leadership, decision making, trust, participation, performance. And the finding was that the overall functioning of the fish cooperatives was high in Himachal Pradesh and Madhya Pradesh, and it was low in Uttar Pradesh. The study concludes that the fishermen community in Himachal Pradesh and Madhya Pradesh were well organized and highly participative in fisheries management. However, there were no such efforts can be seen in Uttar Pradesh.

Nair et al. (2012), on their research paper "Performance of fisheries cooperatives in India- an evaluation of primary societies in thane district of Maharashtra" carried out the study to evaluate the

performance of co-operatives in the marine sector and to rank them based on their performance. Out of 51 co-operatives working in Thane district, 28 societies were selected for the study. They collected data using a structured interview schedule, and tools like scoring, ranking, normalization were used for the analysis of the data. Based on the study findings, Arnala Fishermens' SarvodayaSahakari Society Ltd. ranked top in their overall performance, followed by Dhakthi Dahanu Machimar Vividh Karyakari Sahakari Society Ltd. The study concludes that all fisheries co-operatives in Thane district have contributed significantly for the empowerment of the fisher folk in that place.

The review of the literature concludes that a few studies were focusing on the performance of fishermen co-operatives. However, the specific studies on fisheries co-operatives in Kerala were few. Moreover, only very limited studies were carried about the financial performance of Kerala state co-operative federation for fisheries development ltd. (MATSYAFED) which is an apex organization for all the primary fishermen welfare co-operative societies in Kerala. Therefore, the present study was an attempt to cover the research gap.

### **Profile of the Institution**

MATSYAFED, the Kerala State Co-operative Federation for Fisheries Development Ltd., was registered on 19th March 1984 under the Kerala Fishermen Societies Act, 1980 with the objective of ensuring the economic and social development of the fishermen community by implementing various schemes aimed at promoting the production, procurement, processing, and marketing of fish and fish products. The area of operation of MATSYAFED is the entire state of Kerala. It operates throughout Kerala with the help of 10 district offices. Eight departments are working under MATSYAFED for various activities. The general body is the supreme authority of MATSYAFED. The main function of the general body includes impeachment of board members except for managing director and nominated members, to decide about the future schemes, to approve the annual reports and financial statements, distribution of dividend, bylaw amendment, approval of the annual budget, approval

of audit and inspection certificate, to decide upon other powers not vested with board of directors or managing director, to advise the board of directors about matters relating to economic empowerment of the fishermen community. The maximum member of the board of directors is restricted to twenty-one. Board of directors contains 14 representatives from 'A' class member societies of which, one member from SC /ST and 3 are women representatives. One chairperson is elected from the board of directors. Ex-officio Board of directors is secretary (Fisheries department), fisheries director, National Co-operative Development Corporation representatives, state financial secretary, managing director of National Backward Classes Finance & Development Corporation and managing director of National Minorities Development & Finance Corporation. The tenure of the board of directors is five years. Chairman will have authority over the common matters of the federation. He will be the chairperson of the general body and board of directors. In his absence, another member may be allowed to be in his position, provided that all the members agree. The membership of MATSYAFED remains the same for the past ten years (from 2009-10 to 2018-19), i.e.652.

The main functions of MATSYAFED are the provision of financial assistance to all works, including production, investment, marketing, and welfare activities. It helps to provide necessary fishing equipment and other materials for the fishing industry, buy fish and fish products, market the fish and fish products that the member produces, training to members of the MATSYAFED affiliated societies on various aspects of fishing and its processing. They undertake preparation and implementation of economic development plans to provide employment opportunities for fishers and MATSYAFED affiliated member societies, promotion of fish products, processed fish, or for such goods its exports, imports, and inter-state transactions for MATSYAFED or affiliated member societies or the Government. It facilitates the study on socio-economic analysis of the economic status of fishers in selected areas and finds ways to improve their economy. It helps to conduct a market analysis study for the marketing of fish and fish products and regulated marketing

in fishing villages. It also acts as an agent to the Government or any other public company registered under any other law with the prior approval of the registrar. They have ten commercial and aquaculture units spread over different places of Kerala which includes MATSYAFED net factory, ice & freezing plant, Out Board Motor (OBM) division, Fish manure plants, Chitin chitosan plant, Hatcheries, Fish farms, Public aquarium, Community peeling center, and Common pre-processing center. They are producing varieties of products like a fishnet, chiton capsules, nutritfish, pickles, etc. through these units.

**Concept of Financial Performance Analysis**

Financial performance analysis is a systematic way of re-examining and assessing the various factors involved in the performance of an organization during a particular period and helps the management to do proper planning for the future. It reveals the financial strength and weakness of any business firm. Through financial performance analysis, we are evaluating the liquidity, profitability, efficiency, etc. of a business firm. Ratio analysis is the tool used for the evaluation of the financial performance of MATSYAFED. By analyzing the variables shown in the financial statement itself cannot generate a meaningful financial position of a firm. When it is related to some other variable, then it becomes meaningful, i.e., the financial ratio is the relationship between two or more accounting variables that are mathematically expressed. Liquidity ratio, Activity ratio, Profitability ratio, and Leverage ratio are used for ratio analysis. A liquidity ratio measures the short term liquidity position of a business firm. The current ratio and quick ratio are the ratios used to measure the liquidity position of a firm. The activity ratio

indicates the velocity with which the firm converts its assets into sales. It reflects how efficiently a firm is utilizing and managing its assets. Inventory turnover ratio, fixed asset turnover ratio, the working capital turnover ratio measures the activity ratio of MATSYAFED.

The profitability ratio reveals the overall efficiency of the management and profitability of the business concern. According to Lord Keynes, “profit is the engine that drives the business enterprise.” MATSYAFED being a co-operative organization, its prime objective is to provide welfare measures to its members. However, a business enterprise needs profit to withstand for a long run. By earning profit, MATSYAFED can implement new schemes and policies for the development of the fishermen community. Gross profit ratio and net profit ratio are the ratios used to measure the profitability of the business. Leverage ratio measures the long term liquidity position of a business firm. Here debt-equity ratio measures the proportionate claims of owners and the outsiders against the firm’s assets.

**Performance Evaluation of MATSYAFED**

Financial Performance evaluation of MATSYAFED was carried out by considering the following variables: Sources of funds, Current ratio, Quick ratio, Inventory turnover ratio, fixed asset turnover ratio, working capital turnover ratio, Gross profit ratio, Net profit ratio, and Debt equity ratio.

The source of funds of MATSYAFED is mainly comprised of owned funds, borrowed funds, and grants & subsidies. The owned funds comprise of share capital and reserves. The borrowed fund includes only borrowings.

**Table 1: Various sources of fund in MATSYAFED**

Year	Share Capital	Reserves	Borrowings	Grants & subsidies
2009-10	125.79	31.07	86.07	16.05
2010-11	135.49	31.98	126.28	21.88
2011-12	149.20	34.18	153.09	29.27
2012-13	154.46	34.22	189.37	30.87
2013-14	91.39	34.66	195.50	26.37
2014-15	93.15	36.58	203.23	39.71
2015-16	94.82	42.44	214.44	48.45
2016-17	96.36	45.33	212.26	66.31



2017-18	97.97	75.95	213.16	44.14
2018-19	98.10	88.16	230.05	31.81
CAGR	-2.45	10.99	10.33	7.1

Source: Compiled from the Annual Reports of MATSYAFED from 2009-10 to 2018-19

Table 1 illustrates the details of the Sources of Fund in MATSYAFED from 2009-10 to 2018-19. The share capital of MATSYAFED has declined from 2013-14 with a CAGR of -2.45%. It was due to the withdrawal of share capital by the State Government from 2013-14. Its reserves show an increasing trend with a CAGR of 10.99%. This is due to the additional reserves and statutory funds maintained by MATSYAFED during 2017-18 to 2018-19. They mainly constitute funds for dividends, reserve funds for bad and doubtful debts, fishermen welfare funds, common good funds, and building funds. MATSYAFED has borrowed from the

National Backward Classes Finance & Development Corporation, National Co-operative Development Corporation, and National Minorities Development & Finance Corporation with a CAGR of 10.33% for the past ten years.

#### Financial Performance Evaluation of MATSYAFED

In this section, an attempt has been made to analyze the financial performance of MATSYAFED by analyzing the financial ratios. In this analysis, liquidity ratio, activity ratio, profitability, and leverage ratios are used.

Table 2: Ratio analysis of MATSYAFED from 2009-10 to 2018-19

Year	Liquidity ratio		Activity ratio			Profitability ratio		Leverage ratio
	Current ratio	Quick ratio	Inventory turnover ratio	Fixed asset turnover ratio	Working capital turnover ratio	Gross profit ratio	Net profit ratio	Debt equity Ratio
2009-10	2.77	2.54	9.41	9.58	1.29	8.47	14.54	0.83
2010-11	2.70	2.46	12.11	11.30	1.47	6.74	2.91	1.07
2011-12	2.80	2.47	11.02	9.02	1.65	6.43	0.58	1.14
2012-13	2.75	2.36	9.66	10.49	1.87	6.59	0.81	1.32
2013-14	2.97	2.56	9.16	10.44	1.87	6.85	1.01	1.32
2014-15	2.58	2.20	8.52	9.64	1.84	8.15	3.64	1.33
2015-16	2.23	1.85	7.84	4.18	2.24	7.67	-1.74	1.33
2016-17	2.01	1.75	10.96	5.14	2.90	7.19	0.63	1.40
2017-18	2.54	2.26	13.89	5.87	2.51	8.08	0.91	1.14
2018-19	2.48	2.15	13.56	5.85	2.72	6.80	0.04	1.15

Source: Calculated from the Annual Reports of MATSYAFED from 2009-10 to 2018-19

Table 2 illustrates the details of the Financial Performance of MATSYAFED from 2009-10 to 2018-19. The current ratio shows a fluctuating trend over the years. The arbitrary standard of liquidity for a firm is 2:1, and the current ratio of MATSYAFED maintains a satisfactory level, which is near to the rule of thumb, i.e., current assets double the current liabilities. The quick ratio of 2015-16 and 2016-17 is nearly equal to the rule of thumb (1:1), and it is above in the remaining years. Here, the high quick ratio is an indication that the firm is liquid and can

meet its current liabilities. Inventory turnover ratio is showing a fluctuating trend with a maximum during the year 2017-18 and a minimum during the year 2015-16. During 2015-16 a lot of inventories like fish nets, machines were not sold due to a decline in the demand for tuna fish in the international market. The fixed asset turnover ratio shows a decreasing trend with a maximum during 2010-11 and a minimum during 2016-17. This indicates that MATSYAFED has not efficiently utilized the fixed assets to generate sales. The minimum fixed asset ratio during 2015-16

was due to the doubling of the fixed assets compared to 2014-15, but there was not a proportional increase in net sales in that year. However, the fixed asset turnover ratio remains almost in a steady range in the last three years. Though the working capital turnover ratio shows an increasing trend, it declined in the year 2017-18. The increasing trend indicates that MATSYAFED efficiently utilizing the working capital to generate sales. The gross profit ratio shows a fluctuating trend with maximum value during 2009-10 and a minimum during 2011-12. Whenever the cost of production changes, it affects the gross profit. Thus, the gross profit ratio also changes. However, the gross profit ratio is almost in a steady range. Huge profit was generated in 2009-10 due to the removal of the reserve on interest overdue on loans so that the net profit ratio during that year shows a maximum value. In 2014-15 a sudden rise in the net profit ratio can be seen. It was due to the increase in gross profit of

about Rs.4 crores and miscellaneous income of about Rs.2 crores compared to 2013-14, which led to an increase in net profit. The minimum value was due to the Net loss in 2015-16 because of the increase in the expenditure of establishment and contingencies and decline in the sale of net factories, OBM division, and export of tuna fish due to the decreased demand for tuna fish in the international market. This was recovered by increasing the domestic sale of fishes through fish marts, fish booths, etc. The cyclone storm Ockhi happened at the end of 2017-18 created a lot of destruction, and it caused a decrease in net profit ratio during 2018-19. As a rule, a ratio of 1:1 is considered to be satisfactory for the debt-equity ratio. Even though the debt is higher than the equity, the debt-equity ratio of MATSYAFED maintains a satisfactory level, which is nearer to the rule of thumb. That means MATSYAFED can use low- the cost of outsider’s funds to magnify their earnings.

**Measures for the Improvement**

**Table 3: Constraints in MATSYAFED and suggestions**

S. No.	Constraints	Suggestions
1	Share capital shows a CAGR of -2.45%	<ul style="list-style-type: none"> <li>• Increase share capital by increasing the number of member societies and the collection of more shares from them</li> <li>• Requesting the government to subscribe more shares from MATSYAFED</li> </ul>
2	The fixed asset turnover ratio remains almost in a steady range in the last three years.	As the organization has constructed many buildings, it added value to its fixed assets and made the ratio to be steady over the last three years (2016-17 to 2018-19). So, it is necessary to make it functional by rent out the building or in any other means to generate income out of the asset.
3	The debt equity ratio is higher than the rule of thumb (1:1). i.e., debt is higher than equity. This makes claims of outsiders (creditors) are greater than those of owners.	MATSYAFED can use outsider’s fund for its functioning. But the debt-equity ratio should be maintained as per the rule of thumb (1:1). Though it is better to use low-cost outsider’s funds to magnify their earnings, it’s also good to raise its own owned funds.
4	Netprofit shows a fluctuating trend over the past ten years.	Even though the welfare of the members is the prime concern of the co-operatives, importance should also be given to sustain the operations and net profit.

**Source:** generated from the Analysis and discussions with the Board of Management

**Conclusion**

The demand for fish and fishery products is increasing day by day. This makes the fisheries sector as an important sector in Kerala’s economy.

The co-operative sector also came forward to support and uplift the fishermen community and solving their problems through MATSYAFED. They paved the way for the integrated development of the

fisheries sector as well as to improve the social and economic well being of the fishermen community in Kerala. From the financial performance analysis, it is evident that MATSYAFED has a strong short-term liquidity position and has a good inventory turnover ratio. The debt-equity ratio is higher than the rule of thumb (1:1). i.e., debt is higher than equity. This makes claims of outsiders (creditors) are greater than those of owners. Though it is better to use low-cost outsider's funds to magnify their earnings, it's also good to raise their own owned funds. The net profit of MATSYAFED shows a fluctuating trend. They should take certain measures for the improvement in net profit along with the welfare of the members. Reduction in the repayment of loans taken from the primary fishermen co-operatives by the fishermen and consequent increase in bad debts created by them are the main problems faced by MATSYAFED. As a whole, compared with many other apex cooperative federations, MATSYAFED is performing better, thanks to the management team.

## References

- Ambilikumar, V. "Performance of Primary Level Fishermen Development and Welfare Cooperative Societies in Kerala." *International Journal of Management and Social Service Research Review*, vol. 1, 2017, pp. 9-16.
- Ancy, V.P. and K.V. Raju. "Structural Changes in the Fisheries Sector of Kerala: An Overview." *IOSR Journal of Economics and Finance*, vol. 5, no. 6, 2014, pp.14-18.
- Arundhekar, Narayanan D. "Functioning of Fisheries Cooperative Societies: A Special Reference to Uttara Kannada District, Karnataka State." *International Journal of Applied Research*, vol. 3, no. 9, 2017, pp. 581-586.
- Halder, P.K. and Sayan Saha. "An Insight into the Performance of Fishermen Co-Operative Societies in Tripura." *International Journal of Advance Research and Innovative Ideas in Education*, vol. 1, no. 5, 2015, pp. 879-889.
- Jeyanthi, P., et al. "Fishers' Perception on Co-Operative Services and Willingness-to-pay (WTP) for Improved Fish Marketing Services at Njarakkal, Ernakulam District, Kerala." *Indian Journal of Fisheries*, vol. 64, 2017, pp. 278-282.
- Kerala State Co-operative Federation for Fisheries Development Ltd*, www.matsyafed.in.
- Lakshmi, P. and M.S. Raju. "Kerala Marine Fisheries Resources Potential and Exploitation - An Economic Analysis." *International Journal of Business and Administration Research Review*, vol. 1, no. 1, 2016, pp. 124-129.
- Mathews, Neethu M. "Impact of Fisheries Co-Operative Societies on the Livelihood Activities of Marine Fisherfolk - A Study with Special Reference to Port Fishing Village in Kollam District, Kerala." *International Journal of Research and Scientific Innovation*, vol. 5, no. 5, 2018, pp. 164-174.
- Nair, Smitha R., et al. "Performance of Fisheries Cooperatives in India - An Evaluation of Primary Societies in Thane District of Maharashtra." *Journal of Fisheries Economics and Development*, vol. 11, no. 2, 2010, pp. 16-27.
- Pandey, I.M. *Financial Management*, Vikas Publishing House Private Limited, 2004.
- Paul, Pintu, and Nilay Kumar Basak. "Present Scenario, Problems and Prospects of Inland Fishing of West Bengal, India." *Indian Journal of Applied Research*, vol. 5, no.7, 2015, pp.128-130.
- Rajan, A. Sabari, and K.S.Chandrasekar. "Marine Fisheries Sector in Kerala, India: An Analysis of the Socio Economic and Feed Marketing Impact on the Farmers." *Proceedings of the 3rd International Conference on Management and Economics*, 2014, pp. 59-66.
- Shah, Syed B., et al. "An Economic Analysis of the Fisheries Sector of Pakistan (1950-2017): Challenges, Opportunities And Development Strategies." *International Journal of Fisheries and Aquatic Studies*, vol. 6, no. 2, 2018, pp. 515-524.
- Tyagi, L.K., et al. "Functioning of Fishing Co-Operative Societies in Selected States of India." *Journal of Community Mobilization and Sustainable Development*, vol. 8, no.1, 2013, pp. 90-93.



---

Tyagi, L.K., et al. “Performance of Fishing Cooperative Societies in Implementing Fish Conservation Measures: Case Studies

from Two Reservoirs of Orissa.” *Journal of Community Mobilization and Sustainable Development*, vol. 9, no.1, 2014, pp. 48-51.

#### **Author Details**

**S.P. Thrishma**, *College of Co-operation, Banking and Management, Kerala Agricultural University, Thrissur, Kerala, India, Email ID: thrishmasp97@gmail.com*

**G. Veerakumaran**, *Professor and Head, Department of Co-operative Management, College of Co-operation, Banking and Management, Kerala Agricultural University, Thrissur, Kerala, India, Email ID: g.veeran@kau.in*