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Price spread, market margin and marketing efficiency in cauliflower marketing in Maharashtra

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Abstract
The study *viz*. "Economics of production and marketing of Cauliflower in Ahmednagar district of Maharashtra" was conducted in six villages of Sangamner and Akole tehsil of Ahmednagar district. The objectives of the study were to estimate the resource use, costs returns and productivity of cauliflower. Besides this marketing practices and patterns of disposal, marketing cost and price spread were studied. The problems faced by the farmers in production and marketing of Cauliflower in Ahmednagar district were also examined. The study was based on the primary data of cauliflower growers for the year 2019-20, spread over the six randomly selected villages of two tehsils. From each selected village, 15 growers, 5 from each size group *viz*. small, medium and large were randomly selected. Thus, the total sample consisted of 30 farmers each of small, medium and large size groups.

The average per quintal cost of marketing of Cauliflower in channel I was ₹ 81.41 at the overall level. Major items of marketing cost were packaging charges and transportation charges. It accounted for 61.54 and 38.46 percent respectively, while in the case of channel II and channel III the cost of marketing was ₹ 260.32 and ₹ 360.84 respectively which is greater than that of channel Ⅰ. Price spread in marketing of Cauliflower was minimum in channel Ⅰ due to no intermediaries. In channel Ⅰ, the producer's share in consumer's rupee was highest (93.97 per cent). In channel Ⅱ, it was (74.29) per cent and (61.24) per cent in channel Ⅲ. The net price received by the producer was maximum (₹ 1375.22/quintal) in channel Ⅲ than that of channel Ⅰ (₹ 1269.47/quintal) and channel Ⅱ (₹ 1273.89 /quintal).

Keywords: Cost, Cauliflower, Price spread, Market margin

Introduction

Agriculture is India's most significant economic industry. Vegetables, being a great source of carbohydrates, proteins, vitamins, and minerals, serve an essential function in human nutrition in agriculture. In India, per capita vegetable consumption is 170g per person per day, compared to a guideline of 280g per person per day.

India's most important vegetable crop is cauliflower. *Brassica olerace* L. var. botrytis is the species of Cauliflower, which belongs to the Brassicaceae family's genus Brassica. The name "cauliflower" comes from the Italian phrase cavolfiore, which means "flower of cabbage". The name is derived from the Latin words caulis (cabbage) and fls (flower) (flower). Cauliflower is a kind of cole crop that originated in the Mediterranean region's northeast. It began on the island of Cyprus and spread to other parts of the world, including Syria, Turkey, Egypt, Italy, Spain, and North western Europe. It was initially cultivated in the late 1600s in North America. It's a winter crop that thrives in a cold, wet environment. Early kinds, such as Early Kunwar, Early Synthetic, Pusa Katki, and Pant Gobhi - 2, may be able to withstand greater temperatures and longer days.

Objective
1. To estimate the marketing costs, market margin and price spread of Cauliflower
2. To identify the problems in production and marketing and suggest the measures

Methodology
The research used a two-stage purposive and random sampling strategy, with the sample tehsil as the primary unit of sampling and the village as the secondary unit of sampling. On the basis of area under cauliflower cultivation, three villages each from Akole and Sangamner tehsils were selected for study. On the basis of information collected from the village revenue office, a list of Cauliflower farmers was constructed for each of the selected villages, together with their operating area and area under Cauliflower cultivation.

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For each of the selected villages, the Cauliflower growers were arranged in descending order of their area under cauliflower crop, and five growers from each of the three predetermined size classes (i.e., area under Cauliflower cultivation), namely Group I (0.01 to 0.40ha), Group II (0.41 to 0.80ha), and Group III (0.81 ha and above) were chosen at random. As a result, the study's overall sample size was 90 cauliflower farmers, with 30 in each size group.

To fulfil the specific objectives of the study, based on the nature and extent of availability of data, analytical tools and techniques *viz.,* tabular analysis was adopted to compile the general characteristics of the sample farmers, Resource use efficiency-Marginal value product (MVP), Market margin, Price Spread (Price spread= Consumer's price – Price received by farmer), Total marketing cost, Marketing efficiency.

Results and discussion
Production and Disposal Pattern of Cauliflower
The majority of the cauliflower crop was marketed after being given away to people, as well as losses due to pests and diseases. Table 4.10 contains information about the cauliflower disposal pattern.

The total quantity of cauliflower produced was 419.21q per hectare. 1.01 per cent, 1.90 per cent, and 3.02 per cent of total produce were utilised for home consumption, gratis, and losses due to pests and diseases, respectively. At the overall level, the marketed surplus was 98.59 per cent.

According to the table, total cauliflower produced per farm was 396.69q, 429.15q, and 431.8q in small, medium, and large size groups, respectively, and home consumption, gratis, losses due to pests and diseases, and marketed surplus were 0.32, 0.32, 2.27, and 98.88 per cent in small size groups, respectively.

Table 1: Production and disposal pattern of Cauliflower (q / farm)

Sr. No.	Particulars	Group			Overall
		Small	Medium	Large	
1	Total production	396.69	429.15	431.8	419.21
		(100)	(100)	(100)	(100)
2	Home consumption	0.32	2.44	0.27	1.01
		(0.08)	(0.57)	(0.06)	(0.24)
3	Gratis	1.85	1.99	1.86	1.90
		(0.47)	(0.46)	(0.43)	(0.45)
4	Losses due to pests and diseases	2.27	3.40	3.40	3.02
		(0.57)	(0.79)	(0.79)	(0.72)
	Marketed surplus	392.25	421.32	426.27	413.28
		(98.88)	(98.18)	(98.72)	(98.59)

(Figures in parentheses are the percentage to the total)

Total production (429.15q) includes home consumption (2.44 per cent), gratis (1.99 per cent), losses due to pests and diseases (3.40 per cent), and marketed surplus (98.18 per cent) in the medium size group, and total production (431.8q) includes home consumption (0.27 per cent), gratis (1.86 per cent), losses due to pests and diseases (3.40 per cent), and marketed surplus (98.72 per cent) in the large size group.

Marketing Channel of Cauliflower
Marketing channels describe how produce moves from the producer to the customer through various marketing organizations. During the current study, it is essential to highlight the marketing channels utilized in cauliflower marketing. Various marketing outlets noticed throughout the study are listed below.

Channel-I: Producer – Consumer

Channel-II: Producer – Retailer – Consumer

Channel-III: Producer – Wholesaler – Retailer – Consumer
The detailed information on the quantity of produce sold through different marketing channels by the cauliflower growers presented in table. It could be seen that there are three marketing channels were observed in cauliflower marketing. The marketing channel-III (Producer –Wholesaler – Retailer – Consumer) was the most preferred

Table 2: Channel wise quantity sold (q / ha)

Sr. No.	Marketing channel	Group			
		Small	Medium	Large	Overall
1	I (P-C)	41.44	35.19	36.86	37.83
		(10.45)	(8.20)	(8.54)	(9.06)
2	II (P-R-C)	80.68	103.91	104.21	96.27
		(20.34)	(24.21)	(24.13)	(22.90)
3	III (P-W-R-C)	270.43	282.22	285.20	279.28
		(68.89)	(66.99)	(66.91)	(67.59)
	Total quantity marketed	392.55	421.32	426.27	413.38
		(100.00)	(100.00)	(100.00)	(100.00)

(Figures in parentheses are the percentage to total)
P-C=Producer-Consumer,
P-R-C=Producer-Retailer-Consumer,
P-W-R-C=Producer-Wholesaler-Retailer-Consumer)

Among the other two marketing channels, the most popular was channel III (Producer – Wholesaler – Retailer – Consumer), which accounted for 67.59per cent of total produce sales, followed by channel II (Producer – Retailer – Consumer), which accounted for 22.90 per cent of total sales. The amount of product sold through channel -I (Producer – Consumer) was 9.06 per cent of the total.

The maximum quantity of 68.89per cent was marketed through channel-III (Producer – Wholesaler – Retailer – Consumer) in the case of small size group, followed by channel-II (Producer – Retailer – Consumer) accounts for 20.34 per cent, whereas channel – I (Producer – Consumer) accounts for 10.55 per cent.

The medium-sized cauliflower farmers sold the most product, 66.99 per cent, through channel-III (Producer –Wholesaler – Retailer – Consumer), followed by 24.21 per cent for channel-II (Producer – Retailer – Consumer) and 8.20 per cent for channel-I (Producer – Consumer).

In the case of large group, channel-III (Producer –Wholesaler – Retailer – Consumer) accounted for the largest amount of 66.91per cent of total produce, followed by channel-II (Producer – Retailer – Consumer) at 24.13 per cent and channel-I (Producer – Consumer) at 8.54 per cent.

Price spread and Marketing Efficiency in Different Marketing Channels
The difference between the price paid by the customer and the price received by the producer is known as the price spread. This includes marketing costs and margins for various channels. The costs and margins of agency in various channels were estimated, and the results are shown in Table 4.13. The net price obtained by the producer in Channel-I, Channel-II, and Channel-III, respectively, was ₹1269.47, ₹ 1273.89, and ₹ 1375.22, as shown in table 4.13. In channel-I (Producer – Consumer), the price spread was the lowest (₹81.41). There are no market margins between the producer

and the consumer. Channel-III had the largest price spread (₹ 870.39), followed by channel-II (₹440.88). This is owing to the fact that as the number of intermediatories increases does the price spread. Consumers paid the greatest price in channel III, followed by channel II. Table 4.13 reveals that in channel-I, the producer's share of the consumer's rupee was the maximum (93.97 per cent), followed by channel-II (74.29 per cent), and channel-III (61.24 per cent).

Table 4: Channel wise price spread (₹ / q)

Sr. No.	Particulars	Channel I (P-C)	Channel II (P-R-C)	Channel III (P-W-R-C)
1	Price received by the Producer	1350.88	1534.21	1736.06
		(100.00)	(89.47)	(77.31)
	Cost incurred by producer	81.41	260.32	360.84
		(6.03)	(15.18)	(16.07)
	Net price received by producer	1269.47	1273.89	1375.22
		(93.97)	(74.29)	(61.24)
2	Wholesaler			
	Price paid by wholesaler			1736.06
				(77.31)
	Cost incurred by wholesaler			80.4 (3.58)
	Margin of wholesaler			200.00
				(8.91)
3	Retailer			
	Price paid by retailer		1534.21	2016.46
			(89.47)	(89.80)
	Cost incurred by retailer		70.50	68.58
			(4.11)	(3.05)
	Margin of retailer		110.06	160.57
			(6.42)	(7.15)
4	Consumer			
	Price paid by consumer	1350.88	1714.77	2245.61
		(100.00)	(100.00)	(100.00)
	Marketing cost	81.41	330.82	509.82
		(6.03)	(19.29)	(22.70)
	Marketing margin		110.06 (6.42)	360.57 (16.06)
	Price spread	81.41 (6.03)	440.88 (25.71)	870.39 (38.76)
	Producers share in Consumers Rupee	1269.47	1273.89	1375.22
		(93.97)	(74.29)	(61.24)

(Figures in parentheses are the percentage to total)

Table 5: Channel wise Marketing Efficiency (₹ / q)

Sr. No.	Particulars	Channel I	Channel II	Channel III
1	Net price Received by the farmer	1269.47	1273.89	1375.22
2	Total marketing cost	81.41	330.82	509.82
3	Total marketing margin		110.06	360.57
	MM+MC	81.41	440.88	870.39
4	Price paid by consumer	1350.88	1714.77	2245.61
5	Marketing efficiency ratio	16.59	3.89	2.58

Marketing efficiency was worked out by using modified method as suggested by Acharya and Agarwal from the table 4.13 it was seen that, the marketing efficiency was maximum for Channel-I (16.59 per cent), followed by Channel-II (3.89 per cent) and Channel-III (2.58 per cent) respectively. Channel-I was the most efficient channel in marketing of Cauliflower.

Conclusion
98.59 per cent of Cauliflower were sold indicating high marketable surplus. The producer's share in consumer's rupee was high in channel I followed by channel II and channel III. The marketing efficiency was high in channel I and low in channel II and channel III. Results revealed that Cauliflower cultivation is highly profitable.

Policy Implication
Due to no involvement of middlemen, the producer's share of the consumer's rupee was higher in channel I than in channels II and III. As a result, the study recommends that farmers be encouraged to form Cauliflower Producers Organizations in order to reduce the number of middlemen in distant marketing and gain a larger share of the consumer's rupee and also go for bulk purchase to acquire seedlings at a reduced price.

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