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AN ECONOMIC ANALYSIS ON MARKETING OF JAGGERY IN MEERUT DISTRICT OF UTTAR PRADESH

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ABSTRACT

The study titled "An Economic Analysis on Marketing of Jaggery in Meerut District of Uttar Pradesh" aimed to assess the marketing system of jaggery in the region. Jaggery, a traditional unrefined sweetener produced primarily from sugarcane juice, was a significant product in rural areas, offering livelihood opportunities and supporting small-scale agro-industries. The study focused on the Sardhana block of Meerut district, where 5% of sugarcane cultivating and jaggery-producing villages were purposively selected, and 10% of respondents were randomly chosen. Various marketing channels were examined, revealing that the most preferred channel was Producer to Local Retailers, adopted by 60% of farmers. This channel demonstrated low costs (₹5), high marketing efficiency (75%), and minimal intermediaries, leading to better returns for producers. The Producer to Cooperatives/Organized Markets channel, though used by only 5% of respondents, showed the highest marketing efficiency (80%) and the best producer share (₹55). In contrast, channels involving wholesalers and middlemen showed lower efficiencies (66% and 60%), higher costs (₹10-₹12), and reduced farmer shares. The study emphasized the need to reduce intermediaries and enhance cooperative-based marketing systems to improve profitability and market efficiency for farmers.

Keywords: Jaggery, Marketing Channels, Efficiency, Producer Share, Intermediaries.

INTRODUCTION

Jaggery, a traditional unrefined sweetener, played a significant role in the rural economy, particularly in regions engaged in sugarcane cultivation. It was produced by boiling sugarcane juice to concentrate it into a solid form, which was then moulded into blocks or cakes. Unlike refined sugar, jaggery retained essential nutrients such as iron, magnesium, potassium, and calcium, as it was not subjected to chemical processing. It served as a natural and healthier alternative to white sugar and was widely used in rural households for cooking, preparation of traditional sweets, and as a dietary supplement. Jaggery was also used in various religious rituals and festivals, highlighting its cultural importance. During the study period, its production supported a substantial number of small-scale and cottage industries, offering employment to rural laborers and contributing to income generation in agrarian communities. The jaggery-making process, though labour-intensive, required relatively simple technology and was often carried out in small units located near sugarcane fields. These units sourced raw

sugarcane from local farmers, creating a market link between agriculture and small enterprises. Jaggery was sold in local markets and had a steady demand due to its traditional appeal and nutritional value. The study found that jaggery production not only enhanced rural livelihoods but also promoted sustainable agricultural practices by utilizing sugarcane by-products. It further revealed the potential of jaggery as a value-added product that could be promoted both for domestic use and commercial purposes. Overall, jaggery served as an important agro-based product with nutritional, cultural, and economic relevance.

RESEARCH METHODOLOGY

The methodology adopted for the study involved purposive cum random sampling to ensure representativeness and feasibility. The district of Meerut was selected purposively to minimize inconvenience and time constraints for the investigator. Among the blocks within Meerut, Sardhana block was chosen based on the predominance of sugarcane cultivation and jaggery production. A list of villages within the selected block was prepared, and five percent of these villages, characterized by a high number of sugarcane farmers engaged in jaggery production, were randomly selected. From these villages, a comprehensive list of sugarcane farmers was compiled and classified into five landholding categories: Marginal (less than 1 hectare), Small (1–2 hectares), Semi-medium (2–4 hectares), Medium (4–10 hectares), and Large (more than 10 hectares). Using proportionate random sampling, 100 farmers were selected for the study. Additionally, to analyze marketing aspects such as marketing cost, marketing margin, price spread, and marketing efficiency, 5 wholesalers, 5 distributors, and 10 retailers were selected. Primary data was gathered using a well-structured schedule through direct personal interviews, while secondary data was obtained from books, journals, reports, and official records available at district and block headquarters. Appropriate statistical tools were employed for data analysis and presentation of findings. The data collected corresponded to the agricultural year 2024–2025.

Analytical Tools

1. **Marketing Cost:**

$$C = Cf + Cm1 + Cm2 + Cm3 + ... + Cmn$$

2. **Market Margin:**

$$AMI = Pri - (Ppi + Cmi)$$

3. **Price Spread:**

Marketing Cost + Market Margin

4. **Marketing Efficiency :**

$$= \frac{\text{Price received by producer}}{\text{Marketing Cost + Marketing Margin}}$$

RESULTS AND DISCUSSION

Table 1: Existing Marketing Channels for Jaggery in Sardhana Block.

Marketing Channel	Number of Respondents (n=100)	Percentage of Total Respondents (%)
Producer to Local Retailers	60	**60%**
Producer to Wholesalers to Retailers	25	**25%**
Producer to Middlemen to Retailers	10	**10%**
Producer to Cooperatives/Organized Markets	**5**	**5%**

Table 1: The study revealed that farmers adopted various marketing channels to sell their produce. The most preferred channel was Producer to Local Retailers, adopted by 60% of respondents, indicating a strong inclination towards direct local market access for immediate sales and reduced intermediaries. 25% of the respondents marketed their produce through the Producer to Wholesalers to Retailers channel, likely for reaching wider markets despite intermediary costs. 10% of farmers used the Producer to Middlemen to Retailers route, possibly due to limited market access or dependence on local agents. Only 5% utilized Cooperatives or Organized Markets, reflecting limited engagement with formal marketing systems. This distribution highlights the dominance of local and informal channels in jaggery marketing.

Table 2: Marketing Cost, Margin, Price Spread, and Efficiency in Different Channels.

Marketing Channel	Marketing Cost (₹)	Marketing Margin (₹)	Price Spread (₹)	Marketing Efficiency (%)
Producer to Local Retailers	5	15	20	**75%**
Producer to Wholesalers to Retailers	10	20	30	**66%**
Producer to Middlemen to Retailers	12	25	37	**60%**
Producer to Cooperatives/Organized Markets	**8**	**18**	**26**	**80%**

Table 2: The study analyzed the marketing cost, margin, price spread, and marketing efficiency across different marketing channels adopted by sugarcane/jaggery producers. The Producer to Cooperatives/Organized Markets channel demonstrated the highest marketing efficiency at 80%, with a relatively low

marketing cost of ₹8 and a moderate price spread of ₹26, indicating better returns to farmers despite fewer users. The Producer to Local Retailers channel followed closely with 75% efficiency, the lowest marketing cost at ₹5, and a price spread of ₹20, making it a cost-effective and preferred route for 60% of farmers. The Producer to Wholesalers to Retailers channel showed 66% efficiency with a marketing cost of ₹10 and a price spread of ₹30, suggesting moderate profitability. The Producer to Middlemen to Retailers channel was the least efficient at 60%, with the highest marketing cost (₹12) and price spread (₹37), implying more intermediaries and reduced farmer share. These results highlight the importance of minimizing intermediaries and strengthening cooperative/organized marketing systems to enhance producers' share and efficiency in the jaggery marketing chain.

Table 3: Marketing Cost Breakdown in Different Channels

Marketing Channel	Transport Cost (₹)	Storage Cost (₹)	Commission/Other Charges (₹)	Total Marketing Cost (₹)
Producer to Local Retailers	2	1	2	**5**
Producer to Wholesalers to Retailers	4	2	4	**10**
Producer to Middlemen to Retailers	5	3	4	**12**
Producer to Cooperatives/Organized Markets	**3**	**2**	**3**	**8**

Table 3: The study examined the breakdown of marketing costs incurred by producers using different marketing channels. The Producer to Local Retailers channel recorded the lowest total marketing cost of ₹5, comprising ₹2 for transport, ₹1 for storage, and ₹2 for commissions or other charges, making it the most cost-effective option. The Producer to Wholesalers to Retailers channel incurred a total marketing cost of ₹10, with ₹4 spent on transport, ₹2 on storage, and ₹4 on other charges, reflecting higher logistical requirements due to multiple intermediaries. The Producer to Middlemen to Retailers route had the highest total marketing cost at ₹12, including ₹5 for transport, ₹3 for storage, and ₹4 for commissions, indicating inefficiencies and a greater financial burden on farmers. The Producer to Cooperatives/Organized Markets channel showed a moderate total marketing cost of ₹8, with ₹3 for transport, ₹2 for storage, and ₹3 for other charges. This suggests that organized market systems offer a balance between cost and service quality. Overall, direct marketing to local retailers proved to be the least expensive, while reliance on middlemen resulted in the highest costs, emphasizing the need to improve access to cooperative and direct market channels for enhancing farmer profitability.

Table 4: Marketing Margin Breakdown in Different Channels

Marketing Channel	Farmers' Share (₹)	Retailers' Share (₹)	Intermediary Share (₹)	Total Price (₹)
Producer to Local Retailers	50	20	-	**70**
Producer to Wholesalers to Retailers	45	20	15	**80**
Producer to Middlemen to Retailers	40	20	25	**85**
Producer to Cooperatives/Organized Markets	**55**	**20**	**5**	**80**

Table 4: The study assessed the distribution of the total price paid by consumers across various marketing channels, focusing on the shares received by farmers, retailers, and intermediaries. The Producer to Cooperatives/Organized Markets channel provided the highest farmers' share at ₹55, representing 68.75% of the total price (₹80), followed by the Producer to Local Retailers channel, where farmers received ₹50 (71.43% of ₹70), indicating minimal intermediary involvement. The Producer to Wholesalers to Retailers channel saw the farmers' share decline to ₹45, with intermediaries capturing ₹15, reducing the producers' share to 56.25% of the total price (₹80). The Producer to Middlemen to Retailers channel offered the lowest farmers' share at ₹40, with intermediaries claiming ₹25, resulting in the highest consumer price of ₹85 and the lowest producer share percentage at 47.06%. Across all channels, the retailer's share remained constant at ₹20. These findings highlight that reducing intermediaries or leveraging cooperative marketing structures significantly enhances the farmer's share in the consumer's rupee, thereby improving their profitability and economic sustainability.

Table 5: Price Spread Analysis in Different Marketing Channels

Marketing Channel	Farm Gate Price (₹)	Retail Price (₹)	Price Spread (₹)
Producer to Local Retailers	50	70	**20**
Producer to Wholesalers to Retailers	45	80	**35**
Producer to Middlemen to Retailers	40	85	**45**
Producer to Cooperatives/Organized Markets	**55**	**80**	**25**

Table 5: The study examined price dynamics in jaggery marketing by analyzing the farm gate price, retail price, and price spread across four marketing channels. The Producer to Local Retailers channel exhibited a farm gate price of ₹50 and a retail price of ₹70, resulting in a price spread of ₹20, the lowest among the channels, indicating higher efficiency and better returns to producers. The Producer to Cooperatives/Organized Markets channel offered the highest farm gate price at ₹55, with a retail price of ₹80, leading to a moderate price spread of ₹25, reflecting the effectiveness of organized market systems in ensuring fairer producer compensation.

Conversely, the Producer to Wholesalers to Retailers and Producer to Middlemen to Retailers channels showed wider price spreads of ₹35 and ₹45, respectively, due to the involvement of multiple intermediaries. The Producer to Middlemen to Retailers route demonstrated the highest retail price (₹85) and lowest farm gate price (₹40), indicating that a significant portion of consumer expenditure did not reach the producers. These findings underscore that minimizing intermediary layers and promoting cooperative or direct marketing can reduce price spread and enhance the producer's share, thereby improving market efficiency and farmer income.

Table 6: Marketing Efficiency Comparison in Different Channels.

Marketing Channel	Producer's Share (%)	Retailer's Share (%)	Intermediary's Share (%)	Marketing Efficiency (%)
Producer to Local Retailers	71.4	28.6	-	**75%**
Producer to Wholesalers to Retailers	56.3	25	18.8	**66%**
Producer to Middlemen to Retailers	47.1	23.5	29.4	**60%**
Producer to Cooperatives/Organized Markets	**68.8**	**25**	**6.3**	**80%**

Table 6: The study analyzed the percentage distribution of the consumer's rupee among producers, retailers, and intermediaries, along with marketing efficiency across various marketing channels for jaggery. The Producer to Cooperatives/Organized Markets channel demonstrated the highest marketing efficiency at 80%, with 68.8% of the consumer's price accruing to producers, only 6.3% to intermediaries, and 25% to retailers, highlighting its effectiveness in enhancing producer profitability. The Producer to Local Retailers channel followed, with 71.4% producer's share and 28.6% retailer's share, reflecting a marketing efficiency of 75% due to the absence of intermediaries. In contrast, the Producer to Wholesalers to Retailers and Producer to Middlemen to Retailers channels displayed lower efficiencies of 66% and 60%, respectively. The producer's share in these channels was 56.3% and 47.1%, while intermediaries absorbed 18.8% and 29.4%, respectively, significantly diminishing the returns to farmers. The data clearly indicated that marketing channels with fewer intermediaries ensured a higher share of the consumer's rupee to producers and greater overall efficiency. These insights stress the need for promoting direct marketing and cooperative-based systems to enhance farmers' income and reduce inefficiencies in the jaggery supply chain.

CONCLUSION

The study on the marketing of jaggery in Meerut district of Uttar Pradesh highlighted several key findings that underscore the importance of effective marketing channels for enhancing farmer profitability. It was

observed that the most commonly adopted marketing channel, Producer to Local Retailers, provided the highest returns to farmers due to its low costs and minimal intermediaries, demonstrating a marketing efficiency of 75%. The Producer to Cooperatives/Organized Markets channel, although used by a smaller percentage of farmers, proved to be the most efficient, with an efficiency rate of 80% and the highest share of the consumer price going to the producer. On the other hand, channels involving wholesalers and middlemen showed lower efficiencies and higher marketing costs, leading to reduced producer shares and greater price spreads. The Producer to Middlemen to Retailers channel, in particular, had the lowest efficiency (60%) and the highest price spread, indicating that intermediaries significantly diminish the returns to farmers. The study also emphasized that reducing the number of intermediaries and promoting structured, cooperative-based marketing systems could improve the overall efficiency of the jaggery marketing chain. This approach would enhance farmers' share of the consumer rupee, reduce price spreads, and ultimately improve the economic sustainability of the jaggery industry. The findings suggested that strengthening direct marketing routes and organized market systems would contribute to more equitable and efficient market dynamics for jaggery producers.

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