A STUDY ON AGRICULTURAL LOGISTICS OF RURAL PRODUCES WITH REFERENCE TO FLOWER DISTRIBUTION IN TIRUNELVELI DISTRICT, TAMILNADU

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ABSTRACT

Today’s agricultural marketing has to undergo a series of exchanges or transfers from one person to another before it reaches the consumer. There are three marketing functions involved in this, i.e., assembling, preparation for consumption and distribution. Dealing in any agricultural produces depends on some couple of factors like the demand of the product at that time, availability and storage etc. The biggest challenge that faces by farmer is timely providing the goods, and lack of adequate facilities regarding distribution of goods (storage and transportation packaging etc.). These are the current issues of the rural produces. In this regard, this study gets prominence in focusing logistics operations of agricultural in the rural produces. The secondary data were collected from the published journal, books, magazines and URL’S. The total numbers of samples were 150 from flower cultivators, commission agents, and flower vendors by adopting quota sampling. The various statistical tools applied to analyse the primary data were spear man rank correlation and chi – square analysis to interpret the data to arrive at findings from the study. They find that there are no warehousing facilities and even the transport cost is high. Thus, the government and other interested third parties may come forward to contribute financially and non-financially to improve agricultural logistics. The co-operation between the entities involved in agricultural logistics of flowers has to make sure to be co-operative to reduce the logistics cost and also to export to the other countries which shows that there is enormous scope for flower distribution not only in India, but also in the overseas to make India as one of the leading country to involve efficiently in agricultural logistics.

Keywords: Agricultural, Logistics, Flowers, Farmers and Agricultural Logistics.

INTRODUCTION

Agriculture is fast developing into an important economic activity. The world-wide demand for flowers and flower products is also increasing due to the GDP increase in many countries. Though, India’s participation in the world trade is not significant, she has unlimited opportunities created by the global trade deficit and the liberal policies of the country. The producer and the country should stand to gain in the process of developing this economic pursuit as also the consumer.
Even though the Indian economy is driven by the agricultural sector, minimal attention is paid to the logistics in the agricultural sector. Furthermore, the problem is complicated by the fact that the bread baskets of India are quite distant from the urban consumer base. Herein exists an opportunity for a logistics service provider to focus on the inefficiencies in the agricultural sector and better plan and coordinate the movement of food products across the country. *Badi, R.V.N.V.Badi (2004)*

Logistics involves a wide set of activities dedicated to the transformation and distribution of goods, from raw material sourcing to final market distribution as well as the related information flows. Derived from Greek logistikos (to reason logically), the word is polysemic. In the Nineteenth century the military referred to it as the art of combining all means of transport, revictualling and sheltering of troops. Today it refers to the set of operations required for goods to be made available on markets or to specific destinations. *Dr. Jean-Paul Rodrigue, (2008)*

India has a good natural resource base an adequate R&D infrastructure and logistics excellence in several areas. As a result, the country has been changing fast both production and productivity of agricultural has increased manifold and India can boast itself as a leading floricultural country of the world. Export of fresh as well as processed agriculture product has been increasing. The demand of agriculture produce is on the rise due to increasing population, changing food habits, realisation of high nutritional value of floricultural crops and greater emphasis on value addition and export. *E. Muzzi, M. Ventura, D. Verzoni (1998).*

India has come a long way from struggling to take care of its basic food requirements to use the tremendous leverage of commercial and export oriented agriculture. There is also no doubt about the immense and yet untapped prospects and potentials of global market for India. The traditional flowers are widely cultivated in this district and are said to have good market in the middle-east apart from the wide domestic market it enjoys. There also seem to be a shift to floriculture in the occupational pattern of the people. There is also near full employment as floriculture. *Dr. S.C. Mathivaanan, (2000).*

**STATEMENT OF THE PROBLEM**

India is an agricultural country and one third population depends on the agricultural sector directly or indirectly. Agricultural logistics is mainly the transporting and warehousing of agricultural products. In earlier days when the rural economy was more or less self-sufficient the marketing or agricultural products presented no difficulty as the farmers sold produce to the consumer on cash or barter basis. Today’s agricultural marketing has to undergo a series of exchanges or transfers from one person to another before it reaches the consumer. There are three marketing functions involved in this, i.e., assembling, preparation for consumption and distribution. Dealing in any agricultural produces depends on some couple of factors like the demand of the product at that time, availability and storage etc.

**LITERATURE OF REVIEW**

A logistics encompasses all activities and functions involved in fulfilling a customer request. It includes the suppliers of raw materials, manufacturers, transporters, warehouses, retailers, and the customers themselves. The functions include the flow of information, and the
transformation and delivery of goods from raw material stage through to the end user (Handfield and Nichols 1999; Chopra and Meindl 2001). Significant factors that determine the success of a logistics include process integration among the suppliers and buyers, networks that connect the partners, and market sensitivity on the basis of information instead of inventory (Christopher 2000).

Novack, Rinehart and Langley (1994) define logistics as follows: Logistics is the process of planning, implementing, and controlling the efficient, effective flow and storage of raw materials, in-process inventory, finished goods, services, and related information from point of origin to point of consumption (including inbound, outbound, internal, and external movements) for the purpose of conforming to customer requirements. For instance, the number of Internet users in China increased by 4 million in the first half of 2001. Morash et al. (1996) classified logistics capability into demand-oriented capabilities and supply-oriented capabilities. Logistics capabilities, such as delivery reliability, post-sale customer service, responsiveness to target market, delivery speed, presale customer service, widespread distribution coverage, selective distribution coverage, and low total cost distribution are sources of competitive advantage.

There are many work carried out regarding in agricultural logistics in various angle. They were focusing on the nature of logistics in agriculture products, logistics cost, rural logistics performance, agro food chain network development, rural transport cost, challenges and opportunities for rural infrastructure and agro industries development, logistics strategy to improve agriculture's competitiveness and cold chain infrastructure. Hence, in this study an attempt is made to explore logistics problems of flower distribution in rural produces. Above are some of the research work done by various scholars, institutions and entities.

**IMPORTANCE OF THE STUDY**

India's agriculture sector needs more investments because most of the agriculture export depends on the rural export. But rural area has inadequate in technology, logistics and cold chain infrastructure, not just construction and buildings. Transportation infrastructure can determine the competitive success of an agricultural enterprises or entire agricultural sector. The Government has proposed investment in large projects to improve the transportation infrastructure of the countries. The biggest challenge that faces by farmer is timely providing the goods, and lack of adequate facilities regarding distribution of goods (storage and transportation packaging etc.). These are the current issues of the rural produces. In this regard, this study gets prominence in focusing logistics operations of agricultural in the rural produces.

**OBJECTIVES OF THE STUDY**

- To enumerate the role of logistics in the distribution of agricultural products.
- To analyse the various bottlenecks in agricultural logistics & flower distribution.
- To find out the participation of government and private for promoting agricultural logistics & flower distribution.
HYPOTHESIS OF THE STUDY

Ho: There is no relationship between different respondents involved in logistics of flower distribution on way of doing business.

Ho: There is no relationship between different respondents involved in logistics of flower distribution on experience in the flower business.

Ho: There is no relationship between different respondents involved in logistics of flower distribution on involvement of number of employees.

Ho: There is no relationship between different respondents involved in logistics of flower distribution on area of flower distribution.

Ho: There is no relationship between different respondents involved in logistics of flower distribution on Mode of Purchase.

METHODOLOGY

The data required for the study were collected from both the primary sources and secondary sources. The primary data has been collected directly from farmers, commission agent and flower vendors by using interview schedule respectively. The secondary data were collected from the published journal, books, magazines and URL’S. The total numbers of samples were 150 from flower cultivators, commission agents, and flower vendors by adopting quota sampling. From the total sample of the study, fifty respondents were selected from the flower cultivators and fifty respondents were selected from commission agents and fifty respondents were selected from the flower vendors. Thus, equal importance was given based on the nature of work involved in the process of flower logistics. A pilot study was made before carrying out actual study. The interview schedules were used in the pilot study among ten respondents from flower cultivators, ten respondents from the commission agents and ten respondents from the flower vendors. From the pilot study, there was some necessary changes were made on the interview schedules, before making the data collection for this study.

The various statistical tools applied to analyse the primary data were spear man rank correlation and chi–square analysis to interpret the data to arrive at findings from the study. For effective analysis and easy understanding, the data were tabulated.

ANALYSIS ON FLOWER LOGISTICS

Cost Incurred on Logistics Activities – Correlation Analysis

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Flower Vendors Rank</th>
<th>Flower Cultivators Rank</th>
<th>Commission Agents Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transport Cost</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Storage Cost</td>
<td>4</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Material Handling</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Packaging Cost</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Primary Data

Spearman’s Rank Correlation R : \(1 - \frac{6\sum d_i^2}{n(n^2 - 1)}\)

Flower vendors and Flower cultivators : -0.588

Flower vendors and Commission Agents : -0.588
The table shows that, there is no correlation between the ranks given by the flower vendors and flower cultivators on level of cost in the flower distribution. Because the spearman’s rank correlation co-efficient -0.588 lies between -1 to +1. There is no correlation between the ranks given by the flower vendors, and commission agents on level of cost in the flower distribution. Because the spearman’s rank correlation co-efficient -0.588 lies between -1 to +1.

**HYPOTHESIS TESTING**

<table>
<thead>
<tr>
<th>Involvement of flower distribution</th>
<th>5% Significant Level</th>
<th>Inferences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items</td>
<td>Table Value</td>
<td>Calculated Value</td>
</tr>
<tr>
<td>The way of doing Business</td>
<td>5.991</td>
<td>14.984</td>
</tr>
<tr>
<td>Experience in the Flower Business</td>
<td>5.991</td>
<td>10.049</td>
</tr>
<tr>
<td>Involvement of Number of Employees</td>
<td>5.991</td>
<td>02.580</td>
</tr>
<tr>
<td>Area of Flower Distribution</td>
<td>5.991</td>
<td>19.180</td>
</tr>
<tr>
<td>Mode of Purchase</td>
<td>5.991</td>
<td>05.560</td>
</tr>
</tbody>
</table>

**Sources: Primary Data**

**FINDINGS OF THE STUDY**

- **Cost Incurred on Logistics Activities:** There is no correlation between the ranks given by the flower vendors and flower cultivators on level of cost in the flower distribution. There is no correlation between the ranks given by the flower vendors, and commission agents on level of cost in the flower distribution.

- **Involvement in Logistics of Flower Distribution on the Way of Doing Business:** There is relationship between different groups of respondents involved in logistics of flower distribution on the way of doing business.

- **Involvement in Logistics of Flower Distribution on Area of Flower Distribution:** There is relationship between different groups of respondents involved in logistics of flower distribution on area of flower distribution.

- **Involvement in Logistics of Flower Distribution on Mode of Purchase:** There is no relationship between different groups of respondents involved in logistics of flower distribution on Mode of Purchase.

**Suggestion to Flower Cultivators:**

- To promote intensive cultivation of flowers and to develop specific location for flowers cultivation
- Flower cultivators must co-operate for agriculture distribution of flowers through association and build a warehouse and store the flower storage
- Flower cultivators must join and provide the common transport for distribution of the flowers, because it reduced the transport cost of flower distribution
Flower cultivators may adopt new technology for their flower cultivation and they motivate the person who are interested

**Suggestion to Commission Agents**

- Commission agents may follow certain rules and regulation while fixing the price of the flowers
- Commission agents must provide transport facilities, storage facilities and packaging facilities to flower cultivators and flower vendors to improve the logistics activities
- Commission agents must provide financial facilities to flower cultivators.
- Commission agents must arrange common warehouse for safeguarding the flowers of excess in a day.
- Commission agents must keep the information exchange between flower cultivators and flower vendors.

**Suggestion to Flower Vendors**

- Flower vendors must follow some alternative methods for unsold flowers, so that they can reduce losses from the unsold flowers
- Flower vendors must keep mutual thought, while fixing the price of the flowers
- Flower vendors must consider the demand of the flower for fixing the price of flower, because it reduces the unsold flowers
- Flower vendors must give the credit period less than the one month, it is more favor for the sales.
- Flower vendors association should be utilized very effectively for the development of flower distribution activities.

**Suggestion to Bank and Financial Institutions**

- Banks may come forward to provide separate loan to the flower distributors
- Banks may relax the rules and regulations for providing loan for flower cultivation and distribution, it will help to the flower cultivators and flower vendors
- Banks may provide loan to all activities of flower cultivation and distribution. Hence purchase of seeds, fertilizers, irrigation, construction of warehouse etc.
- Banks may provide special loan to promote export of flower to other country

**Suggestion to Private Party**

- There are more opportunity for the private party, to enter into flower business, since it is booming industry now and even in future
- Private party can help to the flower distributors by the way of arranging logistics facilities of flowers like warehouse, packaging, cold chain storage and transport etc.
- Private party may also provide the financial facilities and also carry out flower business as an export oriented business.
Suggestion to Governments

- Government may also provide financial facilities and also loan when there is unforeseen lose
- Packaging is very essential for flowers, so the government may provide packaging credit to the flower distributors.
- Government may provide the transport facilities for flower distributors at the low cost, and to develop the infrastructure facilities for flower distribution
- Government may build the common warehouse to store the flowers
- Government may motivate the flower distributors to enter into exporting of flower
- Government may create a separate board to promote flower business and outdated logistics activities

CONCLUSION

At present, agricultural logistics is at its nascent stage in distributing rural produces like vegetables, fruits, cereals, and also flowers. In India flower distribution has to be taken at most care by the cultivators, commission agents and vendors in reducing the logistics cost and make it available at the right time to the customers in particular and people in general. Since life time of the flower is comparatively less and quickly perishable compared to other agricultural produces. This research has been focused to show the present logistics process of flower distribution, various strategies adopted and bottlenecks in agricultural logistics. This study was executed with three different people involved in the process of flower logistics. In this study it is assessed that, there is moderate cultivation and distribution facilities are available and the government is not providing or assisting the people involved in flower logistics. They find that there are no warehousing facilities and even the transport cost is high. Thus, the government and other interested third parties may come forward to contribute financially and non-financially to improve agricultural logistics. The co-operation between the entities involved in agricultural logistics of flowers has to make sure to be co-operative to reduce the logistics cost and also to export to the other countries which shows that there is enormous scope for flower distribution not only in India, but also in the overseas to make India as one of the leading country to involve efficiently in agricultural logistics.

SOCIAL RELAVANCE OF THE STUDY

Agriculture is fast developing into an important economic activity. The world-wide demand for flowers and flower products is also increasing due to increase in the GDP of many countries. There is no other country which grows such a wide range of flowers and fruits, vegetables and in such abundance as India. This study will be helpful to the flower distributors in Tirunelveli area, because this study highlights the logistics problems of flower distribution. In flower distribution three people are involved namely cultivators, commission agents and vendors. Flower is very essential product for all in the society, even marriage functions and funeral function flower play a vital role in these occasion. But flower distributors face many problems relating to the flower logistics activities. Flower life is very short period and it may be sold in short period then only they can get the profit. In flower
distributions numbers of logistics activities are involved like transport, warehouse, packaging, inventory procurement and material handling etc. Tirunelveli area is famous for the flower distribution, and people surrounding tirunelveli are cultivating and selling the flowers. These people are more benefited and improvement in logistics process of flower distribution in the study area may be developed.

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