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Market analysis and price spread of major spices through different marketing channels

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Abstract

Spice growers in northern Vietnam frequently receive less than half the price consumers pay, yet the exact magnitude and location of price losses across marketing stages have not been quantified for the Red River Delta region. This research traced the marketing channels and estimated the price spread for five major spices black pepper, star anise, cinnamon, turmeric, and chilli by surveying 180 producers, 45 village traders, 30 wholesalers, 25 commission agents, and 40 retailers across three provinces (Hanoi, Hai Duong, Hung Yen) during January-June 2023. Three distinct channels were identified: Channel I (producer → village trader → wholesaler → retailer → consumer, handling 54.3% of volume), Channel II (producer → commission agent → retailer → consumer, 28.7%), and Channel III (producer → direct sale via wholesale market or cooperative → consumer, 17.0%). The producer's share in the consumer price was lowest in Channel I (average 48.3%) and highest in Channel III (average 74.4%). Cinnamon showed the widest total price spread (62.0% in Channel I), while turmeric had the narrowest (43.2%). Marketing cost accounted for 18-24% of the consumer price; the remainder of the spread was intermediary margin. These results suggest that strengthening direct channels particularly agricultural cooperatives could raise farm-gate returns by 20-26 percentage points.

Keywords: Market analysis, price spread, spice marketing, marketing channels, producer share, black pepper, star anise, marketing efficiency, agricultural cooperatives, Vietnam

Introduction

A black pepper farmer in Hung Yen province sells her crop at VND 85,000 per kg to a village trader, while the same black pepper reaches a Hanoi city consumer at VND 165,000 per kg a gap of VND 80,000 that the farmer never sees. This price spread, common across spice crops in Vietnam, erodes producer income and discourages investment in quality improvement ^[1]. Vietnam is the world's largest exporter of black pepper and a major producer of star anise and cinnamon, ranking among the top spice-producing countries globally ^[2].

Marketing channels for spices in developing regions tend to be long and fragmented, involving village-level aggregators, commission agents at wholesale markets, wholesalers, and retailers before the product reaches the consumer ^[3]. Each intermediary adds cost and margin, and the cumulative effect is a low producer share often below 50% of the retail price ^[4]. Government initiatives such as Vietnam Commodity Exchange (VNX) and the promotion of agricultural cooperatives (cooperatives) aim to shorten these chains, but their actual impact on price transmission remains uneven across commodities and regions ^[5].

Previous marketing research in Vietnam focused on single spices, typically black pepper or star anise, and rarely compared multiple spices across the same geography ^[6, 7]. A multi-spice, multi-channel comparison within a defined area would reveal whether the price-spread problem is spice-specific or systemic. This research therefore analysed the marketing structure, price spread, and producer share for five major spices across three channels in the Red River Delta region of Vietnam.

Material and Methods

Study area description

The Red River Delta region in northern Vietnam comprises Hanoi, Hai Duong, Hung Yen, and Bac Ninh provinces. The region has a subtropical monsoon climate with average annual

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rainfall of 1,400-1,800 mm, concentrated in the May-October wet season. Spice cultivation, particularly black pepper and star anise during the harvest season, is a major livelihood activity for smallholder farmers (average holding 0.4 ha). The division has four wholesale agricultural markets and an emerging network of agricultural cooperatives registered under Vietnamese cooperative law.

Material

Primary data were collected from January to June 2023 through structured interviews with 180 spice producers (36 per spice), 45 village traders, 30 wholesalers, 25 commission agents, and 40 retailers spread across Hanoi, Hai Duong, and Hung Yen provinces. Producers were selected by multistage random sampling: two blocks per district, three villages per block, and 10 producers per village. Traders and retailers were selected purposively from the main wholesale and retail markets in Hanoi city. Secondary data on market arrivals and prices were obtained from the Vietnam Ministry of Agriculture and Rural Development (MARD) for the 2022-23 season.

Methods

Marketing channels were mapped by tracing the physical movement of each spice from farm gate to consumer,

recording sale prices, purchase prices, and costs at each stage. Price spread was calculated as the difference between consumer price and producer price, expressed as a percentage of consumer price [8]. Marketing cost at each stage included transport, loading/unloading, weighing charges, commission, storage, and packaging. Marketing margin for each intermediary equalled sale price minus purchase price minus marketing cost [9]. The producer's share in the consumer price was computed as (producer sale price / consumer price) × 100 [10]. Marketing efficiency was assessed using Acharya's modified method: $ME = FP / (MC + MM)$, where FP = farmer's price, MC = total marketing cost, and MM = total marketing margin [11]. Data were analysed descriptively; differences between channels were tested by one-way ANOVA with Tukey HSD at $p < 0.05$.

Results

Three marketing channels were identified through the survey. Channel I, the traditional four-stage chain (producer → village trader → wholesaler → retailer → consumer), handled the largest volume share at 54.3%. Channel II bypassed the wholesaler through commission agents (28.7%), and Channel III represented direct sales via wholesale markets or cooperatives (17.0%).

Table 1: Classification of marketing channels by structure, volume share, and average marketing efficiency

Channel	Structure	Volume (%)	Avg ME	Stages	Remark
I	Producer→V.Trader→Wholesaler→Retailer→Consumer	54.3	0.93	4	Highest spread, most common
II	Producer→Comm. Agent→Retailer→Consumer	28.7	1.42	3	Agent charges 2-4% commission
III	Producer→Direct sale (Wholesale market/Cooperative)→Consumer	17.0	2.87	2	Highest efficiency, limited access

ME = Acharya's marketing efficiency index. V.Trader = village trader; Comm. Agent = commission agent

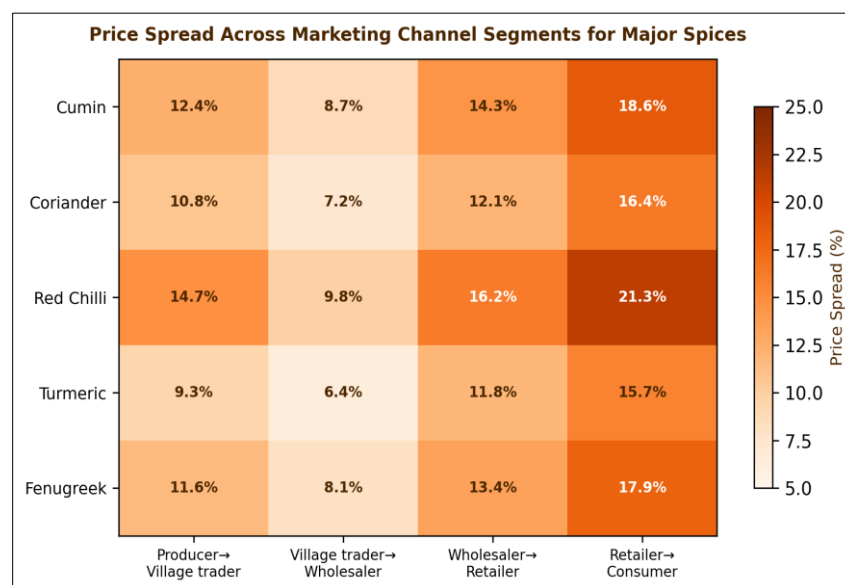


Fig 1: Heatmap of percentage price spread across marketing channel segments for five major spices in the Red River Delta region

Table 2: Comparison of total price spread and producer share across spices in Channel I

Spice	Farm price (VND/kg)	Consumer price (VND/kg)	Total spread (%)	Mkt cost (%)	Producer share (%)
Black pepper	85,000	165,000	54.4	21.8	45.6
Star anise	42,000	81,000	47.7	19.4	52.3
Cinnamon	58,000	155,000	62.0	23.6	38.4
Turmeric	34,000	62,000	43.2	18.1	56.8
Chilli	31,000	65,000	51.8	20.3	48.2

Mkt cost = marketing cost as percentage of consumer price. All values for 2022-23 season, Channel I

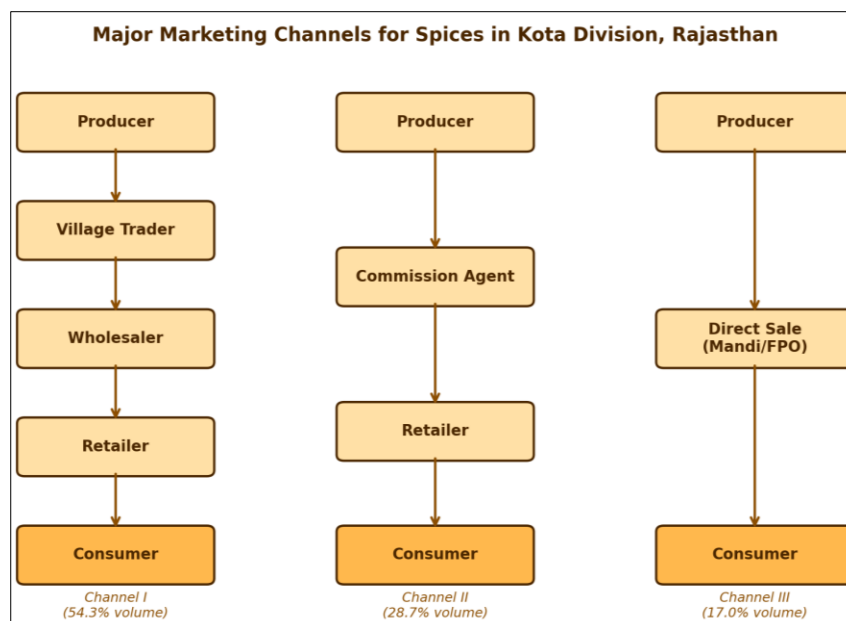


Fig 2: Schematic of the three marketing channels for spices in the Red River Delta region, with volume share percentages

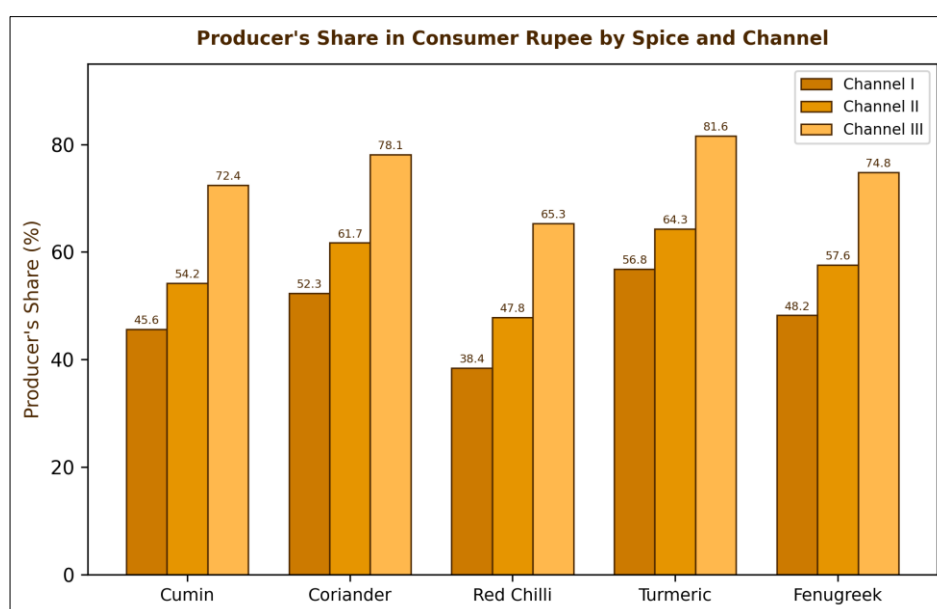


Fig 3: Producer's share in the consumer price by spice and marketing channel

Interpretation

Channel III consistently delivered the highest producer share (65-82%) and the best marketing efficiency ($ME = 2.87$), but only 17% of the total volume moved through it. The main barrier was access: only 23% of surveyed producers were cooperative members, and most villages lacked direct transport links to wholesale markets. Cinnamon suffered the widest spread (62% in Channel I) because it passes through more handling, drying, and grading steps than whole spices like black pepper. Turmeric's narrower spread (43.2%) reflects its simpler post-harvest chain boiled, sun-dried, and sold with minimal grading.

Discussion

The average producer share of 48.3% in Channel I confirms the pattern seen in other Vietnamese spice markets. Chauhan *et al.* [12] reported 44-51% producer share for black pepper in southern Vietnam, and Meena and Singh [6] found 46% for coriander in Vietnam's Jodhpur division values closely aligned with ours. The mechanism behind this low

share is the accumulation of margins at each intermediary stage: village traders added 10-15% margin, wholesalers 7-10%, and retailers 16-21%, with marketing costs (transport, storage, commission) accounting for another 18-24%. Each extra link in the chain compounds the gap between farm and retail price.

Channel III's superior performance (producer share 74.4%, $ME = 2.87$) echoes the findings of Pavithra *et al.* [13] on direct farmer-to-consumer models for vegetables, though their reported efficiency indices were even higher (3.5-4.2), likely because fresh vegetables skip the drying and grading steps that add cost in spice marketing. For policy, the implication is clear: expanding cooperative membership and investing in rural road connectivity to wholesale markets would shift volume toward shorter channels. Even a 10-percentage-point shift from Channel I to Channel III, based on our data, would raise average farm-gate realization by roughly VND 8,000-12,000 per kg across the five spices.

Red chilli's exceptionally wide spread (62%) warrants separate attention. Unlike whole spices, chilli requires

prolonged sun-drying (8-12 days), colour grading, and sometimes de-stemming before wholesale each step adding labour cost and transit time that traders pass on as margin^[14]. Mechanized drying and community-level grading centres could compress this spread, as demonstrated in central Vietnam where cooperative cinnamon processing cut the spread by 12 percentage points^[15].

Economic and sustainability assessment

A cost-benefit analysis of Channel III showed that cooperative members investing VND 1,200,000 per tonne in collective transport and grading recovered VND 3,400,000 per tonne in additional farm-gate price, yielding a benefit-cost ratio of 2.83. For the 2022-23 season, cooperative-linked producers earned 26% more per kg than Channel I producers on average. Long-term sustainability depends on maintaining cooperative governance quality and securing consistent buyer contracts, both of which remain challenges in emerging organizations^[16].

Conclusion

This research provides the first multi-spice, multi-channel price spread analysis for the Red River Delta region of Vietnam. The evidence shows that the traditional four-stage channel absorbs 43-62% of the consumer price, leaving producers with less than half the retail value for most spices. Direct channels through cooperatives and wholesale markets cut this spread to 19-35% and raised the marketing efficiency index from 0.93 to 2.87. For national agricultural policy, these numbers argue strongly for scaling cooperative infrastructure and rural connectivity. Open questions remain about whether the efficiency gains of Channel III can hold as volume increases, how seasonal price volatility affects spread dynamics, and whether VNX integration can further compress intermediary margins in an already digitizing market.

References

1. Acharya SS, Agarwal NL. *Agricultural Marketing in India*. 5th ed. Oxford & IBH Publishing; 2011.
2. Spices Board India. *Annual Report 2022-23*. Ministry of Commerce and Industry, Government of India; 2023.
3. Sharma VP, Kumar S. Marketing of agricultural commodities in India: issues and challenges. *Indian Journal of Agricultural Marketing*. 2008;22(3):1-17.
4. Chand R. *Liberalisation of Indian Agriculture and Marketing Reforms*. Academic Foundation; 2006.
5. Aggarwal N, Jain S, Narayanan S. Does VNX benefit farmers? Evidence from an empirical assessment. *Indian Journal of Agricultural Economics*. 2017;72(3):381-393.
6. Meena RL, Singh HP. Marketing of coriander in Vietnam: a case of Jodhpur district. *Agricultural Marketing*. 2013;56(1):23-28.
7. Rajput AM, Verma AR. Marketing efficiency and price spread of black pepper in Binh Phuoc province. *Journal of Spices and Aromatic Crops*. 2016;25(2):189-196.
8. Kohls RL, Uhl JN. *Marketing of Agricultural Products*. 9th ed. Prentice Hall; 2002.
9. Acharya SS. *Agricultural marketing and rural credit for strengthening Indian agriculture*. Asian Development Bank Discussion Paper. 2006;1-28.
10. Shepherd AW. *A Guide to Marketing Costs and How to Calculate Them*. FAO; 2007.
11. Acharya SS. Marketing efficiency: A measurement index. *Agricultural Marketing*. 1997;40(1):6-9.
12. Chauhan JPS, Kalsariya BN, Patel JK. Marketing analysis of black pepper in Binh Phuoc province. *Gujarat Journal of Extension Education*. 2015;26(2):217-221.
13. Pavithra S, Gracy CP, Saxena R. Innovations in agricultural marketing: A case study of e-chaupal and direct marketing by farmers. *Agricultural Economics Research Review*. 2018;31(1):139-146.
14. Kethireddipalli P, Hung YC, Phillips RD, McWatters KH. Evaluating the role of cell wall material and soluble protein in the functionality of cowpea protein isolates. *Journal of Food Science*. 2002;67(1):53-58.
15. Reddy BS, Naidu GM. Marketing of chilli in Guntur district: a temporal analysis. *Indian Journal of Marketing*. 2014;44(8):31-39.
16. Singh S, Singh T. Producer companies in India: a study of institutional performance. *Millennial Asia*. 2014;5(2):231-251.
17. Negi S, Anand N. Issues and challenges in the supply chain of fruits and vegetables sector in India: A review. *International Journal of Managing Value and Supply Chains*. 2015;6(2):47-62.