

SUPPLY CHAIN MANAGEMENT OF PADDY SECTOR IN KERALA WITH SPECIAL REFERENCE TO ALAPPUZHA DISTRICT

By

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ABSTRACT

Paddy products have to go through a series of processes such as harvesting, threshing, packaging, bagging, transportation, storage, treatment and exchange prior to their arrival on the market, and as a number of studies across the country have shown, there are significant losses of rice production at all those stages Kerala, a state in southern India, produces only about five lakh tonnes of paddy out of a total annual need of about 25 lakh tonnes that is insufficient to feed the population. According to the report of the Ministry of Agriculture of Kerala about Rs 1,000 crore values of paddy products are imported into Kerala on an annual basis. Since a thousand crore company is under the industry, management of the current agricultural supply chain appears to be ineffective. This can be due to interference from middlemen. These issues have impacted farmers and consumers. The supply chain in Kerala is fragmented and involves many intermediaries such as distributors and dealers who gain maximum benefits. There are a lot of taxes on the inter-state supply chain. To function well, the supply chain needs professionals, but we do not have a skilled workforce in this field. Training and education in managing the supply chain is therefore necessary. This paper concentrate about the supply chain management of paddy in Kerala helps to understand the different channels in SCM, the obstacles in SCM, the issues and the spread of SCM prices.

[Keywords: Paddy, Challenges, Employment, GDP, Shortage, cold storage, skilled work force]

INTRODUCTION

Agriculture is an important sector of the Indian economy, accounting for about 17 per cent of total GDP and employing over 60 per cent of the population. Food grain production rose from 51 million tonnes in 1950-51 to 250 MT in 2011-12, its highest level since independence. Agriculture is an important part of the global economy. But the output of most agricultural products is influenced by many factors, such as climate change, seed quality, cultivation practices, market availability, government policies, technology, coordination and the role played by members of the supply chain. The true measure of supply chain success is the degree to which activities are well coordinated throughout the supply chain to create value for consumers, and improving the cost-effectiveness of all parts of the supply chain. Supply-chain management (SCM) is 'the management of the entire set of production, distribution, and marketing processes by which a consumer is supplied with a desired product'. Supply chain management is the integrated value-creation process for the end-user or end-consumer. Supply chain management is a philosophy of integration of all activities within the life of a product or a service from the first source of raw materials to the end customer, and beyond to elimination.

In Kerala, most agricultural commodities come from neighbouring states like Tamil Nadu and Karnataka. There is a lack of appropriate infrastructure such as godownings, cold warehouses, fresh chains, ripening chambers etc. also there is no appropriate link between production, research system and consumers. That is why over 30% of agricultural produce is wasted every year. Over 20% of government produce is lost due to poor post-harvest facilities and lack of cold chain infrastructure.

REVIEW OF LITERATURE

Bhatia M. and Janardhana G.M.(2020)¹, A survey has been conducted to investigate the problem present in the agri-supply chain management system. The gaps that affect the supply chain system includes improper handling of agricultural produce and involvement of intermediaries that mislead the farmers

Vishal Sharma (2013)², 'Regarding of supply chain by shortening its length that is avoiding intermediaries was observed in this study. The reconstructed supply chain expose the two way flow of information in the whole supply.

OBJECTIVES OF THE STUDY

- 1) To study the supply chain management of Alappuzha district.
- 2) To analyse the difficulties faced by the farmers regarding their supply chain of paddy.
- 3) To make SWOT analysis
- 4) To make suggestions based on the findings of the study.

SIGNIFICANCE OF THE STUDY

Agriculture plays an important role in the Indian economy. Above 70 percent of the rural households depends on agriculture. Supply chain management plays an important role in the development of agricultural sector. Promotion of supply chain management in agricultural sector will leads to development of economy. I therefore believe that this study on the supply chain management paddy sector is important.

STATEMENTS OF THE PROBLEM

Paddy sector is the backbone of our economy. But after 20th century, the growth of paddy sector is declining tremendously. Heavy rainfall, unbalanced climatic condition, flood, lack of skilled labours, inadequate capitals etc. are major constraints faced by paddy sector. The major problem of paddy sector is proper supply chain management. Supply chain management plays an important role in the growth of paddy sector. This paper concentrates about the problems in supply chain management of paddy sector.

RESEARCH METHODOLOGY

The study was based on both primary and secondary data. Primary data were collected by using structured questionnaire. The sample comprises of 100 respondents. Random Sampling method was used for selecting respondents from the population.

LIMITATION OF THE STUDY

Alappuzha is a highly populated district, can't generalise the results based on 100 respondents. There is a very little time available for the study that has too affected the outcome.

SUPPLY CHAIN MANAGEMENT OF PADDY SECTOR IN ALAPPUZHA DISTRICT

Kerala obtains the majority of rice from the neighboring state particularly Andhra Pradesh. The main situation in Kerala is that farmers sell agricultural goods to commission agents on the neighboring state market, from there; the intermediaries will buy and sell the products to the unorganized retailers. Retailers not organized in types I and II sell agricultural products to local retailers and then it reaches the customers. Nowadays the system getting popular in Kerala is that the organized retailers have middlemen who buy vegetables on behalf of organized retailers and they in turn give to retailers and ultimately it reaches consumers. In the districts like Alappuzha, Palakkad, Malappuram etc., the intermediary retailers buy rice and sell directly to consumers.

Analysis and Interpretation

Analysis No 1 – χ^2 test

NULL HYPOTHESIS: There is no significant difference of opinion between small, medium and large scale farmers towards their difficulties faced with regard to the supply chain management of their paddy.

TABLE NO 1

CLASSIFICATION OF FARMERS

SL. NO	TYPES OF FARMERS	NUMBER OF FARMERS	PERCENTAGE
1.	Small	30	30
2.	Medium	50	50
3.	Large	20	100
	TOTAL	100	100

Source: Primary Data

TABLE NO 2: CALCULATION OF X² TEST

O	E	O-E	(O-E) ²	(O-E) ² /E
6	13.5	7.5	56.25	4.17
12	9.9	2.1	4.41	0.45
12	6.6	5.4	29.16	4.42
32	22.5	9.5	90.25	4.01
11	16.5	-5.5	30.25	1.83
7	11	-4	16	1.45
7	9	-2	4	0.44
10	6.6	3.4	11.56	1.75
3	4.4	1.4	1.96	0.44
$\chi^2 = \Sigma(O-E)^2/E$				18.96

γ = degrees of freedom

$$r = (r - 1) (c - 1) = (3 - 1) (3 - 1) = 4 \text{ for } \gamma = 4 \chi^2_{0.05} = 9.49$$

INFERENCE: The calculated value of χ^2 (18.96) is much higher than the table value (9.49). So the null hypothesis is rejected at 5% level of significance. Hence it is concluded that there is significant difference of opinion between small, medium and large scale farmers towards their difficulties faced with regard to the supply chain management of their paddy.

ANALYSIS NO: 2 – SWOT ANALYSIS

Supply Chain Management of paddy sector in Alappuzha District – A SWOT Analysis

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> - Better infrastructure of road facilities make easy for the distribution of agricultural products. - Government provides adequate support for the distribution of agricultural products. - Marketing co-operative society promote supply chain management of agricultural products. - Exporters help in the distribution of agricultural products to other countries. 	<ul style="list-style-type: none"> - Toll plaza is one of the barriers in supply chain of agricultural products. - Frequent change in fuel price adversely affects the supply chain of agricultural products. - Lack of adequate road facility in rural areas adversely affects the supply chain of agricultural products. - Small farmers are struggling with high transportation costs in the supply chain.
OPPORTUNITIES	THREAT
<ul style="list-style-type: none"> - Agricultural products can be exported to Arab nations. - An efficient transportation facility helps to reach the new market for agricultural produce. - Government assistance supports supply chain management for agricultural commodities. 	<ul style="list-style-type: none"> - High usage of chemicals in agricultural products adversely affects the consumers. - The great distance between producers and consumers raises the problem of deteriorating quality. - Agricultural waste causes many health problems for individuals.

FINDINGS

1. By applying χ^2 test there is significant difference of opinion between small, medium and large scale farmers towards their difficulties faced with regard to the supply chain management of their paddy.
2. The main channel prevail in Kerala is channel II, were farmers are selling the paddy to the commission agent.
3. Frequent change in fuel price adversely affects the supply chain management of rice products.
4. Lack of adequate road infrastructure in rural areas has a negative impact on the supply chain for paddy sector.

5. The toll booth is one of the impediments in the agricultural supply chain.
6. Farmers use a lot of chemicals in rice products, which is detrimental to the consumer.
7. The cooperative marketing society encourages the management of the supply chain for rice product.
8. Exporters are involved in distributing rice products abroad.
9. The intermediaries make the high commission responsible for the distribution of rice products.
10. In rural areas, farmers should not have sufficient financial support to conduct their farming operations.
11. The lack of support from local authorities negatively impacts the agricultural commodity supply chain.
12. The absence of adequate cold storage facilities is a major obstacle for the paddy sector.

SUGGESTIONS

- 1) Government should take action to address agricultural issues such as lack of cold storage facilities, lack of financial support, etc.
- 2) The central government and the state government take the necessary steps to reduce the price of fuel; it will promote the proper functioning of supply chain management.
- 3) Local authorities should take the necessary steps to provide farmers with the necessary infrastructure for the distribution of their agricultural produce.
- 4) The central government should take the necessary steps to reduce the fair toll for the supply chain management of agricultural commodities. Establishment of cooperative marketing corporations.
- 5) The government should provide consumer awareness courses on the use of chemicals and their impacts.
- 6) Marketing co-operatives shall take the necessary measures to distribute the rice products of small farmers.
- 7) The central and the state government should take the necessary measures to remove the obstacle to the export of rice products.

- 8) Farmers should find their markets and reduce the dependency of intermediaries.
- 9) Bank should provide less interest loans to farmers and also gave those invaluable help.
- 10) Farmers should collectively distribute their agricultural commodities, which will reduce the cost of managing the supply chain.
- 11) The government should take the necessary steps to launch agricultural universities and help solve problems in the agricultural sector.
- 12) The government should provide adequate grants to improve farmers' cold storage facilities.

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CONCLUSION

Based on this study, we would like to conclude that the existing supply chain is not efficient. This does not serve to improve the economic and societal position of farmers, but also ease the consumers to bring quality produce at economic rates. In our study, we found out that the marketing efficiency was high in the system were intermediaries cum retailers sells their produce directly to the consumers compared to the other channel primarily because of the elimination of the marketing margin of the retailers involved in the marketing. Besides, the farmers get more prices per kg of the produce in this groove. The principal reason for the difference between marketing effectiveness and the price received by farmers is due to higher marketing costs and the profit margin of intermediaries. Hence, farmers produce more benefit if they trade their merchandise straight to the consumers without affecting any of the commission agents with less intervention of the mediators.

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