*Short Research Article*

# IDENTIFYING EFFICIENT MARKETING CHANNELS FOR BT COTTON IN: THE CASE OF DEVBHUMI DWARKA IN DEVBHUMI DWARKA, GUJARAT

ABSTRACT:

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| The marketing of Bt cotton is a critical component of the agricultural value chain, especially in regions like Devbhumi Dwarka, Gujarat. This study was conducted to estimate the marketing costs, margins, and price spread through different marketing channels of Bt cotton in the Devbhumi Dwarka district of the west Gujarat region. Total 120 number of Bt cotton farmers and market functionaries were randomly selected and interviewed for collecting information by using the designed schedule. Two major marketing channels were identified for Bt cotton: Channel-I (Producer → Cotton Corporation of India (CCI)) and Channel-II (Producer → Commission Agent → Ginner → Consumer). In Devbhumi Dwarka district, producers could secure approximately 86.44% of the consumer’s rupee in Channel-I and 82.64% in Channel-II. Consequently, Channel-I was found to be more efficient compared to other channels.  |

*Keywords: {Bt* cotton, Marketing Channel, Devbhumi Dwarka}

1. INTRODUCTION

Cotton is one of the most significant fiber crops globally, cultivated on over 33 million hectares across tropical and subtropical regions in more than 80 countries. Annually, cotton production amounts to 24.51 million metric tonnes. Major cotton-producing countries include China, the United States, India, Pakistan, Uzbekistan, Australia, Brazil, Argentina, and Egypt, collectively contributing over 85% of the world's cotton (*Anon*., 2023). In India, cotton holds immense economic importance as the cash crop with the highest value, earning its title as the "King of Fiber" and "White Gold."

India experienced a significant advancement in cotton cultivation with the introduction of Bt cotton hybrids. After rigorous testing under the All India Coordinated Cotton Improvement Project (AICCIP), the Government of India approved the commercial cultivation of Bt cotton hybrids in the 2002 crop season. India, being the largest producer of cotton globally, accounts for 23% of the world's total cotton production. This crop holds immense importance for the Indian economy and the livelihood of Indian cotton farmers. Cotton is cultivated over 13.06 million hectares in India, compared to 33.1 million hectares globally. The Indian cotton industry provides a livelihood to about 60 million people across the country. In the 2023-24 crop year (provisional), India’s total cotton production is 32.5 million bales (each bale weighing 170 kg). For the years 2022-23 and 2021-22, total cotton production was 33.6 million bales and 31.1 million bales, respectively (*Anon*., 2023). Maharashtra, Gujarat, Andhra Pradesh, and Telangana, collectively referred to as the "Cotton Basket of India," contribute nearly two-thirds of the nation's total cotton production. Rainfed cultivation accounts for approximately 65% of the cotton crop in India (Nakum *et al.*, 2024). The Central Zone, encompassing states like Gujarat, Maharashtra, and Madhya Pradesh, was the largest producer of cotton in India in 2022-23. Gujarat, the highest producer within the Central Zone, contributed 9.49 million bales. Saurashtra accounts for about 70% of Gujarat’s cotton production, with Amreli— the state’s largest cotton district—playing a pivotal role. Cotton in India and Gujarat is cultivated under rain-fed conditions, which leads to significant water stress and nutrient deficiencies, especially during the flowering and boll formation stages These challenges, along with the limited adoption of standardized practices and inputs by farmers, contribute to lower yields than the average (Sathish *et al.*,2019; Sathish *et al.*, 2022; Pithiya *et al.*, 2024; Pithiya *et al.*, 2024; Oganja *et al.*,2024; Oganja *et al.,*2024; Kumar *et al*.,2024; Kumar *et al.,*2024). The non-availability of water from canals for irrigation, limited use of micro irrigation leading to serious economic losses due to poor production (Rohit *et al*., 2015; Parmar *et al.,* 2024). Cotton growers face various constraints in the selection, adoption and utilization of agricultural inputs (Ghangale *et al.*,2018; Vennila *et al.,* 2018; Nakum *et al.,* 2024). Bt cotton has significantly impacted India's cotton seed market, enabling farmers to enhance their yields even amid challenges such as climate change and volatile market conditions (Prajapati *et al.,* 2018; Prajapati *et al.,* 2020; Nariya *et al.,* 2024). Marketing of agricultural produce has become an important subject in the scheme of agricultural development. Numerous researchers have observed the problem of marketing. For the same reason the farmers get exploited by the commission agents who try to purchase the produce on low prices during season and also tease the farmers by delaying the payment of the produce (Kormla *et al.,*2015; Katariya *et al.*,2016; Sulthana *et al.,*2019; Vasoya *et al.,*2024). The low prices of cotton due to in the market are a problem due to lack of well-organized marketing system. Hence, for the getting existing scenario of cotton producer marketing in Devbhumi Dwarka district it is essential to find out the current marketing channel.

2. methodology

The study was conducted in Devbhumi Dwarka district of west Gujarat region. To study marketing cost, margins and channels of marketing 120 number of Bt cotton farmers and market functionaries were randomly selected and interviewed for collecting information by using the designed schedule. The data was collected by survey method adopting personal interview of the market functionaries with the help of framed survey schedule. The producer’s share, marketing costs and margins of different middlemen in the marketing of Bt cotton was worked out for the identified channels. Analytical tools like simple tabular method, percentage method was used for research study. The total cost incurred on marketing of Bt cotton by the farmers and the intermediaries involved in the process of marketing was calculated as:

**2.1 Total cost of marketing**

The total cost incurred on marketing of Bt cotton by the farmers and the intermediaries involved in the process of marketing was calculated as:

C = CF + Cm1 + Cm2 + Cm3 +\_ \_ \_ \_ \_ \_ + Cmn……(1)

Where,

C = Total cost of marketing

CF = Cost incurred by the producer in marketing of Bt cotton

Cmi = Cost incurred by the ith middlemen in the marketing of Bt cotton.

**2.2 Marketing margin**

The absolute and percentage margin of middle men involved in the marketing of Bt cotton was be calculated as:

Absolute margin of ith middlemen (Ami): = Pri - (Ppi+ Cmi)……..(2)

Percentage margin of ith middleman: = Pri− (Ppi+Cmi) x 100 / Pri……..(3)

Where,

Pri = Sale price of the ith middlemen

Ppi = Purchase price of the ith middlemen

Cmi= Marketing cost incurred by ith middlemen

**2.3 Price-Spread**

The producer’s share, marketing costs and margins of different middle-men in the marketing of Bt cotton was worked out for the adopted channels using the formula:

Ps=Pf x 100 / Pc……..(4)

where,

Ps = Producer’s share in consumer’s rupee

Pf = Price of the produce received by the farmer

Pc = Price of the produce paid by the consumer

3. RESULT AND DISSCUSSION

In the study area two marketing channels were identified through which Bt cotton in the study area were marketed from the producers to the consumers. Packaging, transportation, milling charges, cost of labour and selling were the main marketing functions involved in the process of marketing of Bt cotton.

Channel-I: Producer - CCI (Cotton Corporation of India).

Channel-II: Producer - Commission Agent - Ginner – Consumer

Table 1 presents the data on marketing costs and margins for Channel-I and Channel-II in Devbhumi Dwarka district. In Channel-I, the producer's net share of the consumer's rupee was 86.44%. The total marketing cost incurred by the producer was Rs. 34 per quintal, which is 0.54% of the consumer's rupee, with transportation being the highest cost component at 0.35%. The Cotton Corporation of India (CCI) incurred a marketing cost of Rs. 701 per quintal, contributing 11.21% to the consumer's rupee. In Channel-II, the producer's net share of the consumer's rupee was 82.64%. The marketing costs incurred by the commission agent and the ginner were Rs. 198 (3.22%) and Rs. 755 (12.26%) per quintal, respectively. Among the commission agent's costs, transportation accounted for the highest share at 1.38%. Both channels demonstrated efficient marketing, with the producer retaining a substantial portion of the consumer's rupee.

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| Table 1: Marketing cost in channel-I and channel-II of Devbhumi Dwarka district |
| **No** | **Particulars** | **Channel–I** | **Channel–II** |
| **Rs./qn** | **Per cent of consumer’s price** | **Rs./qn** | **Per cent of consumer’s price** |
| 1 | Producer’s net price | 5416 | 86.44 | 5160.64 | 82.64 |
| 2 | **Cost incurred by producer** |
| Packing cost | 4 | 0.06 | - | - |
| Loading and unloading labour charges | 8 | 0.12 | - | - |
| Transportation cost | 22 | 0.35 | - | - |
| Total cost | 34 | 0.54 | - | - |
| 3 | Producer’s s ale price/CCI’s/ Commission Agentpurchase price | 5450 | 87.00 | 5160.24 | 82.64 |
| 4 | **Cost incurred by CCI** |
|  | Electricity charge | 50 | 0.80 | - | - |
|  | Load/unload labour charge and weighing | 240 | 3.83 |  |  |
|  | Interests on fixed assets | 135 | 2.16 | - | - |
|  | Packing charges | 47 | 0.75 | - | - |
|  | Milling charges | 155 | 2.48 | - | - |
|  | Go down charges | 12 | 0.19 | - | - |
|  | Transportation cost | 62 | 0.99 | - | - |
|  | Total cost | 701 | 11.21 | - | - |
| 5. | **Cost incurred by commission agent** |
|  | Packing charges | - | - | 18 | 0.29 |
|  | Loading and unloading labour charges | - | - | 55 | 0.89 |
|  | Transportation cost | - | - | 85 | 1.38 |
|  | Market charges | - | - | 20 | 0.33 |
|  | Weighing charges | - | - | 20 | 0.33 |
|  | Total cost | - | - | 198 | 3.22 |
| 6 | **Commission agent’s net margin** | - | - | 60 | 0.97 |
| 7 | **Commission agent sale price/ Ginner purchase price** | - | - | 5390.64 | 87.51 |
| 8 | **Cost incurred by ginner** |
|  | Electricity charge | - | - | 70 | 1.14 |
|  | Load/unload labour charge and weighing | - | - | 160 | 2.60 |
|  | Interests on fixed assets | - | - | 150 | 2.43 |
|  | Packing charges | - | - | 60 | 0.97 |
|  | Milling charges | - | - | 195 | 3.17 |
|  | Transport cost | - | - | 120 | 1.95 |
|  | Total cost | - | - | 755 | 12.26 |
| 9 | **Ginner’s net margin** | - | - | 90 | 1.47 |
| 10 | **Actual cost borne by CCI** | 6251 | 100.00 | - | - |
| 11 | **Ginner’s sale price/Consumer purchase price** | - | - | 6160 | 100.00 |

Table 2 showcases the marketing costs and margins for Bt cotton in Devbhumi Dwarka district. The data reveals that the total marketing cost was highest in Channel-II (Rs. 953), compared to Channel-I (Rs. 735), accounting for 15.48% and 11.75 % of the consumer’s rupee, respectively. In Devbhumi Dwarka district, the marketing cost borne by the producer was 0.64% in Channel-I and 0.00% in Channel-II. The Cotton Corporation of India (CCI) bore a marketing cost of Rs. 735 (11.35%) in Channel-I. Producers secured approximately 86.44% and 82.64 % of the consumer’s rupee in Channel-I and Channel-II of Devbhumi Dwarka district, respectively. This indicates that Channel-I was more efficient compared to Channel-II. In Channel-II, the margins earned by the ginner and commission agent were Rs. 90 and Rs. 60, respectively.

Table 2: Price spread in channel-I and channel-II of Devbhumi Dwarka district

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| --- | --- | --- | --- |
| **Sr.****No.** | **Particulars** | **Channel-I** | **Channel-II** |
| **Rs./qn** | **Per cent share in consumer’s rupee** | **Rs./qn** | **Per cent share inconsumer’s rupee** |
| 1. | Producer’s net price | 541 | 86.44 | 5160.64 | 82.64 |
| 2. | **Cost incurred by** |
|  | Producer | 34 | 0.54 | 00 | 00 |
|  | CCI | 701 | 11.21 | - | - |
|  | Commission Agent | - | - | 198 | 3.22 |
|  | Ginner | - | - | 755 | 12.26 |
|  | Total | 735 | 11.75 | 953 | 15.48 |
| 3. | **Margin earned by** CCI |
|  | Commission Agent | - | - | 60 | 0.97 |
|  | Ginner | - | - | 90 | 1.47 |
|  | Total margin | - | - | 150 | 2.43 |
| 4. | Consumer’s price | 6251 | 100.00 | 6160 | 100.00 |

4. Conclusion

The analysis of marketing costs and margins for Bt cotton in Devbhumi Dwarka district indicates that Channel-I, which includes the Cotton Corporation of India (CCI), is more efficient. Producers retained a higher share of the consumer’s rupee (86.44%) in Channel-I compared to Channel-II (82.64%). Marketing costs were lower in Channel-I (Rs. 735 per quintal) than in Channel-II (Rs. 953 per quintal). In Channel-I, CCI bore most of the costs, whereas Channel-II saw higher costs for intermediaries, such as the ginner and commission agent. Overall, Channel-I provided greater benefits to producers, and enhancing efficiency in Channel-II could improve its viability.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript

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