ISSN 2664-4010 (Print) & ISSN 2664-6730 (Online)
South Asian Research Journal of Agriculture and Fisheries
Abbreviated Key Title: South Asian Res J Agri Fish

| Volume-4 | Issue-3 | May-Jun -2022 | **DOI: 10.36346/sarjaf.2022.v04i03.001**

Original Research Article

Awareness about Horticultural Supply Chain Management among Farmers of Lucknow and Kanpur Region of Uttar Pradesh

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Article History
Received: 18.04.2022
Accepted: 12.05.2022
Published: 28.05.2022

Abstract: In our country, a lot of changes have been occurred in the way of Agribusiness operation especially in horticultural. Besides the price of the product the numbers of factors are taken into consideration during deciding on a purchase of these commodities such as appearance, convenience and also perceived quality. It is critically important that understanding of supply chain management at primary level to maintain quality of horticultural commodities, which contribute in production, packing, storage, transport, distribution up to end users. Those who understand how the supply chain can be optimised, they can improve logistic processes to get enhanced customer satisfaction, loyalty, lower costs and also maximum share in end uses' price. In order of these aspects, this study was conducted in two districts of Uttar Pradesh, to know the farmers' awareness about horticultural supply chain management. Using data from a questionnaire survey conducted among 120 respondents, the study assesses the level of awareness about five aspects of horticultural supply chain management. The study indicates that maximum farmers (32.5 per cent) in Uttar Pradesh aware that packaging and transportation are main components of supply chain management in horticultural. Therefore, from the practical standpoint of view, it is need to increase awareness among farmers of Lucknow and Kanpur region, Uttar Pradesh about importance and holistic approach in horticultural supply chain management.

Keywords: Horticultural, Supply Chain, Management, Farmers, Uttar Pradesh.

INTRODUCTION

The horticulture is being considered as engine of growth as it provides nutrition to the masses. The state of Uttar Pradesh contributes 19.41% fruits and 29.55% vegetables in our country's horticultural production. It ranks 1st in mango, aonla and 4th in guava production, (Food Processing Policy, 2012). The Horticulture in India contributes about 30 % to Agricultural GDP and the share of horticultural food has increased to more than 50 percent in the food basket of consumers. The post-harvest fruits and vegetable losses worth over Rs 2 lakh crore each year in our, largely owing to the absence of food processing units, modern cold storage and other supply chain facilities. The horticultural farmers tends to be characterized by numerous small growers in dispersed locations with disparate products of variable quality, therefore, the farmers share in consumers' rupee is only about 30-40% due to the in-efficient supply chain management, comprising of multilayer channels and large number of intermediaries. Therefore, this sector needs more attention by policy makers, research institution and the corporate sectors, (ASSOCHAM, 2013). To prevent post-harvest losses and maintain the quality of horticultural commodities, the understanding about various aspects of supply chain management of farmers is critically important, which contribute in production, packing, storage, transport, distribution and marketing of horticultural commodities and to deal everything properly in the supply chain from field to end users. Keeping this in view, the background of the Lucknow and Kanpur districts of the Uttar Pradesh was found quite suitable for the study on understanding of horticultural supply chain management among farmers in Uttar Pradesh.

OBJECTIVES

The study was an attempt to explore the understanding about following aspects of horticultural supply chain management among the farmers' in Lucknow and Kanpur in Uttar Pradesh: -

(i) Crop Harvesting,
(ii) Primary Processing,
(iii) Packaging and Transportation,
(iv) MIS and Storage,
(v) All of Above.

REVIEW OF LITERATURE

The Supply Chain Management is an important issue facing farmers and farmers cannot themselves easily assess quality risks. The farmers' know how about supply chain management is a part, a matter of awareness in horticultural supply chain management. The review of work previously done is mentioned in following three sub sections:-

Supply Chain Management

There are many definitions of supply chain; in fact the term is regarded as being synonymous with value chain or demand chain. It is defined as 'a chain of events which initiates the process of Source, Make and Deliver a product to customer to satisfy the ever changing needs of a customer in the Market place' Sangam (2002). According to Ricks *et al*., (2002) supply chain management [SCM] 'represents a collection of management activities exercised between vertically related firms to improve efficiency, vertical integration, and overall performance of the participating firms within an industry'. Bowersox *et al.,* (2002) defined SCM as 'consisting of firms collaborating to leverage strategic positioning and to improve operating efficiency'.

The term Logistics has become a popular key word in recent years and often there is confusion between its meaning and that of SCM; in many cases they are used interchangeably. However, the logistics is that part of the supply chain process that plans, implements, and controls the efficient, effective flow and storage of goods, services and related information from the point of origin to the point of consumption in order to meet customer's requirements' (Bowersox, *et al*., 1992).

Horticulture Ready for Supply Chain Management

The horticultural supply chain management in the Uttar Pradesh is complex and challenging with numerous parties involved often not having knowledge of best practices to optimize quality of their produces. The farmers tend to be of an independent mindset, selling their products to agents offering the best price. Horticulture sector do experiences fluctuations in volume and quality between seasons, much of which is driven by variations or extremes in weather patterns and also characterized by many small producers, often in dispersed regions throughout a state with many different market outlets, ranging from road side sales to domestic market stores, to international chains of supermarkets in diverse countries. Every grower knows that they produce perfect produce and consequently expect to receive optimum prices. When they don't, they tend to blame factors beyond the orchard gate such as poor retailing, inadequate cooling, or rough transportation; somewhere or someone down the chain is responsible for 'cheating' them out of their due rewards, by poor handling, inadequate promotion or marketing or untimely sales, or anything. Those responsible for purchasing the product (for supermarket chains) have to buy product at a price that will enable them to make a profit and they tend to be suspicious of growers who do not show consistent loyalty, who cannot provide consistent quality within and between seasons, who are considered to be wealthy because they own lots of land, and who always moan about low prices received. The grower also develops awareness of the demands of the customer, the importance of product quality and maintenance of optimal postharvest shelf life conditions to ensure maintenance of quality for the marketing period, (Hewett, E. W., 2002)

Tri-Dung Nguyen, *et al.* (2020) reported that as with other fresh fruit supply chains, the dragon fruit chain faces challenges due to inherent uncertainties such as demands, price, and yield.

METHODOLOGY

The study titled "Awareness about horticultural supply chain management among farmers of Lucknow and Kanpur region of Uttar Pradesh" was carried out in the month of October and November; 2021.The methodology followed to accomplish the objectives was divided into three sub-sections. The first sub-section deals with the study area, the second one describes data collection and the final sub-section deals with the statistical tools adopted for analysis of data.

Study Area

The study area was based on the assumption that the various aspects of supply chain management in horticultural business operation are relatively more in practical application and considering its' share in production and

strategic position in the intra and interstate horticultural business. Therefore, Lucknow and Kanpur region were purposely selected for study.

Data Collection

The study is based on mainly the primary data, collected from horticultural farmers through field survey through using questionnaire. The study also utilizes the secondary data collected from Journals, books, reports and publications of various departments and websites of Government of Uttar Pradesh, Central Government and international organizations.

Sample Size

The samples of 120 horticultural farmers were selected randomly for the study.

Statistical Tools Used

Simple descriptive statistical techniques like averages, percentages, graphical analysis, etc have been used to describe the basic features of the data collected, (Kothari, 2005).

FINDINGS AND DISCUSSION

The findings of "understanding of horticultural supply chain management among farmers in Uttar Pradesh" based on observations recorded, arranged, analysed and presented in following Table:

Table-1: Understanding of Horticultural Supply Chain management components among farmers of Lucknow, Kanpur Nagar and Uttar Pradesh.

Study Area / Supply Chain aspects	Lucknow		Kanpur Nagar		Uttar Pradesh	
		%		%		%
Crop Harvesting	07	11.67	06	10.00	13	10.83
Primary Processing	09	15-00	13	21.66	22	18.33
Packaging and Transportation	19	31.66	20	33.34	39	32.50
MIS and Storage	14	23.34	16	26.67	30	25.00
All of above	11	18.33	05	08.33	16	13.34
Total Respondent	60	100.00	60	100.00	120	100.00

It is evident from the table and Figure-1 that there were much variability in perceptions about horticultural supply chain management aspects among farmers in Lucknow and Kanpur Nagar.

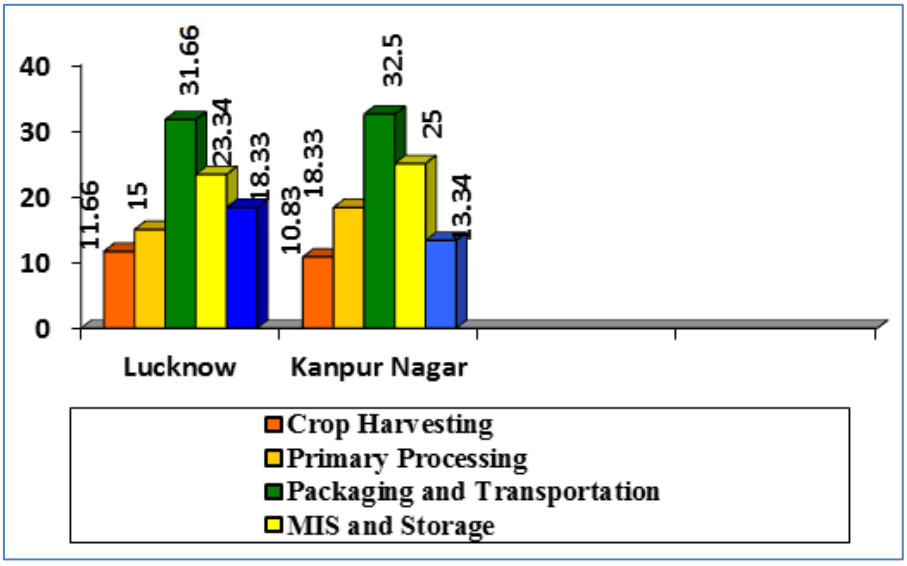

Fig-1: Bar diagram of understanding of Horticultural Supply chain management Components among farmers of Lucknow and Kanpur Nagar

The understanding of farmers in Lucknow about horticultural supply chain management aspects like Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage and about all of these aspects were analysed and findings reveal that 31.66 per cent farmers reported that Packaging and Transportation is major component of horticultural supply chain followed by MIS and Storage (23.34 percent), Primary Processing (15 per cent), and Crop harvesting by 11.67 per cent farmers. While only 18.33 per cent farmers reported that all aspects of horticultural supply

chain management i.e. Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage. In Kanpur Nagar, understanding of farmers regarding same aspects of horticultural supply chain management were analysed and found to be 33.34 per cent farmers understand that Packaging and Transportation is major component of horticultural supply chain followed by MIS and Storage (26-67 percent), Primary Processing (21.66 per cent) and Crop harvesting by 10.00per cent farmers, While 8.33 per cent farmers reported that Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage all are important aspects of horticultural supply chain management. It is obvious from above table and Figure-1 that 11.67 per cent farmers in Lucknow reported that Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage all are important aspects of supply chain in horticulture, while only 8.33 per cent farmers in Kanpur Nagar.

It is oblivious from the Table and Figure-2 revealed that there was variable awareness of farmers about various aspects of horticultural supply chain management in Uttar Pradesh. It showed that 32.50 per cent farmers perceived that Packaging and Transportation is main component of horticultural supply chain followed by MIS and Storage (25.00 percent), Primary Processing (18.33 per cent), and Crop harvesting by 10.83 per cent farmers. Whereas 13.34 per cent farmers reported other aspects i.e. Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage are important components of supply chain management in horticulture.

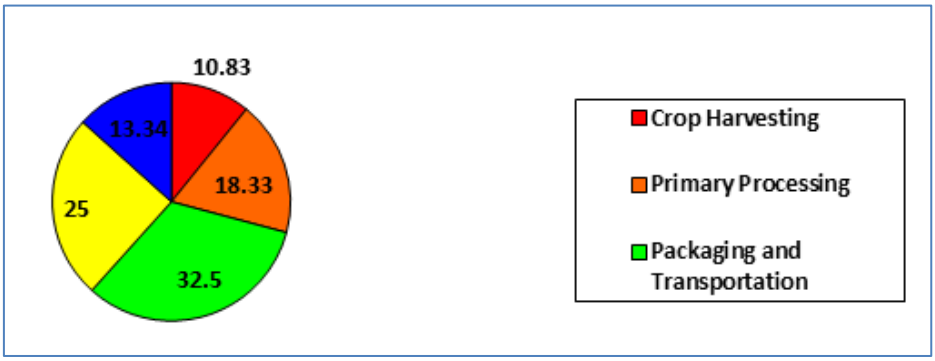

Fig-2: Pie diagram of understanding of horticultural supply chain management among farmers in Uttar Pradesh.

CONCLUSIONS

The majority of farmers (32.5 per cent) in Uttar Pradesh perceived that Packaging and Transportation were found major component of supply chain management in horticulture and only 13.34 per cent farmers understand that all aspects i.e. Crop Harvesting, Primary Processing, Packaging and Transportation, MIS and Storage were important for supply chain management in horticulture.

LIMITATIONS

The findings of the study were based on the survey conducted in Lucknow and Kanpur Nagar, therefore, it will not be sufficient to portray exact picture of awareness about horticultural supply chain management among farmers in entire state.

RECOMENDTIONS

It is evident from the findings of the study that farmers were not fully aware about complete supply chain management and also unaware about importance and contribution in supply chain to maintaining quality, which can help in maximizing share of farmer in the end users rupees. Therefore, from the practical standpoint of view, it is need to increase awareness among farmers in Uttar Pradesh about importance and holistic approach in horticultural supply chain management.

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