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A study on marketing patterns, marketing cost, and price spread in marketing of organic and inorganic wheat

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Abstract
This study analyzed the marketing patterns, costs, price spread, and efficiency of organic and inorganic wheat in Parbhani district, Maharashtra, using data from 120 farmers (60 organic, 60 inorganic). Three marketing channels were studied, revealing that the producer's share in the consumer rupee was highest in Channel I (100 per cent) for both types and declined as intermediaries increased dropping to 91.93 per cent for organic and 91.77 per cent for inorganic wheat in Channel III. Marketing costs also rose with channel length, from Rs.33.89 to Rs.335.41 for organic and Rs.34.50 to Rs.330.79 for inorganic wheat. Inorganic wheat consistently faced higher marketing margins (Rs.54.99 vs. Rs.46.40) but showed slightly better marketing efficiency (5.56 per cent in Channel I) compared to organic wheat (5.26 per cent). Despite organic wheat having slightly higher producer shares, inorganic wheat benefited from stronger market linkages and lower certification burdens. Overall, direct marketing (Producer → Consumer) emerged as the most efficient and profitable channel for both organic and inorganic wheat producers.

Keywords: Organic farming, organic wheat, marketing channel, price spread, marketing cost, farmers' share in consumers' rupee, marketing efficiency

Introduction

Organic farming emerged in the early 20th century as a response to the negative effects of chemical-intensive agriculture. It emphasizes the use of natural inputs like compost, green manure, and crop rotation, avoiding synthetic fertilizers and pesticides. This method improves soil fertility, supports biodiversity, and produces healthier food, making it environmentally sustainable and socially responsible. According to IFOAM, organic agriculture is based on four principles: health, ecology, fairness, and care. It promotes the interconnected health of soil, plants, animals, and humans while maintaining ecological balance and ensuring ethical farming practices. In India, with its diverse agro-climatic zones and traditional organic practices, organic farming holds great potential for growth.

Common wheat (*Triticum aestivum*) is a major cereal crop valued for its high carbohydrate, protein, fiber, vitamin, and mineral content, making it a key dietary staple that supports energy, digestion, and overall health. While Durum wheat (*Triticum durum*), a tetraploid species, is known for its high protein and strong gluten content, making it ideal for pasta and semolina production. Breeding programs for durum wheat aim to enhance yield and quality, which are influenced by both genetic and environmental factors.

Wheat is the second most important cereal crop globally, and India is the second- largest producer after China. Maharashtra contributes modestly to national wheat production, with Parbhani district showing potential for both organic and inorganic wheat cultivation.

With rising concerns about climate change, soil degradation, and food safety, comparing the economics of organic and inorganic wheat farming has become essential. Organic farming, although often more labor-intensive and yielding less per hectare, can be more profitable due to premium market prices. In contrast, conventional farming depends on chemical inputs to maximize output, which can degrade soil health and increase production costs over time.

This study explores the comparative cost, yield, and return structure of organic and inorganic

wheat farming, especially in the context of Parbhani district. The findings aim to support farmers, researchers, and policymakers in making informed decisions for sustainable agricultural development.

Materials and Methods

Wheat, being a staple crop in India and a major reason for the country becoming the second- largest wheat producer in the world, was chosen for the study. The study was conducted in Parbhani district of Maharashtra. The primary data were obtained from 60 organic wheat producers and 60 inorganic wheat producers, making a total sample size of 120. Since there were no retail outlets for selling organic wheat in the district, it was decided to collect consumer-related data from areas where organic wheat was available. The data were collected from the sample producers by survey method using a structured schedule through personal interviews with each sample producer. The information gathered from the producers included general details, prices received, cost of marketing, marketing channels followed, etc. The data were analyzed using the tabular method and percentages to draw meaningful conclusions.

Tools of Analysis
Conventional Analysis
Percentage analysis was carried out to evaluate the general profile of the selected farmers and intermediaries.

Price Spread
Price spread is the difference between the price paid by the consumer and the price received by the producer. It mainly consists of marketing costs and margins. (Khodang and Sharma 2022). For this study, individual farmers, Village traders, wholesalers and retailer
were surveyed in order to collect relevant information. The profits earned by the different intermediaries who took part in moving the produce from its source to the end customer were estimated. The price spread analysis was carried out as follows:

$$\text{Producer's share in consumer's rupee} = \frac{\text{Producer's price}}{\text{Consumer's price}} \times 100$$

Marketing Cost
Marketing costs refer to the actual expenses involved in the marketing process. The cost of marketing includes the total amount spent by producers, sellers, and intermediaries to facilitate the sale or purchase of a product from the time it is harvested until it reaches the final consumer (Tomar 2018). These costs cover various expenses such as loading, unloading, transportation, weighing charges, commissions, labor, packaging, market fees, and other related charges.
The total money spent by farmers and middlemen for doing different marketing work was calculated using the following method.

$$C = C_f + C_{mi}$$

Where,
C = Total marketing cost
C_f = Cost paid by the farmers
C_{mi} = Cost incurred by middleman

Marketing Margin: The marketing margin refers to the

difference between the price consumers pay for farm products and the amount farmers receive (Sharma and Sharma 2019). Essentially, it represents the cost of various activities and services performed by marketing intermediaries to add value to the product. This margin includes the expenses incurred by these agencies in carrying out marketing functions, as well as their profits. In other words, the marketing margin is the actual earnings of the entities involved in the marketing process and it was calculated as follows:

$$MM_i = SP_i - (PP_i + MC_i)$$

Where
MM_i = Marketing margin of ith middleman SP_i = Selling price of ith middleman
PP_i = Purchasing price i^{th} middleman
MC_i = Marketing cost incurred by i^{th} middleman

Marketing efficiency
Marketing efficiency refers to how effectively a market performs (Kiran *et al.,* 2023) [5]. As per Acharya (2003), a proper assessment of marketing efficiency especially when comparing different market channels should consider all relevant factors. The efficiency of various marketing channels was carried out by using Acharya's formula.

$$MME = \frac{FP}{MC + MM}$$

Where,
MME= Modified measure of marketing efficiency.
FP= Net price received by the producer (₹/q). MC= Marketing cost.
MM= Marketing margin.

Results and Discussion
Marketing Channels for Organic and Inorganic Wheat
The key intermediaries involved in the marketing of both organic and inorganic wheat were village traders, wholesalers, and retailers. These intermediaries played a vital role in ensuring the smooth transfer of wheat from the producers to the final consumers, thereby meeting the demand for both types of wheat in the market. In the study area, the marketing channels adopted by wheat farmers (organic and inorganic) to sell their produce varied depending on the scale of production, market access, and buyer preferences. The main marketing channels identified were:
1. Producer → Consumer
2. Producer → Village Trader → Consumer
3. Producer → Wholesaler → Retailer → Consumer

Price spread of organic wheat
Table 1 provided a detailed analysis of the price spread across various Organic marketing channels. The study revealed that Channel I (Producer → Consumer) had the lowest consumer price (₹3274.47) and the highest producer share, with the producer
receiving ₹3237.16 per quintal. Channel II (Producer → Village Trader → Consumer) showed a moderate consumer price of ₹3372.50, with additional trader margins. Channel III (Producer → Wholesaler → Retailer → Consumer) had the highest consumer price at
₹3567.38 and the lowest producer net price of ₹3182.24, due to

increased intermediary costs and margins. Overall, as the number of intermediaries increased, the consumer price rose and the producer's share declined.

Table 1: Price spread in marketing of organic wheat (Rs/Qtl)

Sr. No	Particulars	Channel I	Channel II	Channel III
	Producer			
1	Producer's net price	**3237.16**	**3236.65**	**3182.24**
2	Packaging	11.05	11.8	12.67
3	Labour charges	14.21	13.8	12.95
4	Transport charges	7.63	11.25	71.43
5	Weighing charge	1.00	1.00	1.00
6	Total Marketing Cost of producer	33.89	97.16	97.05
7	Producer's gross price	3271.05	3273.5	3279.29
	Village Trader			
	Transport charges	00	5.00	00
1	Labour charges	00	12.7	00
2	Packing	00	10.6	00
3	Weighing charge	00	1.2	00
4	storing Charges	00	1.05	00
5	Electricity Charges	00	0.50	00
6	Licence Charges	00	29.26	00
7	Total Marketing Cost of village trader	00	97.16	00
8	marketing Margin	00	23.19	00
9	Sale Price	00	3357	00
	Wholesaler			
1	Transport charges	00	00	32.86
2	Labour charges	00	00	12.95
3	Weighing charge	00	00	1.38
4	storing Charges	00	00	3.33
5	Electricity Charges	00	00	0.54
6	Licence Charges	00	00	41.66
7	Cess Fund	00	00	32.83
8	Spoilage/Damage	00	00	10.93
9	Commission charges	00		
10	Total Marketing Cost of wholesaler	00	00	172.59
11	marketing Margin	00	00	19.55
12	Sale Price	00		
	Retailer			
1	Transport charges	00	00	9.52
2	Labour charges	00	00	13.24
3	Weighing charge	00	00	1.12
4	storing Charges	00	00	00
5	Electricity Charges	00	00	0.24
6	Licence Charges	00	00	29.17
7	Spoilage/Damage	00	00	00
8	Total Marketing Cost of retailer	00	00	65.77
9	marketing Margin	00	00	26.85
10	Sale Price	00	00	3567.38
	Consumer			
1	Purchase Price	3271.05	3360.5	3567.38
2	Packing	0.26	00	00
3	Transport charges	3.16	15.5	40.48

Price spread of Inorganic wheat
Table 2 provided a detailed analysis of the price spread across various Inorganic marketing channels. The result found that In Channel I, the producer earned a net price of ₹2978.28 per quintal. Marketing costs were low (₹34.50), and the consumer paid ₹3019.28, indicating minimal involvement of intermediaries and lower overall costs. In Channel II, the producer received ₹2976.40 with marketing costs of ₹38.35. The

village trader added ₹62.19 in costs and earned a margin of ₹29.56, leading to a consumer price of ₹3117.20—higher than Channel I due to additional intermediary involvement. In Channel III, the producer's net price dropped to ₹2920.82 with increased costs of ₹96.45. Both wholesaler and retailer added marketing expenses and margins, resulting in the highest consumer price of ₹3288.86. As the number of intermediaries increased from Channel I to III, marketing costs and consumer prices rose, while the producer's net income declined.

Table 2: Price spread in marketing of inorganic wheat, (Rs/qtl)

	Particulars	Channel I	Channel II	Channel III
	Producer			
1	Producer's Net price	2978.28	2976.4	2920.82
2	Packaging	11.78	11.8	12.55
3	Labour charges	14.39	13.55	13
4	Transport charges	8.33	13	70.91
5	Weighing charge	1.00	1.00	1.00
6	Total Marketing Cost	34.5	38.35	96.45
7	Producer's gross price	3012.78	3014.75	3017.27
	Village Trader			
1	Transport charges	00	5.75	00
2	Labour charges	00	12.8	00
3	Packing	00	11.6	00
4	Weighing charge	00	1.08	00
5	storing Charges	00	1.20	00
6	Electricity Charges	00	0.50	00
7	Licence Charges	00	29.26	00
8	Total Marketing Cost	00	62.19	00
9	marketing Margin	00	29.56	00
20	Sale Price	00	3106.5	00
	Wholesaler			
1	Transport charges	00	00	31.36
2	Labour charges	00	00	12.91
3	Weighing charge	00	00	1.50
4	storing Charges	00	00	3.32
5	Electricity Charges	00	00	0.54
6	Licence Charges	00	00	41.66
7	Cess Fund	00	00	30.17
8	Spoilage/Damage	00	00	10.23
9	Commission charges	00	00	22
10	Total Marketing Cost	00	00	167.51
11	marketing Margin	00	00	23.4
12	Sale Price	00	00	3208.18
	Retailer			
1	Transport charges	00	00	10.45
2	Labour charges	00	00	13.27
3	Weighing charge	00	00	1.14
4	storing Charges	00	00	00
5	Electricity Charges	00	00	0.24
6	Licence Charges	00	00	29.17
7	Spoilage/Damage	00	00	00
8	Total Marketing Cost	00	00	66.82
9	marketing Margin	00	00	31.59
10	Sale Price	00	00	3306.59
	Consumer			
1	Purchase Price	3012.78	3106.5	3288.86
2	Packing	3.44	2.20	00
3	Transport charges	3.06	8.50	40.45

Marketing cost of Organic and Inorganic wheat
Table 3 revealed that marketing costs increased with the length of the marketing channel. The lowest costs were observed in Channel I for both organic (₹33.89) and inorganic (₹34.50)

wheat farmers, while the highest were in Channel III (organic: ₹335.41; inorganic: ₹330.79) due to additional expenses like transport, loading, and commissions. Organic farmers generally incurred slightly higher costs in Channel III, likely due to limited infrastructure and access to niche markets. In Channel II, inorganic farmers had higher costs, possibly due to paid logistical services.

Table 3: Total marketing cost in marketing of organic and inorganic wheat (Rs/qtl.)

Organic wheat			Inorganic wheat		
Channel I	Channel II	Channel III	Channel I	Channel II	Channel III
33.89	97.16	335.41	34.50	100.54	330.79

Margin incurred by various intermediaries in marketing of organic and inorganic wheat
The marketing margin was ₹0 in Channel I for both organic and inorganic wheat farmers, as there were no intermediaries. In Channel II, the margin rose to ₹23.19 for organic and ₹29.56 for inorganic farmers. In Channel III, margins further increased to ₹46.40 (organic) and ₹54.99 (inorganic). Margins grew with the number of intermediaries, and inorganic farmers consistently faced higher margins due to stronger market networks and infrastructure.

Table 4: Margin incurred by various intermediaries in marketing of organic and inorganic wheat (Rs/qtl.)

Organic wheat			Inorganic wheat		
Channel I	Channel II	Channel III	Channel I	Channel II	Channel III
0.00	23.19	46.40	0.00	29.56	54.99

Producer's share in consumer rupee in marketing of organic and inorganic wheat
Table 5 revealed that the producer's share in the consumer rupee decreased with the addition of intermediaries. In Channel I, both organic and inorganic farmers received 100%. In Channel II, the share dropped to 97.42% for organic and 97.03% for inorganic farmers. In Channel III, it further reduced to 91.93% and 91.77% respectively. Organic farmers consistently received a slightly higher share than inorganic ones across all channels.

Table 5: Producer's share in consumer rupee in marketing of organic and inorganic wheat

Organic wheat (per cent)			Inorganic wheat (per cent)		
Channel I	Channel II	Channel III	Channel I	Channel II	Channel III
100.00	97.42	91.93	100.00	97.03	91.77

Marketing efficiency across various marketing channels in organic and inorganic wheat
Marketing efficiency, assessed using Acharya's method (farmer's price divided by total marketing cost and margins, multiplied by 100), reflects how effectively products move from producer to consumer at minimal cost. Table 4.25 showed that Channel I was the most efficient for both organic and inorganic wheat farmers due to minimal intermediary involvement. Organic farmers recorded efficiencies of 5.26%, 5.00%, and 4.76% across Channels I, II, and III respectively, while inorganic farmers showed slightly higher efficiencies at 5.56%, 5.00%, and 4.55%. The higher efficiency for inorganic farmers may be attributed to better market access, absence of certification costs, and stronger supply networks.

Table 6: Marketing efficiency across various marketing channels in organic and inorganic wheat

Organic wheat (per cent)			Inorganic wheat (per cent)		
Channel I	Channel II	Channel III	Channel I	Channel II	Channel III
5.26	5.00	4.76	5.56	5.00	4.55

Conclusion
The study compared the marketing patterns, costs, price spread, and efficiency in the marketing of organic and inorganic wheat in Parbhani district of Maharashtra. Organic farming, though more sustainable and environmentally friendly, involved higher marketing costs, especially in longer marketing channels due to limited infrastructure and access to niche markets. It was found that as the number of intermediaries increased, the producer's share in the consumer rupee decreased for both types of wheat, while marketing costs and margins increased.

In all channels, organic wheat fetched slightly higher producer shares compared to inorganic wheat, but inorganic wheat showed slightly better marketing efficiency, possibly due to stronger market linkages and absence of certification-related expenses. The shortest channel (Producer → Consumer) proved to be the most beneficial for farmers in both systems, with the highest producer share and lowest marketing costs and margins. Overall, direct marketing emerged as the most efficient and profitable route for both organic and inorganic wheat producers.

Policy implications
Based on the cropping pattern, it can be concluded that cotton, soybean, Wheat and Gram are the predominant crops in Parbhani district of Maharashtra. To maximize returns from organic farming, dedicated marketing facilities for organic produce should be established. Additionally, the certification process for organic products should be simplified to encourage more participation.

India's agricultural policy should prioritize the expansion of organic farming. particularly to tap into export markets. Establishing a dedicated Organic Agricultural Research Institute (OARI) with a national network and regional centers across states would support this goal.

Organic farming relies heavily on organic manures and fertilizers, which are already in high demand and expected to rise further with the expansion of organic agriculture. It is therefore critical to ensure a steady and accessible supply of these essential inputs to avoid hindering the sector's growth in the state.

The transition phase from inorganic to organic farming was reported by sample farmers as the most challenging period. New entrants should be trained thoroughly on various aspects of this conversion phase such as the time frame, suitable crops, input management, financial planning, organic techniques, processing, certification, and marketing. During this phase, beginners should also be supported by government agencies, NGOs, farmer groups, and experienced organic cultivators to help them manage the transition smoothly.

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