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Study on post-harvest and marketing of gerbera flower in Azamgarh district of Uttar Pradesh

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Abstract

The present study entitled “Post-Harvest and Marketing of Gerbera in Azamgarh” was conducted to analyse the socio-economic profile of gerbera producers, assess post-harvest losses, and evaluate marketing efficiency in the study area. Primary data were collected from selected farmers through personal interviews, while secondary data were obtained from published sources. The findings revealed that gerbera cultivation is mainly practiced by small and medium farmers with moderate levels of education and farming experience. Post-harvest losses were significant, particularly due to physical damage during handling and environmental factors such as temperature and humidity, leading to considerable economic loss per hectare. The study further indicated that the marketing system involves multiple intermediaries, resulting in high marketing costs, substantial margins, and a wide price spread between producers and consumers. The calculated marketing efficiency was found to be relatively low, reflecting inefficiencies in the existing marketing channels. Additionally, major problems faced by gerbera producers included price fluctuations, high transportation costs, lack of cold storage facilities, and inadequate market information. The study suggests that improving post-harvest management practices, developing cold chain infrastructure, and strengthening direct marketing channels can enhance farmers’ income and overall efficiency of the gerbera marketing system.

Keywords: Gerbera, post-harvest losses, marketing cost, price spread, marketing efficiency, floriculture, producers’ constraints, Azamgarh

Introduction

Agriculture in India has undergone significant transformation from traditional cereal-based systems to diversified high-value farming, driven by population pressure, declining profitability of staple crops, urbanization, and changing consumer preferences. Among emerging enterprises, floriculture has gained prominence, with gerbera (*Gerbera jamesonii*) becoming a commercially important cut flower due to its aesthetic appeal, vibrant colours, long vase life, and strong market demand. Native to South Africa, gerbera is widely used in bouquets, decorations, and gifting, making it popular among florists and consumers. In India, gerbera cultivation has expanded rapidly due to increasing domestic demand, growth of hospitality and event industries, and government support through subsidies and protected cultivation programs like polyhouses. Gerbera requires controlled environmental conditions, with an ideal temperature range of 18°C to 28°C, well-drained porous soil with a pH of 5.5-6.5, and proper nutrient management. Popular varieties such as Stanza, Danaella, and Savannah are selected based on market demand and adaptability. Major production states include Karnataka, Maharashtra, Tamil Nadu, and West Bengal, supported by better infrastructure and market networks. Proper harvesting, grading, and post-harvest management are crucial to maintain quality and reduce losses. Gerbera has strong domestic and export potential due

to its consistent demand and durability. Floriculture contributes to income diversification, employment generation, and rural development. However, challenges such as high initial investment, lack of technical knowledge, limited access to quality planting material, and weak marketing infrastructure hinder its growth. Efficient marketing systems, cold storage, and transportation are essential for profitability. Regions like Azamgarh in Uttar Pradesh have potential for expansion but require technological adoption and institutional support. Sustainable practices, including resource-efficient protected cultivation and integrated pest management, further enhance its viability. Overall, gerbera cultivation offers a promising opportunity for agricultural diversification and improved farmer livelihoods if supported by proper policies, training, and market linkages.

Research Methodology

The study was conducted in Azamgarh district of Uttar Pradesh, one of the important district in terms of post-harvest and marketing of gerbera. From the district one block Tarwa was selected on the purposively basis of area under gerbera cultivation. Ten percent of respondents was selected from Tarwa block randomly. A pooled list of all gerbera cultivator respondents was prepared for all selected villages. Then the farmers were classified into marginal (0-1 hectare), small (1-2 hectare), Semi-medium (2-4 hectares),

medium (4-10 hectare) and large (above 10 hectare) size groups on the basis of size of their landholding they are having. The required primary data was collected from selected farmers for the agricultural year 2025-26. The requisite secondary data were collected from various published records of government offices, books, block development offices, reports, related websites and other related sources. The socio-economic profile, marketing channels, marketing cost, marketing margin, price spread, marketing efficiency and constraints was identified through personnel interview of paddy growers, for achieving the stated objective, the analytical tools such as tables, charts and graphs simple ranking, percentage method were used. This chapter deals with the materials used and methodology adopted in achieving the objectives of the study. For the sake of ease in understanding and clarity in presentation, this chapter is devoted to and presented in broad three section, first section focuses on sampling design used to select the district, block, villages and respondent. The second section is collection of data. The third section a tool of analysis and techniques applied.

Analytical Tools

Chi-Square Test

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

SWOT Analysis: Strengths, Weaknesses, Opportunities, Threats

Marketing Cost Analysis

$$C = C_f + C_{m1} + C_{m2} + C_{m3} + \dots C_{mn}$$

Marketing Margins

1. **Wholesaler Margin** Margin = Selling Price - Purchase Price, it includes transportation, storage, market fee, labour, and profit.
2. **Retailer Margin** Margin = Consumer Price - Purchase Price

Marketing Efficiency tools

1. **Shepherd formula:** Marketing Efficiency = Value of goods sold/total marketing cost
2. **Acharya and Agrawal formula:** ME = Prices received by farmer/total marketing cost + marketing margin

Standard Deviation

$$\sigma = \sqrt{\frac{\sum (x_i - \mu)^2}{N}}$$

Results and Discussion

Table 1: Analysis of Marketing Costs, Margins, Price Spread, and Efficiency of Gerbera marketing in Channel I (Producer–Wholesaler–Consumer)

S. No	Particulars	Value in Rupees/ Box
1.	Producer sale price to wholesaler	755
2.	Cost incurred by the producer	
i	Packing cost	14.00
ii	Packing material cost	13.00
iii	Transportation cost	19.00
iv	Market cost	17.00
v	Labor cost	11.00
vi	Loading and Unloading cost	9.00
vii	Weighting Charges	7.00
viii	Miscellaneous charges	18.00
3.	Total cost (i-viii)	108.00
4.	Net price received by producer	647
5.	Wholesaler sale price to Consumer	852
6.	Margin of the Wholesaler	100
A	Total Marketing Cost	108
B	Total Marketing Margin	100
C	Price Spread	208
D	Marketing Efficiency	3.11%

The analysis of Channel I revealed that the producer received a net price of ₹647 per box against the consumer price of ₹852 per box. The total marketing cost and marketing margin were ₹108 and ₹100 per box, respectively. The price spread was ₹208 per box. The marketing efficiency was estimated at 3.11% indicating that the channel was relatively efficient due to the involvement of fewer intermediaries.

Table 2: Evaluation of Marketing Costs, Margins, Price Spread, and Efficiency of Gerbera Marketing in Channel II (Producer–Wholesaler–Retailer–Consumer).

Sr. No.	Particulars	Value in Rupees/ Box
1.	Producer sale price to Wholesaler	755
a.	Marketing cost incurred by producer	108
b.	Net price received by the producer	647
2.	Sales price of Wholesaler to Retailer	848
Cost incurred by the Wholesaler		
I	Loading & Unloading charges	4.00
ii	Carriage up to shop	3.00
iv	Town charges	3.00
v	Transportation	4.00
vi	Losses & Miscellaneous charges	9.00
3.	Total Cost (i-vi)	23.00
4.	Margin of Wholesaler	70.00
5.	Sale price from Retailer to Consumer	910.00
6.	Margin of Village Merchant/Retailer	62
7.	Consumers paid price	910
A	Total marketing cost	131
B	Total marketing margins	132
C	Price Spread	263
D	Marketing Efficiency	2.46%

In Channel II, the producer received the same net price of ₹647 per box, whereas the consumer paid ₹910 per box. The total marketing cost and marketing margin increased to ₹131 and ₹132 per box, respectively. Consequently, the price spread increased to ₹263 per box and marketing

efficiency declined to 2.46. The lower efficiency was mainly due to the involvement of an additional intermediary (retailer). Comparison between Marketing cost, Marketing margin, Marketing efficiency and Price spread of gerbera in channel I and channel II in marketing of per box.

Sr. No.	Particulars	Value in Rupees / Box	Value in Rupees / Box
		Channel I	Channel II
1	Net price received by the producer	647	647
2	Consumer paid price	852	910
3	Total marketing cost	108	131
4	Total marketing margin	100	132
5	Price spread	208	263
6.	Marketing Efficiency	3.11%	2.46%

Reveals that comparison of marketing cost, marketing margin and price spread in marketing of gerbera in channel I and channel II. In channel I the net price received by the producer is Rs. 647, consumer paid price for each box of gerbera is Rs 852, the total marketing cost incurred in channel I is Rs 108, the total marketing margin in channel I is Rs 100, price spread in channel I is Rs 208 and marketing efficiency of channel-I is 3.11% and in channel II net price received the producer is Rs. 647, the consumer paid price each box of gerbera is Rs. 910, the total marketing cost incurred in channel II is Rs 131, the total marketing margin in channel II is Rs 132, price spread in channel 2 is Rs 263 and marketing efficiency of channel-II is 2.46% respectively.

Conclusion

The present study on post-harvest management and marketing of gerbera flowers in Azamgarh district provides important insights into the production practices, marketing structure, and constraints faced by gerbera growers in the study area. The analysis of the socio- economic profile revealed that gerbera cultivation is primarily undertaken by small and medium farmers who possess moderate farming experience and limited access to modern infrastructure. Although most farmers are aware of improved cultivation practices, their adoption level is often restricted due to financial constraints, lack of technical guidance, and inadequate institutional support. Education level and farming experience were found to play a significant role in influencing decision-making related to production and marketing. The study of post-harvest losses indicated that a considerable proportion of gerbera flowers is lost after harvesting. Physical losses were found to be higher compared to environmental losses, mainly due to improper handling, inadequate grading, poor packaging, and damage during transportation. Environmental factors such as high temperature and lack of cold storage facilities further accelerate deterioration, reducing both quality and market value. These losses directly affect the profitability of farmers and highlight the need for improved post-harvest management practices. The analysis of marketing cost, margin, and price spread revealed that a significant portion of the consumer's price is absorbed by marketing costs and intermediary margins. The marketing efficiency was found to be relatively low, indicating inefficiencies in the system. High transportation costs, commission charges, and lack of

direct market access contribute to the widening gap between the price received by producers and the price paid by consumers. Further, the study identified several marketing constraints faced by gerbera producers. Among these, price fluctuation emerged as the most critical problem, followed by high transportation cost, lack of cold storage facilities, and the dominance of middlemen. Inadequate market information, absence of organized markets, delayed payments, and poor packaging facilities were also reported as significant challenges. In conclusion, the study highlights that while gerbera cultivation has strong potential as a profitable floriculture enterprise in Azamgarh, the benefits are constrained by high post-harvest losses and an inefficient marketing system. Therefore, there is an urgent need to develop better infrastructure such as cold storage and transportation facilities, promote direct marketing channels, and provide training to farmers on scientific post-harvest handling. Strengthening institutional support and improving access to market information can further enhance marketing efficiency and ensure better returns to gerbera producers.

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