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Study on supply chain of vegetables in Kausambhi District, Uttar Pradesh

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Abstract

The present study was conducted in the Sarswan, and Newada, block of Kausambhi, district Uttar Pradesh with the sample size of 200 respondents to know the marketing channel involved in the vegetable growers in which primary and secondary data were used for the analysis with the different analytical tools. The study reveals that a significant portion of vegetable growers prefer to use a combination of marketing channels. This suggests that diversifying marketing strategies is a common practice among these growers, likely to reach a broader customer base and mitigate risks associated with over-reliance on a single channel.

Keywords: MC1, MC2, and MC3

Introduction

India is the second largest producer of vegetables in the world next to China as per a report by Food and Agriculture Organization (FAO) of the United Nations. With diverse agro-climatic conditions and distinct seasons, Indian farmers are able to grow a wide range of vegetables which are an important constituent of Indian diet. Vegetables are short duration crops with high yield per unit area, economically viable and provide nutritional security. Total area under horticultural crops was 11.35 million hectare and production was 204.84 million metric tones in the year (2021-22) (NHB, 2022) in India. Vegetables contribute about 60% of the total horticultural production in the country. As per the Indian Institute of Vegetable Research, India produces about 18.12% (204.84 million tones) of world's total vegetables from the 15% (11.3 million hectares) of world's area but productivity of vegetables in India (18.3 tones per hectare) is less than the world's average productivity (19.27 tonnes per hectare) (FAO, 2022). Out of total vegetable production in India, Potato (28.9%), tomato (11.3%), onion (10.3%) and Brinjal (8.1%) are the four major vegetables grown in the country which contributes about 58.6% of total vegetable production. Other important vegetables are cabbage (5.4%), cauliflower (4.6%), okra (3.9%) and peas (2.4%). In 2021-22, total values of vegetable exports from India accounted for Rs. 6965.83 crores, which account for about 2.25% of total agricultural exports and 0.23% of India's total export. Major importers of Indian vegetables are UAE, Bangladesh, Nepal, Sri Lanka, Netherland, Malaysia, Qatar, UK, Iraq and Saudi Arabia accounting for about 85% of the total Indian vegetable exports. The development achieved in the horticulture sector has indicative of the fact that there is growing demand of horticulture produce. The past experience had been a reward for enhanced output from the investment. Availability of timely robust information in this sector will certainly improve the socio-economic condition of Indian citizens by providing self-reliance besides environmental protection.

Research Methodology

Methodology, whether logical or statistical, is an important part of research that examines the materials and methods used in analysis. The survey was conducted in the districts of Kaushambi (3 Tehsil and 8 blocks). Agricultural production in the district is very mild compared to the rest of the state.

Sampling design

Selection of Districts

Eastern Uttar Pradesh consist 26 districts in which Kaushambi districts was selected purposively for the study.

Selection of Block

In order to selection of block, a complete list of blocks was obtained from the Block Development Office of Kaushambi. Out of 8 blocks in Kaushambi, Newada and Sarsawan bock was selected purposively for the Present study on the basis of highest production of selected vegetables.

Selection of Villages

A complete list of Tomato, Vegetable growers were obtained from Block Development Office i.e., Agriculture office of Kaushambi district, Gram Panchayat Office etc.

Selection of Respondents

A complete list of all Growers of selected villages was obtained from Village Pradhan, Villages Panchayat development officers. Out of 10 present vegetables growers was Randomly selected from all the selected villages was categorized on the basis of land holding i.e. Marginal, Small, Semi-medium, Medium and large size groups.

Data and Its Sources: This survey includes both secondary and primary data. Secondary data through survey the agricultural

economics of the study area, as well as vegetable cultivation across districts, federal states, and countries.

Analytical Tools

Marketing Channels

The most common marketing channels engaged in the supply chain of Tomato, Vegetable Peas and Green chilies in the Kaushambi district was as follows:

1. MC₁: Producers-Consumers
2. MC₂: Producers –Retailers - Consumers
3. MC₃: Producers - Whole sellers/CA- Retailers - Consumers

Results and Discussion

Supply Channels

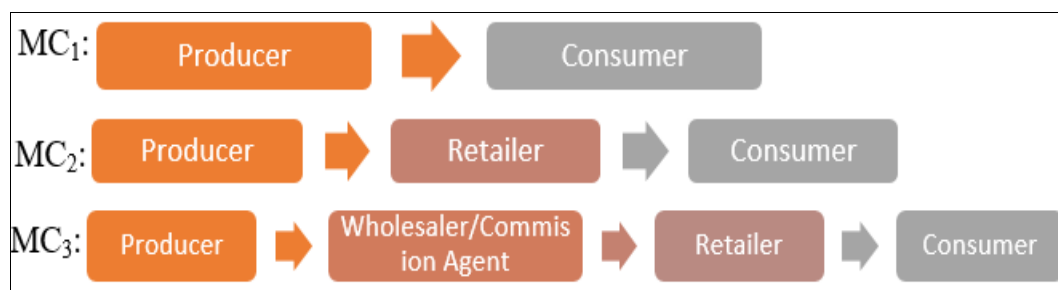
Supply channels are the different routes through which agricultural product move from producer to consumer. The channel consists of various agencies which facilitate the movement of product by performing different marketing functions as the produce move from primary producer to the ultimate consumer. The movement of the produce differs based on time and factors like distance involved in completing the process.

The supply channels in terms of length and combination of intermediaries varies with the variety of the vegetables, quantity to be marketed, time and degree of regional specialization in production. The channels followed in the supply of selected vegetables mainly are-



Most common marketing channels engaged in the study area for supply chain of Vegetable Pea, Tomato and Chili in the

Kausambhi was found:



The primary data for evaluation of above-mentioned marketing supply chains of Vegetable Pea, Tomato and Green Chili in relation to transportation, packaging and marketing costs, spoilage during transportation and marketing, loading, unloading and commission charges, cleaning, washing and grading charges, sale price, problems faced and expectations of producers, commission agents, wholesalers, retailers and consumers were collected by using well-structured questionnaires. During the survey ten producers, ten commission agents, ten wholesalers, ten retailers and twenty consumers for

each marketing supply chain were interviewed and data were collected.

Table 1: Growers using different marketing channel

| Marketing channels | Number of growers | Percent (Of total sample size-200) |
|--------------------|-------------------|------------------------------------|
| I & II | 30 | 15.00 |
| I & III | 47 | 23.50 |
| II & III | 92 | 46.00 |
| I, II and III | 123 | 61.50 |

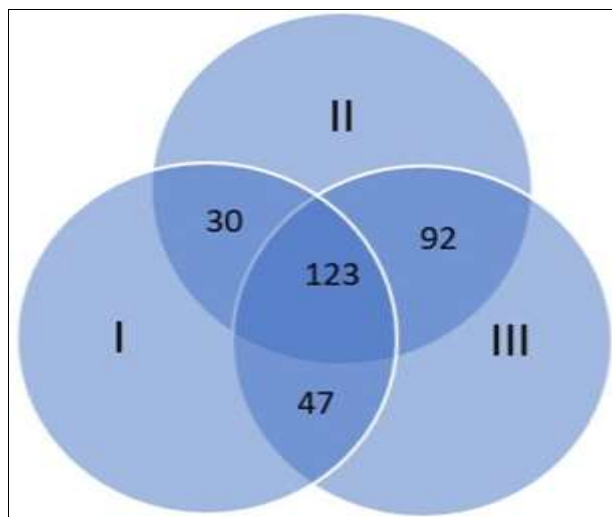


Fig 1: Diagrammatic representation of marketing channel

Table 1: presents data on the marketing channels used by vegetable growers in the study area, along with the number of growers and the corresponding percentages of the total sample size (200). The marketing channels are labelled as I, II, and III. This category includes 30 growers who use both marketing channels I and II to sell their vegetables. It signifies that 15% of the total sample size employ a combination of these two channels for their marketing strategies. A larger group, consisting of 47 growers, uses both marketing channels I and III. This combination represents 23.50% of the total sample, indicating a significant preference for combining these two channels. Nearly half of the sample, 92 growers (46.00%), utilize marketing channels II and III in conjunction. This suggests that combining the second and third channels is a prevalent practice among the vegetable growers in the study area. The largest group consists of 123 growers who use all three marketing channels (I, II, and III). This represents a substantial majority of the sample, at 61.50%. It appears that a significant proportion of vegetable growers employ a diversified approach, making use of all available marketing channels to sell their produce.

The data reveals that a majority of vegetable growers in the study area prefer to use a combination of marketing channels. This suggests that they are diversifying their marketing strategies, likely to reach a broader customer base or to mitigate risks associated with over-reliance on a single channel. Marketing channel III seems to be popular among growers, as it is a part of every combination. This could be due to its effectiveness, wider reach, or other advantages that attract a significant number of growers. The presence of growers using all three channels (I, II, and III) highlights their adaptability and willingness to explore various avenues for selling their vegetables. This flexibility may be driven by market conditions, crop type, or personal preferences. Marketing Channel II & III Combination: The largest single combination of marketing channels is II & III, indicating that combining these two channels is the most favoured strategy among the growers in the study area. This suggests that marketing channels II and III complement each other effectively for vegetable sales.

Understanding the distribution of growers across these marketing channels is crucial for policymakers, researchers, and agricultural stakeholders to tailor support and initiatives to the needs and preferences of the local growers, ultimately contributing to the growth and sustainability of the vegetable cultivation sector in the study area.

Summary and Conclusion

Marketing channels are the routes through which agricultural products move from producers to consumers, involving various agencies that perform different marketing functions. These channels can vary based on factors such as the type of vegetable, quantity, time, and regional specialization in production. The study area in Kausambhi uses multiple marketing channels for the supply of selected vegetables, including Vegetable Pea, Tomato, and Green Chili.

The study reveals that a significant portion of vegetable growers prefer to use a combination of marketing channels. This suggests that diversifying marketing strategies is a common practice among these growers, likely to reach a broader customer base and mitigate risks associated with over-reliance on a single channel. Marketing Channel III appears to be popular among growers, as it is a part of every combination. This could be due to its effectiveness, wider reach, or other advantages that attract a significant number of growers.

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