J. Cotton Res. Dev. **38**(2), 266-276 (July, 2024) **ISSN No. 0972-8619**

Marketing Efficiency of Rainfed Cotton Marketing Channels in Virudhunagar District of Tamil Nadu

LAKSHMI SWETHA*, THILAGAVATHY AND ISABELLA AGARWAL

Division of Agricultural Economics, Central Institute for Cotton Research Regional Station, Coimbatore –641 003.

**Email : .lakshmiswetharjpm@mail.com*

Abstract : The cotton processing industry holds a significant position in the Indian economy as the second-largest labor-intensive activity after agriculture, providing direct and indirect employment to the Indian population. Given the commercial importance of cotton at the national and State levels, there is a recognized need to thoroughly examine the cotton value chain, which includes producers and various stakeholders. Hence this study was proposed and conducted in 2022 covering 90 rainfed cotton growers, seven ginners, six spinners and twenty-seven weavers in Virudhunagar district. The findings of the study revealed that three marketing channels were found as Channel I (Producer, commission agent cum primary wholesalers, ginners, spinners and weavers), Channel II (Producer, village trader cum commission agent, ginner, spinners and weavers), Channel III (Producer, ginners, spinners and weavers). Channel III was the efficient marketing channel as it had highest farmer's share of 50.01 per cent and lowest price spread of 57.04 per cent. Marketing efficiency was relatively higher in Channel III, the efficiency was 0.77 by Acharya's approach and 1.57 by Shepherd 's approach.

Key words: Marketing channels, producer's share in consumer's rupee.

Cotton is a traditional and important cash crop. India is the second largest producer of cotton in the world, accounting for around 36 per cent of global cotton production (371 lakh bales) with an average productivity of 517.70 kg/ha which is nearly 65 per cent of the rainfed cotton area in India. Tamil Nadu occupies tenth position by sharing around 0.86 per cent of area *i.e.* 1.12 lakh ha under cotton and produces 2.43 lakh metric tonnes of cotton with an average productivity of 374 kg/ha during 2020-2021.Tamil Nadu textiles and clothing industry predominantly cotton based, accounts for one-third of the textile business size, 45 per cent of the spinning capacity, 70 per cent of the knitted garment capacity, 40 per cent of the home textiles manufacturing capacity, 22 per cent of the power loom capacity and 12 per cent of handloom capacity of India. Tamil Nadu is regarded as numero uno in textiles and garments often called as **'Yarn Bowl of India'.** It is the only State having presence across the whole textile value chain. The actual annual cotton requirement of the textile industry in Tamil Nadu is around 120 lakh bales (170 kgs/bale) while the State hardly produces 4 to 6 lakh bales from 1.12 lakh ha of area under cotton, of which 76 per cent of the cotton area under rainfed situation. Virudhunagar stands out as one of the leading districts in terms of both area and production of cotton in Tamil Nadu. It accounts for 19.40 per cent of the State's total area and ranked first in production with 334 metric tons in 2021. Virudhunagar district has 5.60, 1.67 and 22.17 per cent of ginning, spinning, weaving units of Tamil Nadu and two oil mills which showed the infrastructure facilities for cotton value chain in this district. Recently, Tamil Nadu Government announced to start Textile park at Virudhunagar district since, it is called as the textile hub of Tamil Nadu. Hence, the present study was undertaken with the specific objective of estimating the marketing efficiencies of existing cotton value chain.

MATERIALS AND METHODS

Two stage purposive and random sampling methods were used in the selection of the study district, block, and sample respondents for the present study using area under rainfed cotton as one of the major criteria. At first, the district was selected purposefully since it occupies 19.40 per cent of area under rainfed cotton. Three blocks namely Srivilliputhur, Aruppukottai and Virudhunagar were selected purposefully since it shares 22.43 per cent, 13.65 per cent and 13.29 per cent of area under rainfed cotton, respectively. From each block, two villages were selected randomly. From each village, 15 farmers were randomly chosen as sample respondents totaling to 90 sample farmers.

At first level, cotton processing starts in production stage itself like cleaning, grading and drying carried out by the farmers after harvest of the cotton product. Removal of *kapas* is the first level processing in cotton. Lint and seed are the major products received from cotton *kapas*. In production of cotton cloth material as final product, cotton surpasses ginning, spinning and weaving stages.

At ginning stage, cotton moves into two different value chain *i.e.* lint to fabric and cotton seed into cotton seed oil and oil cake. These four stages were specifically considered for the present study. Cotton seed oil is another product received from cotton. Also, to study the efficiencies in its value chain, a sample of five village traders, five commission agent cum wholesaler, five ginning units, six spinning units, 27 weaving units and two oil mills were selected considering the district as a whole for the study. Thus, the total sample size was 140. The details are given in Table 1 and Table 2.

Data

The primary data was collected through personal interviews using well-structured interview schedules specifically designed for the study. Two separate sets of interview schedules were prepared to collect details from the rainfed cotton farmers, market intermediaries (village traders, commission agent cum wholesaler), and other stakeholders (ginners, spinners, weavers, and cotton oil mills). The farmers and market intermediaries were individually contacted to collect the buying price, selling price, cost incurred in marketing and the profit realized by different market intermediaries involved in marketing of cotton. The cotton value chain information was gathered from different stakeholders (ginners, spinners, and weavers) on the cost of raw materials, processing, returns, and value addition by the processors. The collected data were tabulated, processed and subjected to statistical analysis.

Analysis of data

Marketing channel

The route through which movement of farm commodities takes place from point of production to point of consumption passed between producers and consumers is referred to as a marketing channel.

Marketing channels identified in the study area

In the case of cotton, the major marketing channels used by farmers in study area to reach the ultimate consumers were identified as follows. The value added at different stages of the marketing process was documented and estimated to calculate the efficiency of the channel.

Market Channel - I Producer → Village traders → ginners → spinners weavers

Market channel II Producer → commission agent → ginners → spinners → weavers

Market channel III Producer → ginners→ spinners → weavers

Marketing cost

It is the total cost incurred on marketing

by the producer and by different intermediaries involved in the sale and purchase of the commodity until it reaches the ultimate consumer.

$$C = C_f + Cm_1 + Cm_2 + Cm_3 + \ldots\ldots\ldots\ldots + Cm_n$$

Where,

C = Total cost of marketing of the commodity.

Cf = Cost incurred by the cotton producer from the time the produce leaves the farm till he sells.

Cm_i = Cost incurred by the i^{th} middlemen in the process of buying and selling the cotton.

Marketing margin

This the difference between the middleman's total payment (cost + purchasing price) and the receipts (sale price).

Marketing margin = PRi - (Ppi + Cmi)

Where,

PR_i = Total value of receipts per unit (sale price in Rs. per quintal).

PPi = Purchase value of goods per unit (purchase price in Rs. per quintal).

Cm_i = Cost incurred on marketing per unit in Rs. per quintal.

Price spread analysis

The difference between the price paid by the consumer and the net price received by the cotton producer for an equivalent quantity of cotton is known as "Price Spread" in the cotton marketing process. The profits of the many market functionaries involved in transferring the product from the point of origin to the final consumer were noted.

PS = WP- PNP

Where,

PS = Price Spread (Rs. per quintal)

WP = Weavers Selling Price in cotton marketing channel (27.05 kg of cloth produced from one quintal of kapas).

PNP=Producers Net Price (Rs per quintal)

The farmer's share in consumer's rupee

It represents the amount the farmer was paid as a proportion of the weaver price (*i.e.*, the price paid by the consumer). If Pw is the weaver price, the producer's share of the consumer' rupee (PS), may be stated as follows.

$$P_S = \frac{P_F}{C_P} \times 100$$

Where,

P_S = Producer's share in consumer's rupee in the percentage.

P_F = Producers price in Rs. per quintal.

C_P = Consumer's price in Rs. per quintal.

Estimation of marketing efficiency

(a) Marketing efficiency is essentially the degree of market performance, specifically the movement of cotton from producers to ultimate consumers at the lowest possible cost, consistent with the provision of services desired by the consumer may be termed as efficient marketing. Though price spread estimation is the most widely used criterion to judge marketing efficiency, other advanced methods have also been in use, in this study the methods applied was Acharya's Approach.

Acharya suggested as the ratio of farmer' price to the total marketing cost and margin. Further, the measure should reflect the following relationship between each of these variables and marketing efficiency.

ME = FP/(MC + MM) X100

Where,

ME = Index of marketing efficiency.

FP = Price received by the cotton producer (Rs. per quintal).

MC = Total marketing cost incurred by the different actors in channel (Rs. per quintal).

MM = Net marketing margin by the different actors in channel (Rs. per quintal).

(b) Shepherd's formula

Shepherd suggested the ratio of consumer's price to the total marketing cost and

margin. The higher the ratio, higher would be the efficiency and vice versa. This study used this formula and can be expressed in the following form,

$$ME = \frac{CP \times 100}{(MC+MM)} \quad \text{——————} (14)$$

Where,

ME = Index of marketing efficiency.

CP = Consumer's purchase price (Rs. per quintal).

MC = Total marketing cost incurred by the different actors in channel (Rs. per quintal).

MM = Net marketing margin by the different actors in channel (Rs. per quintal).

Price spread analysis

It is estimated to know about the changes in the form of a commodity and changes happened in the value of commodity in its movement from point of production to consumption point. We knew that, cotton takes complete changes in its form *i.e.* Kapas to fabric on one side and cotton seed oil. It was assessed that, cotton moves into different kind of value chain at ginning, spinning and weaving stages. Price spread estimation was done for the movement of product from point of production to weaving stage. There were three marketing channels were identified in study area. The details on marketing and marketing cost and margin earned by different actors in each marketing channel are presented below.

Marketing channel

It is the route through which movement of the product takes place from the primary producer to ultimate consumer. During the study period, the following three marketing

Table 1. Block wise area and production of rainfed Cotton in virudhunagar district during the Year 2021-2022

S. No.	Blocks	Area (in ha)	Production (tons)
1	Aruppukottai	3748.56 (22.43)	74.97 (22.45)
2	Kariapatti	1934.98 (11.58)	38.69 (11.58)
3	Narikudi	1209.54 (7.24)	24.19 (7.24)
4	Rajapalayam	92.39 (0.55)	1.84 (0.55)
5	Sattur	1115.90 (6.68)	22.31 (6.68)
6	Srivilliputhur	2221.40 (13.29)	44.42 (13.30)
7	Thiruchuli	2118.72 (12.68)	42.37 (12.69)
8	Virudhunagar	2281.08 (13.65)	45.62 (13.66)
9	Watrap	998.85 (5.98)	19.82 (5.93)
10	Vembakottai	988.58 (5.92)	19.77 (5.92)
	Total	16710.00 (100.00)	334 (100.00)

Source : District G return 2021-2022, office of the Deputy Directorate of Statistics, Virudhunagar District.

Table 2. Status of cotton processing mills in virudhunagar during the 2021-2022

S. No.	Name of the Block	Ginning	Spinning	Weaving	Oil Mills
1	Srivilliputhur	0	0	4	0
2	Rajapalayam	3	12	46	0
3	Sattur	1	0	1	0
4	Aruppukottai	1	18	112	0
5	Virudhunagar	2	3	24	2
6	Kariapatti	0	0	2	0
7	Sivakasi	0	1	4	0
8	Thiruchuli	0	0	1	0
9	Watrap	0	0	4	0
10	Narikudi	0	0	0	0
11	Vembakkottai	0	0	0	0
	Total	7	34	198	2

Source: District Statistical Hand book, 2021-22. Department of Economics and Statistics, Virudhunagar.

Table 3. Price spread estimation of cotton in rupees/quintal

Channel-I: Producer - Commission agent cum primary wholesaler- Ginners-Spinners-Weavers

S. No.	Particulars	Rs./q	Per cent share to consumer Rs.
1	**Producer**		
A	**Gross price received**	6500	44.86
	1. Post harvest operations (Separation from it's stalk, drying, grading and storage)	25.67	0.18
	2. Packing material and packing charges	7.95	0.05
	3. Loading and Unloading	15.2	0.10
	4. Transportation Cost	15.90	0.11
	5. Weighing charges	6.55	0.05
	6. Commission charges (@2%)	130.00	0.90
B	Marketing Cost	201.27	1.39
C	Net price received	6298.73	43.47
2	**Commission agent cum primary wholesaler**		
A	**Purchase price of 100 kg kapas**	6500	44.86
	1. Loading and Unloading	22.70	0.16
	2. Transportation Cost	35.85	0.25
	3. Weighing charges	9.25	0.06
B	**Marketing Cost**	67.80	0.47
C	**Marketing margin**	732.20	5.05
D	**Sale Price of 100 kg kapas**	7300.00	50.38
3	**Ginners**		
A	**Purchase price of 100 kg of kapas**	7300.00	50.38
	1. Processing cost (Ginning, Classing, Drying and grading)	126.81	0.88
	2. Packing material and packing charges	8.90	0.06
	3. Sales tax	12.20	0.08
B	**Marketing Cost**	147.91	1.02
C	**Marketing margin**	1815.09	12.53
D	**Sales Price of 33 kg Lint and 65 kg Seed**	9263	63.93
4	**Spinners**		
A	**Purchase price of 33 kg lint**	6468.00	44.64
	1. Transportation Cost	25.74	0.18
	2. Loading and Unloading	14.35	0.10
	3. Processing cost (Carding, grading, roving, spinning and winding)	750.69	5.18
	4. Packing material and packing charges	14.24	0.10
	5. Sales tax	9.32	0.06
B	**Marketing Cost**	814.34	5.62
C	**Marketing margin**	2308.51	15.93
D	**Sales Price of 28.05 kg of yarn**	9590.85	66.19
5	**Weavers**		
A	**Purchase price of 28.05 kg yarn**	9590.85	66.19
	1. Transportation Cost	4.83	0.03
	2. Loading and Unloading	2.20	0.02
	3. Processing cost (Creeling, Warping, sizing, drafting, denting and weaving)	792.13	5.47
	4. Packing material and packing charges	6.59	0.05
	5. Sales tax	4.90	0.03
B	**Marketing Cost**	810.65	5.59
C	**Marketing margin**	4088.46	28.22
D	**Sales Price of 27.48 kg fabrics**	14489.96	100.00
6	**Price paid by the consumer**	14489.96	100.00
7	**Price spread**	8944.26	61.73
8	Farmers share in consumers rupee		44.86

(Source: Based on field survey, 2021-2022)

channels were identified for cotton marketing in the study area. The information on price spread and farmer's share in consumer's rupee in each cotton marketing channel are provided in the Table 3.

Marketing channel - I

From the table it was clearly known that, the farmers were received net price of Rs. 6298.73/q which constituted 43.47 per cent to consumer's price. The marketing cost incurred by the farmer was estimated as 1.39 per cent which includes the postharvest operations, packing material and packing charges, loading and unloading, transport cost, weighing charges and commission charges were constitutes 0.18 per cent, 0.05 per cent, 0.10 per cent, 0.11 per cent, 0.05 per cent and 0.90 per cent respectively. The gross price received by the farmer was Rs. 6500.00/q and it was accounted as 44.86 per cent to consumer price.

The marketing cost incurred by the commission agent cum primary wholesaler was estimated as Rs. 67.80/quintal. Loading and unloading, transportation cost and weighing charges were the major marketing cost incurred by the commission agent which constitutes 0.16 per cent, 0.25 per cent and 0.06 per cent, respectively. The sale price of the commission agent cum wholesaler was Rs. 7300.00/q, *i.e.*, 50.38 per cent and the marketing margin of the commission agent cum wholesaler was Rs. 732.20/q, *i.e.*, 5.05 per cent. The marketing cost of ginners was estimated as Rs. 147.91 per quintal, which includes the processing cost, packing material and packing charges and sales tax were 0.88 per cent, 0.06 per cent and 0.08 per cent, respectively. The sale price of the ginners was Rs. 9263/q and the marketing margin of the ginners was Rs. 1815.09/q, *i.e.*, 12.53 per cent. Thus, the marketing cost of the ginners was high in this marketing channel of cotton.

The marketing cost of spinners was estimated as Rs. 814.34/q, which includes the processing cost, packing material and packing charges and sales tax were 5.18 per cent, 0.10 per cent and 0.06 per cent, respectively. The sale price of the spinners was Rs. 9590.85/q and the marketing margin of the spinners was Rs. 2308.51 per quintal, *i.e.*, 15.93 per cent. The marketing cost of weavers was estimated as Rs. 810.65/q, which includes the processing cost, packing material and packing charges and sales tax were 5.47 per cent, 0.05 per cent and 0.03 per cent respectively. The sale price of the weavers was Rs. 14489.96/q and the marketing margin of the weavers was Rs. 4088.46/q, *i.e.*, 28.22 per cent. The farmer's share in consumer rupee was 44.86 per cent and price spread was 61.73 per cent. This implied that the cost incurred by the intermediaries in this channel was comparatively lower than the farmer's share in consumer rupee.

Marketing channel - II

The price spread analysis of marketing channel-II of cotton is furnished in Table 4 that the farmer was received net price of Rs. 6064.84/q which constituted of 41.86 per cent to consumer price. From the data in table it was clearly known that, the village trader was existed in this channel. Thus, the marketing cost of producer was 0.24 per cent which includes the post harvest operations were accounted 0.18.The gross price received by the farmer was Rs. 6100.00/q and it was accounted as 42.10 per cent to consumer price. It could be seen from the table that village trader cum commission agent purchased cotton from producer at Rs. 6100.00/q which was about 42.10 per cent to consumer price. Their marketing cost was Rs. 253.71/q *i.e.*, 1.75 per cent and they have earned Rs. 1046.29/q as a marketing margin which accounted for 7.22 per cent of the consumer price. The ginners earned Rs. 1715.09/q as a marketing margin which accounted for 11.84 per cent and their marketing cost was Rs. 147.91/q *i.e.*, 1.02 per cent. The spinners earned Rs. 2308.51/q as a marketing margin which accounted for 15.93 per cent and their marketing cost was Rs. 814.34/q *i.e.*, 5.62

Table 4. Price spread estimation of cotton in rupees/quintal
Channel-II: Producer-Village trader cum commission agent-Ginners- Spinners-Weavers

S. No.	Particulars	Rs/q	Per cent share to consumer Rs.
1	**Producer**		
A	**Gross price received**	6100.00	42.10
	1. Post harvest operations (Separation from it's stalk, drying, grading and storage)	25.67	0.18
	C Weighing charges	9.49	
	B Marketing cost	35.16	0.24
	D Net price received	6064.84	41.86
2	**Village Trader**		
A	**Purchase price of 100 kg kapas**	6100.00	42.10
	1. Packing material and packing charges	25.60	0.18
	2. Loading and Unloading	84.00	0.58
	3. Transportation Cost	134.46	0.93
	4. Weighing charges	9.55	0.07
B	**Marketing cost**	253.71	1.75
C	**Marketing margin**	1046.29	7.22
D	**Sales Price of 100 kg kapas**	7400.00	51.07
3	**Ginners**		
A	**Purchase price of 100 kg kapas**	7400.00	51.07
	1. Processing cost (Ginning, Classing, Drying and grading)	126.81	0.88
	2. Packing material and packing charges	8.90	0.06
	3. Sales tax	12.20	0.08
B	**Marketing Cost**	147.91	1.02
C	**Marketing margin**	1715.09	11.84
D	**Sales Price of 33 kg Lint and 65 kg Seed**	9263.00	63.93
4	**Spinners**		
A	**Purchase price of 33 kg Lint**	6468.00	44.64
	1. Transportation Cost	25.74	0.18
	2. Loading and Unloading	14.35	0.10
	3. Processing cost (Carding, grading, roving, spinning and winding)	750.69	5.18
	4. Packing material and packing charges	14.24	0.10
	5. Sales tax	9.32	0.06
B	**Marketing Cost**	814.34	5.62
C	**Marketing margin**	2308.51	15.93
D	**Sales Price of 28.05 kg yarn**	9590.85	66.19
5	**Weavers**		
A	**Purchase price of 28.05 kg yarn**	9590.85	66.19
	1. Transportation Cost	4.83	0.03
	2. Loading and Unloading	2.20	0.02
	3. Processing cost (Creeling, Warping, sizing, drafting, denting and weaving)	792.13	5.47
	4. Packing material and packing charges	6.59	0.05
	5. Sales tax	4.90	0.03
B	**Marketing Cost**	810.65	5.59
C	**Marketing margin**	4088.46	28.22
D	**Sales Price of 27.48 kg fabrics**	14489.96	
6	Price paid by the consumer	14489.96	
7	Price spread	9158.35	63.20
8	Farmers share in consumers rupee		42.10

(Source: Based on field survey, 2021-2022)

per cent. The weavers earned Rs. 4088.46 per quintal as a marketing margin which accounted for 28.22 per cent and their marketing cost was Rs. 810.65 /q *i.e.*, 5.59 per cent. Thus, the farmer's share in consumer rupee was worked out *i.e.*, 42.10 per cent and price spread was 63.20 per cent. This implies that, this channel was incurred more marketing cost to the consumer price.

Marketing channel - III

The price spread for marketing channel-III is presented in Table 5. which depicts that the producer sold their product to the consumers directly and it shares very lowest share in total product of cotton.

It could be seen from table that the net price received by the farmer was Rs. 7145.33/q which constituted about 49.31 per cent of the consumer's price. The marketing cost incurred by a farmer was Rs. 101.27/q, which constituted 0.70 per cent which includes post harvest operations, packing material and packing charges, loading and unloading, transportation cost and weighing charges were Rs 25.67/q, Rs. 7.95/q, Rs. 25.20/q Rs. 35.90/quintal and Rs. 6.55/q respectively with the percentages of 0.18 per cent, 0.05, 0.17 , 0.25 per cent and 0.05 per cent, respectively.

The ginners earned Rs. 1868.49/q as a marketing margin which accounted for 12.90 per cent and their marketing cost was Rs. 147.91 per quintal *i.e.*, 1.02 per cent. The spinners earned Rs. 2308.51/q as a marketing margin which accounted for 15.93 per cent and their marketing cost was Rs. 814.34/q *i.e.*, 5.62 per cent. The weavers earned Rs. 4088.46/q as a marketing margin which accounted for 28.22 per cent and their marketing cost was Rs. 810.65/q *i.e.*, 5.59 per cent This implies that there were no intermediaries cost was incurred in this marketing channel which is the main reason that the farmer have 50.01 per cent of the consumer price *viz.*, Rs. 7246.60 per quintal from the consumer for their product. The producer's share in consumer rupee was 50.01 per cent and price spread was worked out as 57.04 per cent.

Thus, it could be inferred from the above Table 6. that the marketing channel III namely Farmer - Ginner – Spinner - Weaver was the efficient marketing channel as it had highest farmer's share of 50.01 per cent and lowest price spread of 57.04 per cent which might be due to less number of intermediaries. Thus, the channel III was considered as the best one. The other marketing channels were constitutes smaller percentages of farmers share and highest price spread that the farmer's shares in consumer price of channel I and Channel II was 44.86 and 42.10 per cent, respectively and price spread of channel I and Channel II was 61.73 per cent and 63.20 per cent, respectively.

Marketing efficiency

Marketing is said to be efficient if the total marketing margins are higher/unit of marketing cost. The marketing efficiency in different marketing channels for cotton was estimated using Acharya's and Shepherd's formula and the result under this two methods, higher the value implies higher the efficiency presented in the Table 7 and Table 8.

It would be concluded from the table that the results revealed like marketing efficiency was relatively higher in channel III in both the approaches, *i.e*, 0.77 in Acharya's approach and 1.57 in Shepherd's approach due to absence of market intermediaries.

CONCLUSIONS

It was identified as, the marketing channel III namely Farmer Ginner was the efficient marketing channel as it had highest farmer's share of 50.01 per cent and lowest price spread of 57.04 per cent which might be due to less number of intermediaries. Thus, the channel III was considered as the best one. The other

Table 5. Price spread estimation of cotton in rupees/quintal
Channel-III: Producer- Ginners-Spinners-Weavers

S. No.	Particulars	Rs/q	Per cent share to consumer Rs.
1	**Producer**		
A	**Gross price received**	7246.60	50.01
	1. Post harvest operations (Separation from it's stalk, drying, grading and storage)	25.67	0.18
	2. Packing material and packing charges	7.95	0.05
	3. Loading and Unloading	25.20	0.17
	4. Transportation Cost	35.90	0.25
	5. Weighing charges	6.55	0.05
B	**Marketing cost**	101.27	0.70
C	**Net price received**	7145.33	49.31
2	**Ginners**		
A	**Purchase price of 100 kg kapas**	7246.60	50.01
	1. Processing cost (Ginning, Classing, Drying and grading)	126.81	0.88
	2. Packing material and packing charges	8.90	0.06
B	**3. Sales tax**	12.20	0.08
C	**Marketing Cost**	147.91	1.02
D	**Marketing margin**	1868.49	12.90
3	**Sales Price of 33 kg Lint and 65 kg seed**	9263.00	63.93
3	**Spinners**		
A	**Purchase price of 33 kg Lint**	6468.00	44.64
	1. Transportation Cost	25.74	0.18
	2. Loading and Unloading	14.35	0.10
	3 .Processing cost (Carding, grading, roving, spinning and winding)	750.69	5.18
	4. Packing material and packing charges	14.24	0.10
	5. Sales tax	9.32	0.06
B	**Marketing Cost**	814.34	5.62
C	**Marketing margin**	2308.51	15.93
D	**Sales Price of 28.05 kg yarn**	9590.85	66.19
4	**Weavers**		0.00
A	Purchase price of 28.05 kg yarn	9590.85	66.19
	1. Transportation Cost	4.83	0.03
	2. Loading and Unloading	2.20	0.02
	3. Processing cost (Creeling, Warping, sizing, drafting, denting and weaving)	792.13	5.47
	4. Packing material and packing charges	6.59	0.05
B	**Sales tax**	4.90	0.03
C	**Marketing Cost**	810.65	5.59
D	**Marketing margin**	4088.46	28.22
5	Sales Price of 27.48 kg fabrics	14489.96	100.00
6	Price paid by the consumer	14489.96	100.00
7	Price spread	8265.46	57.04
	Farmers share in consumers rupee		50.01

(Source: Based on field survey, 2021-2022)

marketing channels were constitutes smaller percentages of farmers share and highest price spread that the farmer's shares in consumer price of channel I and Channel II was 44.86 and 42.10, respectively and price spread were 61.73 per cent, and 63.20 per cent respectively. Marketing efficiency was relatively higher in channel III in both the approaches, *i.e*, 0.77 in Acharya's approach and 1.57 in Shepherd's approach due to less movement of cotton.

Table 6. Price spread and returns of cotton for all marketing channels (Rs./qtl.)

S. No.	Particulars	Channel I	Channel II	Channel III
1	Net price realized by producer	6138.73	6074.33	7145.33
2	Village trader cum commission agent net margin	-	1116.55	-
3	Commission agent cum wholesaler net margin	684.2	-	-
4	Cost of marketing	2041.97	2061.77	1874.17
5	Consumer price	14489.96	14489.96	14489.96
6	Price spread	8896.26 (61.73)	9228.67 (63.20)	7328.51 (57.04)
	Farmers share in consumer rupee in percentage	44.86	42.10	50.01

(Figures in parenthesis indicate percentage to total)

Table 7. Marketing efficiency of cotton- Acharya's Formula

S. No.	Market Channel	Value of goods sold (Rs/q)	Total marketing cost incurred in the chain (Rs/q)	Total marketing margin incurred in the chain (Rs/q)	Marketing cost in the chain+ Marketing margin in the chain	Marketing efficiency (%)
1	Channel- I	14489.96	2041.97	8896.26	10938.23	1.32
2	Channel- II	14489.96	2061.77	9228.61	11290.38	1.28
3	Channel III	14489.96	1874.17	7328.51	9202.68	1.57

Table 8. Marketing efficiency of cotton- Shepherd's Formula

S. No	Market Channel	Net Price received by the cotton farmer (Rs/q)	Total marketing cost incurred in the chain (Rs/q)	Total marketing margin incurred in the chain (Rs/q)	Marketing cost in the chain+ Marketing margin in the chain	Marketing efficiency (%)
1	Channel- I	6138.73	2041.97	8896.26	10938.23	0.56
2	Channel- II	6074.33	2061.77	9228.61	11290.38	0.53
3	Channel III	7145.33	1874.17	7328.51	9202.68	0.77

POLICY IMPLICATIONS

- Marketing efficiency was high when the farmers were selling their product to ginners directly. To strengthen these practices, farmers may be encouraged to form cooperatives or associations for collective acts on in negotiate prices, terms, and conditions with ginners.
- To combat cotton price fluctuations that alters the area under cotton, The market information related prices and towards of the market advisory services may be provided in advance. The policies should be aligned in such a way that the farmers can make their money, even as the textiles industry is assured of raw material and inflation in textiles kept under control.

REFERENCES

Acharya, S.S and N.L. Agarwal. 2004. Agricultural Marketing in India. (New Delhi: Oxford & IBH Publishing Co. Pvt. Ltd). p.2,3,10,137,185,200, 390.

Arora, J.S. 2004. *Introduction to Optimum Design*: (Elsevier). p. 76.

Baskar, V.D.C. 2022. "*Agricultural Marketing in India.*" (Oxford and IBH publishing). p.67.

Balaji, K. 2018. "Price spread, marketing efficiency and constraints in value chain of tapioca in Tamil Nadu." *J. Pharma. Phytoche.* **4**: 3-5.

Dinesh, V., and A. Sharma. 2019. "Marketing margin, price spread and marketing

efficiency analysis on different poultry farms." *Intern. J. Curr. Microbi. App. Sci.* **8** : 1039-46.

Giribabu, M. 2011. "A study on marketable surplus and price spread of tomato in Mokokchung district of Nagaland." *Int. J. Humanit. Soc. Sci. Invent.* **2**:37-42.

Kumar, R.R., M. Malarkodi, and K. Uma. 2022. "Price spread and marketing efficiency of green gram in Tamil Nadu, India."*J. Intern. Eco.* **3** :46.

Venkatesan, N., C. Sekhar, M. Murugananthi, and A. Vidhyavathi. 2018. "Marketing and price spread analysis of moringa in Tamil Nadu, India." *Horticul. Intern. J.*, **2**: 212-21.

Received for publication : February 19, 2024
Accepted for publication : April 4, 2024