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A study on price spread and marketing efficiency of jasmine value chains in Salem and Dharmapuri district of Tamil Nadu

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Abstract
Jasmine flower is cultivated and used in large quantities all over the world, where Tamil Nadu ranks first in jasmine production. The objective of the study was to identify the value chain actors in the study area and to analyze the price spread and marketing efficiency of Jasmine in different value chains. Salem and Dharmapuri district were purposively selected for the study as the production area is prominently increasing. The study was conducted during the months of May and June 2023 and in total, 100 farmers and 50 market intermediaries were randomly selected for the study. The tools used for the study were price spread and marketing efficiency by the Shepherds and Acharya method. Four value chains were identified in the study area, in which the value chain IV was identified as the least price spread and the value chain III has the highest price spread. The marketing efficiency of the Jasmine value chain was computed using Shepherd's method and channel IV was found to have the maximum efficiency with a score of 22.50 because it had fewer intermediaries which included Retailer and consumers, whereas, channel III had the least marketing efficiency with a score of 3.74 which mainly includes Farmers, commission agents, Exporter, and consumers. The study concluded that Channel IV was efficient.

Keywords: Floriculture, flower, jasmine, price spread, marketing efficiency

Introduction
Floriculture, a thriving sub-sector of horticulture, encompasses cut/loose flowers, ornamental plants, and potted varieties, with a focus on marketing. Cut and loose flowers are two distinct categories. Cut flowers are freshly harvested blooms with varying stem lengths, while loose flowers lack stems. Roy *et al.* (2014) [1] explored the potential for enhancing the value of multifunctional floricultural products in West Bengal, underscoring the need for tailored marketing strategies for perishable goods like jasmine and advocating for improved consumer awareness and infrastructure. Wadhwa *et al.* (2015) [3] viewed marketing as a dynamic business process guiding produce flow from producers to consumers, focusing on the variable costs associated with jasmine cultivation, including planting materials, labor, and inputs. Visalakshi *et al.* (2015) [5] devised a freeze-drying method to preserve flower quality, highlighting its success with jasmine blossoms in maintaining moisture levels, shape, and pigmentation, making them suitable for the dry flower industry. Mitiambo (2016) [4] emphasized a comprehensive value chain analysis spanning from input supply to consumer engagement for Europe's flower industry. Saripalle *et al.* (2016) [2] employed a primary survey of jasmine farmers to scrutinize production dynamics in Tamil Nadu, specifically market structure and pricing, leading to policy suggestions for enhancing yield and profitability. Agencies integrating retrograde aspects into the perfume industry and functioning as both agents and flower buyers contribute to the value chain of jasmine flower farming and sale. Ravikumar *et al.* (2019) [6] collaborated on a project to reform the jasmine value chain, leading to increased technology adoption, awareness, and average yield after the introduction of NAIP funding, thus addressing industry gaps. The demand for flowers has gradually increased, and as a result, it has grown to be a significant agricultural commercial trade.

Methodology

This study was proposed to analyze the value chain of loose flowers in the Salem and Dharmapuri districts of Tamil Nadu, as these two districts are neighbouring districts and share common boundaries. The data were collected based on the total cost and the returns from Jasmine's production and marketing. The data collected was carried out at the Veerapandi Panamarapathupatti blocks of Salem district and Nallampalli, and Pappireddipatti block of Dharmapuri district. This includes 150 sample respondents comprising 100 farmers, 20 commission agents, 7 local traders, 16 retailers, 4 processors, and 3 exporters. The data were collected and tabulated using percentage analysis. The primary data is collected through standard questionnaires with jasmine farmers to analyze the marketing efficiency of jasmine.

Tools for analysis

Price Spread

The price spread is the difference between the price the producer receives and the price that the customer pays for certain goods in the market at a particular time. If the price spread is the lowest, the market is said to be efficient. Information was gathered from individual farmers as well as other value chain actors. The expenditures for marketing the produce comprised of expenditures for transportation, loading and unloading, packing, storage, spoiling, and other needs. The formula for price spread follows:

$$\text{Price spread} = P_p - P_f$$

Where,
P_p= Price received by the customer
P_f = Price received by the farmer

Farmer's share in consumer's rupee

The farmer's share in consumer rupees is the price received by the farmers which is expressed as a percentage of the price paid by the consumers.
The following formula was used to determine the farmer's share of the consumer rupee.

$$Fs = (Fp/Cp) \times 100$$

Where,
Fs = Farmer's share in consumer rupee (percentage)
Fp = Farmers price (Rs)
Cp= Consumer's price (Rs)

Estimation of marketing efficiency

Marketing efficiency involves facilitating the movement of products from producers to consumers with minimal expenses, all the while ensuring that consumers' desired services are fulfilled. In this value chain study of loose flower, the Acharya method and Shepherd method was employed to assess the marketing effectiveness of different jasmine distribution channels.

Acharya's Approach to Market Efficiency

According to Acharya, an ideal measure of marketing efficiency, particularly for comparing the efficiency of alternate market channels should be taken into account. The following measure was used to estimate marketing efficiency.

$$ME = FP/(MC+MM)$$

Where,
ME-Marketing Efficiency
FP-Prices received by the farmers
MC-Total marketing cost
MM-Net marketing margin

Shepherd's Method to Market Efficiency

According to the Shepherd method, it can be measured from the ratio of the total value of goods marketed to the marketing costs. The higher the ratio, the higher the efficiency, and vice versa. In the study, the efficiency of the loose flower marketing system was evaluated using the following marketing efficiency measures.

$$ME = (V/I)-1$$

Where,
ME = Marketing efficiency
V = Value of goods sold or consumer price
I = Total marketing cost

Results and Discussions

The research study focused on jasmine flower marketing in the Salem and Dharmapuri area, where four channels were identified in the study area channel, known as
Channel I: Farmers – Commission agent – Market Trader (voc market) – Local Retailer- Consumer.
Channel II: Farmers – commission agent – processor – consumer,
Channel III: Farmers – commission agent – exporters – consumer,
Channel IV: Farmers – retailer – consumer.

The marketing process begins at the producer level and ends at the consumer level, involving processing, value addition, and export. Farmers sell their jasmine flower directly to the commission agents and sometimes to the retailers based on the availability of the intermediaries, For both pricing and marketing. The study found that the marketing efficiency of 22.5 percent & 11.8 percent.
Farmers' share in the consumer's price is used to identify how much share of money the farmers get from the money spent by the consumer. Through this method, it was found out which value chain IV is giving more share to the Farmers. The results from Table 1 were used to calculate the Price spread and Farmer's share in consumer price. It could be inferred from the table1 that Price Spread and Farmer's share in consumer's price was the highest in value chain IV, which accounted for 75 and 93.33 percent respectively. Moreover, there was only one intermediary present in value chain IV, so there was less price spread. Value chain I had the second highest percentage among the four channels in which the producer's share was 81.34 percent. The third was for value chain II, which has 78.36 percent. Value chain III had the lowest share of Farmers in consumer price which was about 55.47 percent and the Highest Price spread.

Marketing efficiency by shepherd method

From the table, it is found that consumer price varies across the value chain, with VC 3 having the highest consumer price of 1,352. VC 4 has a consumer price of 825 respectively. The total marketing cost also varies significantly among the ventures. VC 3 has the highest marketing cost per kilogram at 285, while VC 1 and VC 4 have relatively lower marketing costs of 45 and 35, respectively. According to Shepherd

marketing efficiency, the calculated value of VC 4 has the highest efficiency among the four value chains at 22.5 percent, followed by VC 1 at 19.48 percent, VC 2 at 10.6 percent, and VC 3 at 3.74 percent.

Table 1: Price spread of marketing channel of 1 kg Jasmine (VC- Value chain)

S. No	Particular (per kg)	VC 1	VC 2	VC 3	VC 4
1	**Farmers**				
	Producer price	740 (80.26)	740 (77.32)	740 (54.73)	760 (92.12)
	Marketing cost (loading and unloading, transport, packing, miscellaneous charges)	10 (1.08)	10 (1.04)	10 (0.73)	10 (1.21)
	Gross price received by the farmers (per kg)	750 (81.34)	750 (78.36)	750 (55.47)	770 (93.33)
2	**Commission agent**				
	Price paid by the commission agent	750 (81.34)	750 (78.36)	750 (54.47)	-
	Marketing cost (loading and unloading, transport, packing, license fee, rent, electricity, miscellaneous charges)	15 (1.62)	15 (1.56)	15 (1.10)	-
	Profit margin (@10%)	75 (8.13)	75 (7.83)	75 (5.54)	-
	Price received by the commission agent	840 (91.1)	840 (87.77)	840 (62.13)	-
3	**Market Traders (voc market)**				
	Price paid by the market trader	840 (91.1)	-	-	-
	Marketing cost	10 (1.08)	-	-	-
	Profit margin @ (5%)	42 (4.55)	-	-	-
	Price received by the trader	892 (96.70)	-	-	-
4	**Processor**				
	Price paid by the processor	-	840 (87.77)	-	-
	Processing cost		20 (2.08)	-	-
	Marketing cost (Loading and unloading, transport, miscellaneous)	-	22 (2.29), 5(0.52), 5(0.52), 5(0.52)	-	-
	Profit margin @ (7%)	-	60 (6.26)	-	-
	Price received by the processor	-	957 (100)	-	-
5	**Retailer**				
	Price paid by the retailer	892 (96.70)	-	-	770 (93.33)
	Value addition	5 (0.54)			5 (0.60)
	Marketing cost	5 (0.54)	-	-	20 (2.42)
	Profit margin @ (3%)	20 (2.16)	-	-	30 (3.63)
	Price received by the retailer	922 (100)	-	-	825 (100)
6	**Exporter**				
	Price paid by the exporter	-	-	840 (62.13)	-
	Packing cost (thermocol, ice bag, grading)	-	-	150 (11.09)	-
	Marketing cost	-	-	110 (8.13)	-
	Profit margin @ (30%)	--	-	252 (18.63)	-
	Price received by the exporter	-	-	1,352 (100)	-
7	**Consumer**				
	Price paid by the consumer	922 (100)	957 (100)	1,352 (100)	825 (100)
	Price Spread (CP-FS)	172	207	602	75
	Farmers share in consumer price = (FS / CP * 100)	81.34	78.36	55.47	93.33

Table 2: Marketing efficiency by Shepherd method

S. No.	Particulars	VC 1	VC 2	VC3	VC 4
1	Consumer price (V)	922 (100)	957 (100)	1,352 (100)	825 (100)
2	Total marketing cost (I) (per kg)	45	82	285	35
3	Shepherd marketing efficiency ME=(V/I)-1	19.48	10.6	3.74	22.5

Marketing efficiency by Acharya method

According to the Acharya method value chain (VC1, VC2, VC3, VC4) is based on total marketing cost, marketing margin, price received by farmers, and marketing efficiency. The VC3 has the highest margin but low efficiency due to high cost. VC4 has balanced efficiency due to a good margin-to-cost ratio. VC1 shows moderate efficiency, while VC2's efficiency is lower due to possible cost-margin imbalance. Farmers' prices remain consistent across ventures.

Table 3: Marketing efficiency by Acharya method

S. No	Particulars	VC1	VC2	VC3	VC4
1	Total marketing cost	45	82	285	35
2	Total marketing margin	137	135	327	30
3	Price received by the farmers	750	750	750	770
4	Marketing efficiency =FP/MM+MC	4.12	3.45	1.22	11.8

When total marketing margins are more than the marketing cost per unit, marketing is said to be efficient. The marketing of loose flowers in jasmine, Value chain IV marketing efficiency is higher (11.8 percent) than the rest of the value chain, it was more efficient for the farmers. The fact that Value Chain 4 is efficient because just one middleman is involved in its marketing efficiency index of 11.8 percent.

Conclusion

This research has found that jasmine marketing in Salem and Dharmapuri district, identifying multiple marketing channels VC1, VC2, VC3, VC4. These channels, encompassing producers, agents, traders, retailers, processors, and exporters, showcased a varied landscape of consumer prices and marketing costs. The study revealed a notable marketing efficiency of 22.5 percent (Shepherd), and 11.8 percent (Acharya) underscoring the efficacy of the prevailing distribution networks. The Shepherd and Acharya methods provided insights into the varying efficiencies of these channels, with different balances of cost and margin. Notably, value chain 4 emerged as the most efficient, indicating the potential of a streamlined approach. Hence this research enhances our understanding of jasmine marketing dynamics and efficiency optimization.

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