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Marketing strategy and performance of banana in Kanniyakumari district of Tamil Nadu

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Abstract
Banana (*Musa* sp.) is India's second most important fruit crop after mango. Given the negative consequences of indiscriminate chemical use, a new movement for organic Banana cultivation has emerged in this country in recent years. India produces the most Bananas in the world, accounting for 30,477.00 (000 MT) of overall Banana production. In our state, Tamil Nadu is one of the main producers of Bananas [3,895.64 (000 MT)]. The study's purpose was to examine the marketing strategy and price spread analysis of Banana in Tamil Nadu's Kaniyakumari area. The original data came from 60 farmers in the relevant study location. Secondary data are collected for The Directorate of Horticulture and Horticultural Statistics at a Glance. Two significant marketing channels were found in the study area, according to the findings. In channel I, the producer's net price for Banana was 68.75 percent, and in channel II, it was 65.12 percent. The efficiency index for channel I marketing of Banana was found to be higher than that of channel II. In channels I and II, the marketing efficiency indices were 2.20 and 1.86, respectively.

Keywords: Banana, marketing cost, marketing channels, price spread, marketing efficiency

1. Introduction
Banana (*Musa* sp.) is India's second most important fruit crop after mango. The Banana is also known as the Antique fruit crop, the Tree of Wisdom, the Tree of Paradise, the Adams fig, the Plant of Virtue, and the Apple of Paradise. The "fruit of the wise men" is the Banana. Given the negative consequences of indiscriminate chemical use, a new movement for organic Banana cultivation has emerged in this country in recent years. World's total Banana production during 2021-22 was 1,13,915.99 (000MT). India ranks first in producing the largest number of Bananas with 30,477.00(000 MT) and it's accounted for 26.75 percent of total Banana production in the world followed by China with 11,170.00 (000 MT) and accounting for 9.81 percent. In India, Tamil Nadu ranks fourth Banana production estimated for 3,895.64(000 MT) and accounting for 10.41percent in the total production in this country. In Tamil Nadu, Kanniyakumari stand in the fifth position with 215.33 (000 MT) and accounting for 6.16 percent in the total production in this state. The marketing system for Banana is not well organized in India and hence, the produce suffers losses in quality and quantity before it reaches the consumers.

2. Objectives of the Study
1. To find the marketing behavior of Banana growing farmers and price spread in the marketing of Banana.
2. To identify the problem faced by farmers in marketing of Banana cultivation.

3. Materials and Methods
Out of the total 4244.805 ha under cultivation, the Kanniyakumari district has roughly 215.33 ha dedicated to Banana farming. The Thakkalai block in the district was the primary location for large-scale Banana farming. In order to conduct the study, the Kanniayakumari district was purposefully chosen. The respondents were chosen using a multi-stage randomsampling selection approach. A total of 60 farmers were chosen at random from 12 growers in each of the five communities that were chosen for this study.

3.1 Price spread analysis
Farmers and market officials were surveyed for price information and the costs associated with Banana marketing at various stages of all known marketing channels.

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The marketing cost comprised transportation, loading and unloading, storage, and other incidental charges encountered when promoting the produce. The difference between the price paid by the customer and the price received by the producer for an equivalent quantity of the commodity was termed as "price spread" in the study of Banana marketing. Data on the profitability of the various market functionaries engaged in conveying the produce from the point of origin to the final consumer were gathered. The price spread analysis in this study involved calculating marketing costs and profit margins and expressing it as a percentage of the consumers' rupee. Furthermore, the fanner's portion of the consumer's rupee was calculated in the price spread computation.

3.1.1 Farmer's share in consumer rupee
Further, the Farmer's share in consumer rupee was calculated with the help of the following formula.

Fs= (Fp/Cp) x 100

Where,
Fs = Farmer's share in consumer rupee (percentage)
Fp = Farmer's price
Cp = consumer's price

3.2 Estimation of Marketing Efficiency
The degree of market performance is defined as marketing efficiency. The transfer of commodities from producers to final consumers at the lowest possible cost while providing the service requested by the consumers is referred to as efficient marketing. In the current study, the following formulae were utilized to determine the marketing efficiency of various channels of marketing Banana.

a) Shepherd's Formula
Shepherd (1972) estimated marketing efficiency as the ratio of consumer's price to the total marketing costs and margins. Higher the ratio, higher would be the efficiency and vice versa. This can be expressed in the following form:

$$ME = \frac{CP}{MC + MM}$$

Where,
ME = Marketing efficiency
CP = Consumers' purchase price
MC = Marketing costs
MM = Marketing margins

b) Acharya's Approach
According to Acharya (2003), an ideal measure of marketing efficiency, particularly for comparing the efficiency of alternative market channels should take into account all of the following:
a. Total marketing costs (MC)
b. Net marketing margins (MM)
c. Prices received by the farmer (FF)
d. Prices paid by the consumer (RP)

Further, the measure should reflect the following relationship between each of these variables and the marketing efficiency.
1. Higher the (a), the lower the efficiency
2. Higher the (b), the lower the efficiency
3. Higher the (c), the higher the efficiency
4. Higher the (d), the lower the efficiency

As there is an exact relationship among the four variables, i.e. a + b + c = d, any three of these could be used to arrive at a measure for comparing the marketing efficiency. The following measure is suggested by Acharya,

ME = FP÷ (MC + MM)

4. Result and Discussion
4.1 Marketing Strategies
i) Sales Pattern
The sales pattern of Banana was collected by the farmers and the results are presented in Table 1. The Farmers who preferred selling the produce to the Pre-harvest contractors is 55.00 percent and commission agents is 45.00 percent. It is inferred that both the channels were preferred equally by the Farmers.

ii) Reason for Growing a Particular Variety
There are many reasons to the farmers to grow a particular variety such as demand in the market, easy availability of suckers etc. Farmer preference to grow a particular variety was collected, analyzed and presented in Table 2. The availability of suckers having 31.66 percent is the main reason for farmers to grow a particular variety of Banana; followed by Market Demand 25.00 percent and High yield 20.00 percent. The other reasons are profitability, income from by-products.

iii). Storage of the Banana Fruits
The storage is very important practice. Harvesting of Banana is done in two to three times in the harvesting stage at the same time. So, the pre harvest contractors come to the field and harvest the produces with the help of contract labourers and family members. Then Banana was immediately transported to markets and other places.

4.2 Preference of Markets
The preference of markets by the farmers decides the marketing cost. The results are presented in Table 3. 83.34 percent Banana farmers preferred Local market (within 10 km) from the production field and About 16.66 percent farmer's preferred distant markets (more than 10 km).

4.3 Mode of Transport
Transport is main activity in marketing and the information of mode of transportation was collected and presented in Table 4. Most of the farmers preferred Tempo for transport i.e., 86.66 percent, followed by 13.34 percent of farmers preferred lorry.

Table 1: Sales Pattern Preferred by Sample Farmers

Si. No	Category	Number of Farmers	Percentage to total
1.	Pre - Harvest Contractors	33	55.00
2.	Commission Agents	27	45.00
	Total	60	100.00

Table 2: Reason for Growing a Particular Variety by the Sample Farmers

Si. No	Reasons	Number of Farmers	Percentage to total
1.	Market Demand	15	25.00
2.	Availability of Suckers	19	31.66
3.	High Yielding	12	20.00
4.	Profitability	8	13.33
5.	Income from by-products	6	10.00
	Total	60	100.00

Table 3: Preference of Markets by the Sample Farmers

Si. No	Markets	Number of Farmers	Percentage to total
1.	Within 10 km	50	83.34
2.	More than 10 km	10	16.66
	Total	60	100.00

Table 4: Mode of Transport by the Sample Farmers

Si. No	Mode of Transport	Number of farmers	Percentage to total
1.	Tempo	52	86.66
2.	Lorry	48	13.34
	Total	60	100.00

4.4 Price Spread Analysis: A study on Marketing channel, marketing costs, and marketing margins can judge whether or not the services of the intermediaries are necessary and are provided at reasonable rates. The price spread was worked out for Banana. Various marketing channels for Banana, preferred by the sample farmers were identified and examined.

4.4.1 Marketing Channel: Marketing system of Banana composed of different marketing channels in Kanniyakumari Districts. Marketing channels identified in the study area are:

4.4.2 Marketing Channel I

Growers ⟹ Pre Harvest Contractors ⟹ Commission Agents ⟹ Wholesalers ⟹ Retailers ⟹ Consumers

4.4.3 Marketing Channel II

Growers ⟹ Commission Agents ⟹ Wholesalers ⟹ Retailers ⟹ Consumers

The farmer produce was sold to the pre harvest contractors in the marketing channel I. The produce in turn was sold to commission agents, wholesalers and retailers. The second channel is where the products were directly sold to commission agents. The produce was then sold to wholesalers, retailers, and consumers.

4.5 Marketing Cost
Marketing cost incurred by the farmer and intermediaries were worked out and results are presented.

i). Cost incurred by Producers
The numerous expenses paid in transporting produce to market. As a result, an examination of the various costs incurred by the farmer in marketing his produce. Table 5 summarizes the findings. The farmers have spent Rs. 1,888.50 per tonne in channel II. Loading and unloading costs (58.49%) accounted for the lion's share of overall marketing expenditures, followed by transportation costs (37.54%).

ii) Cost incurred by Pre Harvest Contractors
The cost incurred by the market intermediaries in Banana would influence the net price received by the producer. The results are presented in Table 6. The pre harvest contractors had incurred an expenditure of Rs. 1888.50 per tonne in channel I. The loading and unloading costs (58.49 percent) accounted for major share in total cost of marketing, followed by transport cost (37.54 percent).

iii) Cost incurred by Wholesalers
Various cost incurred by wholesalers are analysed and presented in Table 7. The wholesaler has incurred an expenditure of Rs. 1,304 per tonne in Channel I and II. The transportation cost (70.40 percent) constituted to a major share in total cost of marketing, followed by loading and unloading cost (21.93 percent).

iv) Cost incurred by Retailers
The cost incurred by retailers was analysed and presented in Table 8. The retailers have incurred an expenditure of Rs. 1,446 per tonne in Channel I and II. The transportation cost (73.32 percent) constituted to a major share in total cost of marketing, followed by loading and unloading cost (19.77 percent).

Table 5: Cost incurred by the Farmers

Si. No	Particulars	Amount Spent in channel I	Percentage total	Amount Spent in channel II	Percentage total
1.	Transport Cost	-	-	709.00	37.54
2.	Loading and Unloading Costs	-	-	1,104.50	58.49
3.	Wastage	-	-	75.00	3.97
	Total	-	-	1,888.50	100.00

Table 6: Cost incurred by Pre-Harvested Contractors

Si. No	Particulars	Amount Spent in channel I	Percentage total	Amount Spent in channel II	Percentage total
1.	Transport Cost	709.00	37.54	-	-
2.	Loading and Unloading Costs	1104.50	58.49	-	-
3.	Wastage	75.00	3.97	-	-
	Total	1,888.50	100.00	-	-

Table 7: Cost incurred by Wholesalers

Si. No	Particulars	Channel I and II	
		Amount (Rs/tonne)	Percentage to total
1.	Loading and Unloading Cost	286	21.93
2.	Transport cost	918	70.40
3.	Wastage	100	7.67
	Total	1,304	100.00

Table 8: Cost incurred by Retailers

Si. No	Particulars	Channel I and II	
		Amount (Rs/tonne)	Percentage to total
1.	Loading and Unloading Cost	286	19.77
2.	Transport cost	1060	73.32
3.	Wastage	100	6.91
	Total	1,446	100.00

Price Spread and Marketing Efficiency

The Banana price spread has been computed and is shown in Table 9. Banana growers received a net price of Rs. 18,000 per tonne in channel I and Rs. 18,500 per tonne in channel II. The ultimate customer paid Rs. 26,179.2 and Rs.28,411.37 per tonne in channels I and II, respectively. The absolute marketing margin and efficiency for commission agents, pre-harvest contractors, wholesalers, and retailers were also calculated. Table 10 shows the overall marketing margin and modified efficiency of Banana.

According to Table 10, the overall marketing margin of intermediaries was Rs 2,527.41 per tonne (9.66%) in channel I and Rs 4,259.63 per tonne (14.99%) in channel II. Figure 1 depicts the share of marketing costs, margin, and producer's pricing.
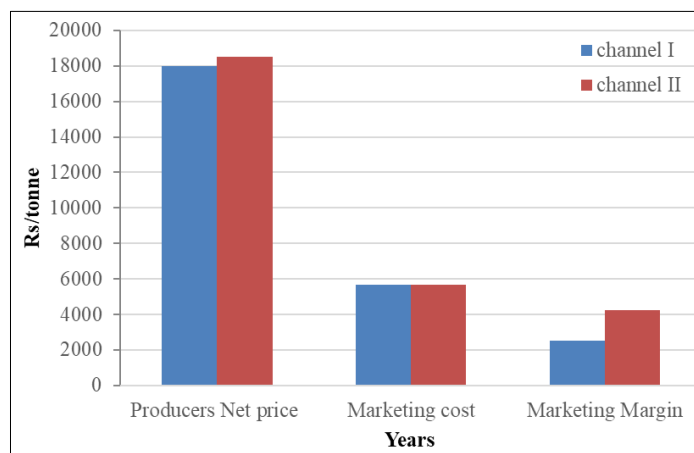
The producer net price for Banana was 68.75% in channel I and 65.12% in channel II. It is possible to conclude that channel I was more efficient than channel II because the efficiency index was greater in channel I for Banana marketing. In channel I and II, the marketing efficiency indices were 2.20 and 1.86, respectively.

Table 9: Price Spread of Banana

Si. No	Particulars	Channel I (Rs/tonne)	Channel II (Rs/tonne)
1.	a. Net Price Received by Producer	18,000 (68.75)	18,500 (65.11)
	b. Expenses Incurred by Producer (Labour, Transport Cost)	-	2,050.87 (7.21)
	c. Commission	-	1,000.00 (3.51)
2.	a. Price Paid by Pre-Harvest Contractor	18,000	-
	b. Expenses Incurred by Pre- Harvest Contractor	2,050.87 (7.86)	-
	c. Commission	1,000.00 (3.83)	-
	d. Margin of Pre-Harvest Contractor	240.77 (0.91)	-
3.	a. Price Paid by Wholesaler	21,291.6	21,550.87
	b. Expenses Incurred by Wholesaler	1,350.87 (5.16)	1,350.87 (4.76)
	c. Margin of Wholesaler	2,070.77 (7.90)	4,043.76 (14.26)
4.	a. Price Paid by Retailer	24,713.3	26,945.5
	b. Expenses Incurred by Retailer	1,250.00 (4.77)	1,250.00 (4.40)
	c. Margin of Retailer	215.87 (0.82)	215.87 (0.75)
5.	Price Paid by Consumer	26,179.2 (100.00)	28,411.37 (100.00)

Table 10: Marketing Efficiency of Banana

Si. No	Particulars	Channel I		Channel II	
		Actual (Rs/ tonne)	Percentage to total	Actual (Rs/ tonne)	Percentage to total
1.	Producers Net price	18,000	68.75	18,500	65.12
2.	Marketing cost	5,651.74	21.59	5,651.74	19.89
3.	Marketing Margin	2,527.41	9.66	4,259.63	14.99
4.	Consumer Rupee	26,179.2	100.00	28,411.37	100.00
5.	Efficiency Index	2.20		1.86	

Fig 1: Marketing efficiency of banana

5. Conclusion
The study concluded that the producer's net price for Bananas was 68.75 percent in channel I and, 65.12 percent in channel II. Given that the efficiency index for channel I marketing of Bananas was found to be higher than that of channel II, it can be said that channel I was more effective than channel II. In channels I and II, the marketing efficiency indices were 2.20 and 1.86, respectively.

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