An Economic Analysis of Marketing of Pearl Millet (*Pennisetum glaucum*) in Jaipur District, Rajasthan, India

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

The present study aims to conduct an economic analysis of production and marketing of pearl millet in Jaipur district of Rajasthan. Price spreads in channels I and II were 525 and 660 rupees per quintal, respectively. For channel I, the producer's share of the consumer's rupee was 73.94, and for channel II, it was 70.11%. The marketing effectiveness of channel I was 4.35 percent, and channel II was 3.50 percent. High labour costs, high PFC chemical costs, etc., as well as frequent price changes, a lack of storage space, high transportation costs, a lack of knowledge about government programmes and subsidies, high commission fees, etc., were barriers to the marketing of pea millet.

Keywords: Marketing; economics; channel; pearl millet; analysis.

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1. INTRODUCTION

Next to rice and wheat, pearl millet (*Pennisetum glaucum*) is the most significant grain crop in India. It is the staple and nutritive diet of farm households in developing and underdeveloped countries. It is grown as dual-purpose; grain and forage in drylands, marginal lands, and unirrigated lands of the Indian subcontinent [1-3]. In India, there were 342.3 million tonnes of total food grain output in 2021–2022, covering around 28 million hectares. Rajasthan, Uttar Pradesh, Maharashtra, Gujarat, and Haryana are the principal producing states for pearl millet in the nation. Sorghum is typically not chosen over pearl millet crops since only 500 to 600 mm of annual precipitation is thought to be necessary. For use as fodder and forage as well as food grains, improved cultivars have been created. However, due to carelessness and a protracted lack of governmental action about coarse cereals for a long period even though a small improvement in yield and production has been noted at the national level over the previous five years, the area planted with pearl millet has been drastically decreased. Pearl millet can thrive in a variety of ecological settings and can continue to produce well even in unfavourable drought stress and high temperature circumstances. It is typically grown in places that are hot and humid and have a semi-arid climate. A warm-weather crop, pearl millet thrives between 20 and 28 degrees Celsius. Compared to other commonly grown cereals, pearl millet is possibly more resistant to greater temperatures. The ideal range for pearl millet seed germination is between 23 and 32 degrees Celsius. Under chilly soil conditions, pearl millet seed does not germinate or grow well. The purpose of this study is to conduct an economic analysis of production and marketing of pearl millet (*Pennisetum glaucum*) in Injaipur District, Rajasthan.

2. METHODOLGY

The current study was carried out in Rajasthan's Jaipur District, which consists of thirteen blocks. Govindgarh Block was specifically chosen since it has the maximum area and productivity of Pearl millet crop farming. Furthermore, seven villages were chosen from the Jaipur block. The area of Pearl millet cultivation in each of the chosen villages was used to divide the respondents into three groups. Small size farm groups have an area of cultivation of less than 1- 2 ha, medium size farm groups have an area of cultivation of 4–10 ha, and marginal size farm groups have an area of cultivation of less than 1 ha, respectively. In each of the selected villages, 10% of the total farm households were chosen from among the three size farm groups. In each chosen hamlet, a total of 10% of the three farm size groups' responses were chosen. There were 120 total respondents; out of those, 53 marginal respondents, 31 small respondents, and 36 medium respondents were chosen, correspondingly. Personal interviews were used to gather the data according to a pre-tested timetable. The interview schedule was broken down into sections. A profile of the respondents was provided in the first segment, and an economic study of the cultivation and sale of pearl millet was covered in the second. The input-output ratio (B.C. Ratio), gross income, marketing costs, and marketable surplus were used to manually analyse the data.

3. RESULTS AND DISCUSSION

The findings revealed that marketing cost, marketing margin, and price spread for Channel I. The two intermediaries—commission agents/wholesalers and retailers—through which Pearl Millet reaches consumers have been identified. Produce is purchased by the producer from the wholesalers or commission agents, who then resell it to market vendors. After collecting margin, the produce eventually makes it to the consumers. When farmers sold their produce to commission agents/wholesalers in the market, the average marketing cost per unit was Rs. 1500. The most significant of these costs was miscellaneous charges, which came in at Rs. 15.00 per unit, followed by labour at Rs. 15.00, transportation at Rs. 25.00 per unit, loading and unloading at Rs. 20 per unit, market fee at Rs. 15 per unit, packing material at Rs. 10 per unit, weighing charges at Rs. 15 per unit, and packing cost at Rs. 15 per unit, respectively in various farm size groups, the sale price of the producer to commission agents/retailers was Rs. 1950/qnt. Producer, commission agents/wholesalers, and retailers each paid 0.60%, 4.44%, and 10.90% of the price to consumers in these channel marketing campaigns, respectively.

Channel II. Contractors, commission agents/wholesalers, and retailers were identified as the three middlemen via which Pearl millet. [4-10].

Table 1. Shows the marketing costs, marketing margins, and price variations of the pearl millet crop across various farm group sizes

1	Channel-1	Producer	wholersalers	Retailer	Consumer	
2	Channel-2	Producer	contractor	Commission agent/wholersalers	Retailer	Consumer

Sr. No.	Particulars	Channel I		Channel II	
		Rs./Qtl	%	Rs. / Qtl	%
1	Price of producer's sale to commission agency	1950		1950	
2	Expenses borne by the production				
I	packaging fees	15	.6	15	0.57
Ii	Packing material cost	5	0.20	5	0.19
Iii	Transportation cost	25	1.01	25	0.96
Iv	Market cost	10	0.40	10	0.38
V	Labor cost	15	0.61	20	0.77
Vi	Charges for loading and unloading	20	0.8	20	0.77
Vii	Weighing charges	10	0.4	10	0.38
Viii	Miscellaneous charges	15	0.6	15	0.57
3	Total cost(i-viii)	120	4.85	135	4.60
4	Net price received by producer	1830	73.94	1815	69.54
5	Price of the producer's sale to the commission agency	1950	78.79	1950	74.71
6	Expenses borne by the wholesaler				
I	Charges for loading and unloading	15	0.6	25	0.96
Ii	Packing coast	10	0.4	15	0.57
Iii	Market fee	15	0.6	25	0.96
Iv	Losses and miscellaneous charges	15	0.6	15	0.57
V	Commission agent/wholesale margin	110	4.44	100	3.83
7	Total cost (v)	55	2.22	80	3.07
8	Sale price of wholesalers to retailers	2115	85.45	2130	81.6
9	expense borne by the retailers				
I	charging weights	15	0.6	-	
Ii	Charges for loading and unloading	25	1.01	25	0.96
Iii	Town charges	20	0.8	15	0.57
Iv	transport to the store	15	0.6	15	0.57
V	Miscellaneous charges	15	0.6	15	0.57
Vi	Retailer margin	270	10.9	50	1.92
10,	Total cost (vi)	90	3.64	70	2.68
11	commission agent's or wholesaler's selling price	-		2250	86.2
12	expense borne by the retailers	-			
I	charging weights			15	0.57
Ii	Charges for loading and unloading			25	0.96
Iii	Town expenses			20	0.77
Iv	transport to the store			15	0.57
V	Additional costs			15	0.57
Vi	Total retailer margin (i-vi)			270	10.34
13	Retailer's cost to consumers for goods sold	-		90	3.45
14	Prices varied	2475	100	2610	100
15	Price spread	525		660	
16	Consumer paid price	73.94		70.11	
17	Marketing efficiency (in %)	4.35		3.5	

Number of respondents=120
M S M=53+31+36=120
(Value in rupees/quintal)

Table 2. Marketing costs for the pearl millet harvest by farm group size

S. No.	Particulars	Channel I	Channel II
1.	Total marketing cost	265	375
2.	Total marketing margin	380	420
3.	Prices varied	525	660
4.	Rupees produced by producers as a percentage	73.94%	70.11%
5.	Marketing efficiency (%)	4.35%	3.50

Number of respondents=120
M S M=53+31+36=120

reaches consumers. Out of the two channels that were found, this one is the longest. Produce is sold by the producer to the contractor, who then sells it to commission agents and wholesalers, who in turn sell it to market retailers. After being collected, the produce finally makes it to the consumers. When producers sold their produce to contractors, the average marketing cost was Rs. 1950qtl.Miscellaneous costs were the most significant among these costs, accounting for Rs. 15/qtl, followed by labour costs of Rs. 20/qtl, transportation costs of Rs. 25/qtl, costs for loading and unloading, Rs. 20/qtl, market fees of Rs. 25/qtl, costs for packing material of Rs10/qtl, costs for weighing, and costs for packing of Rs. 15/qtl, respectively. In various farm size groups, the sale price of the producer to commission agents/retailers was Rs. 2250/qtl.

The cost of the producer, contractor, commission agents/wholesalers, and retailers in these channel marketing campaigns was, respectively, 5.15%, 3.06%, 2.68%, and 3.45% of the price that consumers paid. The retailer's margin was projected to be 10.34% of the price the consumer paid, while the contractor's margin was calculated to be 3.98%. The producer's portion of the consumer price was 70.11%. Price spread was set at Rs. 660 per quantity that the customer paid. The channel II sample average for marketing effectiveness was 3.50.

4. CONCLUSION

According to the study, there is room to enhance the producer's share of consumer dollars by improving the market's efficiency, which would limit the use of intermediaries and lower marketing expenses and margins. This will be the method used to increase the profitability of pearl millet farming. The main marketing limitation in Pearl millet production was identified as being a combination of high labour costs and a lack of knowledge of new technology among various farm size groups.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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