REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

Optimizing Banana Supply Chains In Andhra Pradesh: A Fight For Fairness

Ms. N. Sridevi Parvathi[1], Dr Ganga Vidya[2],

[1]Lecturer, SKBR College, Amalapuram, East Godavari – AP
[2]Visiting Professor, Humanities Dept NIT Trichy – TN,

Abstract
This study delves into the challenges faced by banana producers in East Godavari district, Andhra Pradesh, due to inefficient marketing channels and the dominance of middlemen. By analysing the costs, efficiency, and price spreads across various channels, the research aims to identify strategies for empowering farmers and improving market outcomes. Three primary marketing channels were identified: (1) Farmer-Commission Agent-Wholesaler-Retailer-Consumer, (2) Farmer-Wholesaler-Retailer-Consumer, and (3) Farmer-Retailer-Consumer. Channel selection is influenced by factors such as distance, market availability, and the bargaining power of intermediaries.
The study examines the costs associated with each channel, including transportation, storage, and commission fees. Price spreads between farmers and consumers are analyzed to determine the share captured by intermediaries. Additionally, the overall efficiency of the marketing system is assessed based on factors like timeliness, market access, and price stability. Findings reveal significant challenges faced by farmers in achieving fair prices due to the dominance of middlemen. The study recommends strategies to reduce the power of intermediaries, improve market access for farmers, and enhance the overall efficiency of the banana marketing system. By implementing these measures, farmers can increase their income, improve the sustainability of banana production, and contribute to the economic development of the region.

Introduction

Bananas, scientifically known as Musa acuminata, Musa balbisiana, or hybrids, are a global favourite. With an estimated 100 billion bananas consumed annually, they are the most widely eaten fruit worldwide. Cultivated in over 150 countries, there are over 1,000 banana varieties, with the Cavendish being the most common in export markets.
India, a powerhouse in banana production, has emerged as a significant player in the global fruit trade. Despite its vast production capacity, the country's banana exports have historically faced challenges such as logistical hurdles and market dynamics. However, recent trends indicate a promising surge in exports, driven by various factors.
This exploration delves into India's banana industry supply chain, examining the factors contributing to its growth and the obstacles that persist. From the fertile fields of Andhra Pradesh to the bustling ports facilitating trade, we uncover some quantitative evidence of farmers, middlemen, and end users working to elevate India's bananas on the world stage. In the lush fields of East Godavari, Andhra Pradesh, banana farmers toil under the scorching sun, nurturing their crops with dedication and care. Yet, despite their hard work, they often find themselves at the mercy of a flawed system, with middlemen reaping the lion's share of the profits. This study focuses on banana marketing in East Godavari, Andhra Pradesh, analysing marketing channels, costs, margins, price spreads, and overall efficiency. This study shines a light on the struggles of these farmers, and explores ways to tip the scales of justice back in their favour.

Methodology

Data Collection

- **Survey and Interview Design:** Developed comprehensive survey instruments and interview guides to collect data from farmers, commission agents, wholesalers, and retailers in East Godavari district.
- **Sample Selection:** Employed a stratified sampling technique to ensure representative coverage of different market segments and geographic areas within the district.
- **Data Validation:** Implemented rigorous data validation procedures, including cross-checking information from multiple sources and conducting follow-up interviews to clarify inconsistencies.

Marketing Channel Analysis

- **Channel Mapping:** Developed detailed marketing channel maps to visualize the flow of bananas from farmers to consumers and identify key intermediaries.
- **Efficiency Assessment:** Evaluated the efficiency of different marketing channels based on factors such as timeliness, cost, and quality preservation.
- **Channel Optimization:** Proposed strategies for optimizing marketing channels, including direct marketing, cooperative marketing, and the development of value-added products.

Data Analysis

- **Cost-Benefit Analysis:** Utilized cost-benefit analysis to evaluate the economic efficiency of different marketing channels and identify potential areas for cost reduction.

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

- **Margin Analysis:** Calculated margins for each stakeholder in the value chain to assess profit distribution and identify opportunities for value capture.
- **Price Spread Analysis:** Examined price spreads at various stages of the value chain to determine the value added by intermediaries and identify factors influencing price differentials.

Key Findings and Recommendations

- **Marketing Cost Drivers:** Identified transportation, storage, and commission fees as significant contributors to marketing costs.
- **Margin Distribution:** Analysed the distribution of margins among stakeholders to identify opportunities for improving farmers' incomes.
- **Price Spread Capture:** Quantified the portion of value added captured by intermediaries and recommended interventions to increase farmers' share.
- **Channel Optimization:** Proposed strategies for optimizing marketing channels to enhance efficiency and reduce costs.

Key Marketing Channels in the Study Area

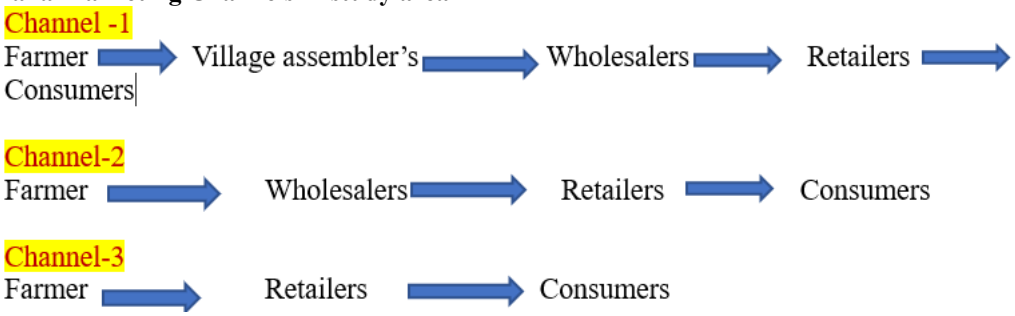
Three primary marketing channels were identified:

1. **Farmer-Commission Agent-Wholesaler-Retailer-Consumer:** The most common channel, involving commission agents for collection and transportation.
2. **Farmer-Wholesaler-Retailer-Consumer:** A shorter channel, eliminating the need for commission agents.
3. **Farmer-Retailer-Consumer:** The shortest channel, with direct sales from farmers to retailers.

Channel Analysis

- **Channel 1:** Predominant in Atreyapuram and Prathipadu Mandals, where farmers rely on commission agents due to lack of market facilities. Prices fluctuate based on seasonality and demand.
- **Channel 2:** Popular in Ravulapalem Mandal, the largest banana market in Andhra Pradesh. Farmers enjoy more control and potentially better prices.
- **Channel 3:** Favors farmers as they have a higher share in the consumer price. However, it's limited by the absence of assemblers and wholesalers.

Various Banana Marketing Channels in study area



Design of Banana Marketing

The design of banana marketing in East Godavari varies across regions. Ravulapalem' s well-established market allows farmers to avoid intermediaries and reduce costs. In contrast, farmers in Atreyapuram and Prathipadu often rely on commission agents for transportation and market access.

Table :1 Marketing Channels of Sample Villages from East Godavari District

No	Channels	Atreyapuram	Prathipadu	Ravulapalem	Total	Total Percentage
1	I	40	45	35	120	26.6
2	II	50	55	60	165	36.7
3	III	60	50	55	165	36.7
		150	150	150	450	100.0

Source: Primary Data

Using ANOVA, the table shows that 26.6% of banana units utilize Channel I, while 36.7% use Channel II and Channel III. ANOVA tests revealed no significant differences in marketing channel usage across different mandals ($F = 0.0625$, $p > 0.05$) or in terms of sales ($F = 6.9443$, $p > 0.05$).

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

Table 1.1 Profile of market participants (Commission agents, Retailers and Wholesalers)

No	Intermediaries of the Banana Market				
1	Mandal	Commission Agent	Wholesaler	Retailer	Total
2	Atreyapuram	26	10	14	50
3	Prathipadu	26	9	15	50
4	Ravulapalem	0	40	10	50
5	Grand Total	52	59	39	150

Source: Primary data

Table 1.2 Marketable and Marketed Surplus

To understand marketing performance, we estimated marketable surplus (MS) and marketed surplus (MSi) for banana producers. MS is calculated as the difference between total production (P) and household consumption (R). MSi is the portion of MS that's actually sold, accounting for losses during transportation (L). MS = P – R. Tables for Atreyapuram, Ravulapalem, and Prathipadu mandals provide estimates of marketed surplus volumes through various channels.

Table 1.3 Marketable and Marketed Surplus of Banana (No. of Bunches)

		Atreyapuram			**Ravulapalem**			**Prathipadu**		
No	**Particular**	**Small Farm**	**Large farm**	**Total bunches**	**Small Farm**	**Large farm**	**Total**	**Small Farm**	**Large farm**	**Total**
1	Total production	2,54,117.5	5,23,260	7,77,377.5	2,96,109	2,60,699	5,56,808	2,55,486	3,03,113	5,33,879
		100	100	100	100	100	100	100	100	100
2	Self -consumption	1,525	1,360	2,885	1,066	912	1,978	1,201	818	2,029
	% of SC in total production	0.6	0.26	0.36	0.36	0.35	0.66	0.47	0.27	0.38
3	Marketable Surplus (1-2)	2,52,593	5,21,900	7,74,492	2,95,043	2,59,786	5,54,829	2,54,285	3,02,295	5,31,850
4	Losses (L)	1,465	2,088	3,485	3,865	2,390	6,048	2,136	2,328	4,308
	% of losses in MS (1-2)	0.58	0.4	0.45	1.31	0.92	1.09	0.84	0.77	0.81
5	Marketed Surplus	2,51,128	5,19,812	7,71,007	2,91,178	2,57,396	5,48,782	2,52,149	2,99,967	5,27,542
	%Marketed surplus	98.82	99.34	99.19	98.33	98.73	98.25	98.69	98.96	98.81

Source: Computed Data

Marketable Surplus and Farm Size

Table above shows that over 98% of banana production is marketed, with minimal differences between small and large farmers. Self-consumption and payments in kind account for a small portion (1.3%) of production. Losses during post-harvest handling and transportation are also low (less than 1.3%). Ravulapalem's proximity to wholesale markets contributes to lower losses and transportation costs. Marketed surplus tends to be slightly higher for large farmers in Atreyapuram and Ravulapalem, but smaller farmers in Prathipadu have a higher marketed surplus.

Marketing Costs and Margins in Atreyapuram Mandal

Table 5.9 details marketing costs and margins for intermediaries in Atreyapuram. Commission agents purchased bananas from farmers at ₹15,029 per 100 bunches, incurring ₹1,574 in costs and realizing a ₹1,500 margin. They sold to wholesalers at ₹18,103.

Wholesalers purchased at ₹18,103, incurred ₹2,297 in costs, realized ₹2,000, and sold to retailers at ₹22,400. Retailers purchased at ₹22,400, incurred ₹650 in costs, realized ₹2,900, and sold to consumers at ₹25,950.

The total price spread was ₹10,921, with farmers capturing 57.9% of the consumer price.

Table 1.4

Intermediary	**Purchase Price**	**Marketing Costs**	**Margin**	**Selling Price**
Commission Agent	₹15,029	₹1,574	₹1,500	₹18,103
Wholesaler	₹18,103	₹2,297	₹2,000	₹22,400
Retailer	₹22,400	₹650	₹2,900	₹25,950

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

Table 1.5 Marketing Cost incurred and Margins realized by Middlemen in Atreyapuram Mandal(100 Bunches)

No	Market middlemen – Cost & Margins	
1	Commission agents (Rs)	Amount in Rs.
	Purchased price (for 100 bunches)	15,029
	Marketing cost (Rs)	1,574
	Marketing margin (Rs)	1,500
	Selling price (Rs)	18,103
2	**Wholesalers**	
	Purchased price (/kg)	18, 103
	Marketing cost (Rs)	2,297
	Marketing margin (Rs)	2,000
	Selling price (Rs)	22, 400
	Retailers	
	Purchased price (/kg)	22, 400
3	Marketing cost (Rs)	650
	Marketing margin (Rs)	2,900
	Selling price (Rs)	25,950

Sources: Primary Data.

The marketing costs and margins for banana in Ravulapalem mandal are as follows:

- **Farmers:** Sold to commission agents at Rs. 15,059 per 100 bunches.
- **Commission agents:** Purchased at Rs. 15,059, incurred Rs. 1,524 in marketing costs, realized Rs. 1,400 in margins, and sold to wholesalers at Rs. 17,983.
- **Wholesalers:** Purchased at Rs. 17,983, incurred Rs. 2,257 in marketing costs, realized Rs. 1,950 in margins, and sold to retailers at Rs. 22,190.
- **Retailers:** Purchased at Rs. 22,190, incurred Rs. 600 in marketing costs, realized Rs. 2,900 in margins, and sold to consumers at Rs. 25,690.

The total price spread was Rs. 10,631, and the farmers' share in the consumer price was 58.62%.

Table 1.6 Marketing Cost and Margins in Prathipadu market (Per 100 bunches)

No	Market middlemen – Cost & Margins	
	Commission agents (Rs)	
	Purchased price (for 100 bunches)	15,000
	Marketing cost (Rs)	1,634
1	Marketing margin (Rs)	1,400
	Selling price (Rs)	18,034
	Wholesalers	
	Purchased price (/kg)	18,034
	Marketing cost (Rs)	2,337
2	Marketing margin (Rs)	2,050
	Selling price (Rs)	22,421
	Retailers	
	Purchased price (/kg)	22,421
3	Marketing cost (Rs)	600
	Marketing margin (Rs)	2,500
	Selling price (Rs)	25,521

Sources: Primary Data

The marketing costs and margins for banana in Prathipadu mandal are as follows:
Farmers: Sold to commission agents at Rs. 15,000 per 100 bunches.
Commission agents: Purchased at Rs. 15,000, incurred Rs. 1,634 in marketing costs, realized Rs. 1,400 in margins, and sold to wholesalers at Rs. 18,034.
Wholesalers: Purchased at Rs. 18,034, incurred Rs. 2,337 in marketing costs, realized Rs. 2,050 in margins, and sold to retailers at Rs. 22,421.
Retailers: Purchased at Rs. 22,421, incurred Rs. 600 in marketing costs, realized Rs. 2,500 in margins, and sold to consumers at Rs. 25,521.
The total price spread was Rs. 10,521, and the farmers' share in the consumer price was 58.78%.

Price spread in various marketing channels in Atreyapuram Mandal.
The table whereas in Atreyapuram Mandal in Marketing Channel-I price spread was found to be Rs, 10,921 which is highest among all the channels and producer's share in consumer price was found to be 57.91 percent. In Marketing Channel-II of banana the price spread was found to be Rs. 9,147 and producers share in consumer price was found to be 62.89 percent. In Channel-III price spread was found to be Rs. 8,460 and producers share in consumer rupee was found to be 65.67 Percent.

Marketing Channel	Price Spread (Rs.)	Producer's Share in Consumer Price (%)
I	10,921	57.91
II	9,147	62.89
III	8,460	65.67

Table 1.7

The table above shows the price spread and producer's share in consumer price for three different marketing channels in Atreyapuram Mandal. Marketing Channel I has the highest price spread at Rs. 10,921, but also the lowest producer's share at 57.91%. Marketing Channel III has the lowest price spread at Rs. 8,460 and the highest producer's share at 65.67%.

Table: 2 Price Spread in Banana in Atreyapuram Mandal (For 100 Bunches)

No	**Particulars**	**Channel- I Rs.**	**%**	**Channel- II Rs.**	**%**	**Channel- III Rs.**	**%**
I	Farmers/Producers (Rs)						
1	Net Price received	15,029	57.91	15,503	62.89	16,190	65.67
2	Marketing costs	__		1,300	5.27	1,300	5.27
3	Gross price (1+2)	15,029	57.91	16,803	68.13	17,490	70.95
II	Commission agents (Rs)						
1	Purchase price	15,029	57.91	-		-	-
2	Costs	1,574	6.06	-		-	-
3	Margins	1,500	5.78	-		-	-
4	Sale price (1+2+3)	18,103	69.76	-		-	-

III	Wholesalers(Rs)						
1	Purchase price	18,103	69.76	16,803	68.16	-	-
2	Costs	2,297	8.85	2,297	9.31	-	-
3	Margins	2,000	7.70	2,000	8.11	-	-
4	Sale price (1+2+3)	22,400	86.31	21,100	85.59	-	-
IV	Retailers(Rs)						
1	Purchase price	22,400	86.31	21,100	85.60	17,490	70.95
2	Costs	650	2.50	650	2.50	2,160	8.32
3	Margins	2,900	11.17	2,900	11.17	5,000	20.30
4	Sale price (1+2+3)	25,950	100	24,650	100	24,650	100
	Price spread(Rs) (Sale price –Farmer price)	10,921	42.08	9,147	37.10	8,460	34.32
	Producer' share in Consumer's rupee (%)		57.91		62.89		65.67

Source: Primary Data

Table 2, presents the Price spread is worked out for every 100 bunches of Banana sold by the market participants. The farmers received a net price Rs.15029 per 100 bunches of Banana. The commission agent in local market and its informed 57.91 per cent of the consumer price. The marketing cost per 100 bunches of Banana by the commission agents Rs. 1,574 and market margin was Rs.1,500 and they accounted 6.06 per cent and 5.78 percent respectively of consumer price. The Wholesaler incurred Rs. 2,297 towards marketing cost and market margin was Rs. 2,000 and these two formed 8.85 per cent and 7.70 per cent of the consumer price. The retailer incurred marketing cost was Rs. 650 and margin was Rs. 2,900 and these two formed 2.5 per cent and 11.17 per cent of the consumer price.

In this Marketing channel II, the farmers sold the Banana bunches to the wholesaler in wholesale market. In this channel producer net price is Rs.1.5503 and incurred a marketing cost of Rs.1.300. Thus, the producer received 62.89 percent of consumer price and marketing cost received 5.27 percent of consumer price. Next important intermediaries were the wholesaler who incurred Rs. 2,297 towards marketing cost and earned marketing margin was Rs. 2,000. This item formed 9.31 percent and 8.11 per cent of the consumer price. The retailer incurred marketing cost was Rs.650 and marketing margin was Rs. 2,900 and these two formed 2.63 per cent and 11.76 percent of the consumer price.
In this channel III retailer purchased banana bunches from producer and sold to consumer. Producer received net price of Rs. 16,190 the marketing cost was Rs.1300. Thus the producer received 65.67 percent of the consumer price and marketing cost received 5.27 per cent of consumer price. The retailer who incurred Rs.2160 towards marketing cost and marketing margin Rs.5000. This item formed 8.76 per cent and 20.28 per cent of the consumer price. Thus, the table 5.8 reveals that farmers share in consumer price was comparatively highest in channel II and III.

Table 2. shows that the net price received by the Producer was maximum in channel III which is Rs. 16,190. Banana bunches compared to Rs. 15,029 and Rs. 15,503. In channel I and II respectively. But the gross price received is higher in channel III which is Rs.17,490 per 100 banana bunches than in channel I (Rs.15029) and in channel II (Rs.16803).

Table: 3 Price Spread in Banana in Ravulapalem Mandal (For 100 Bunches)

No	**Particulars**	**Channel- I**	**%**	**Channel- II**	**%**	**Channel- III**	**%**
I	Farmers/Producers (Rs)						
1	Net Price received	15,059	58.61	15,780	63.27	16,350	68.26
2	Marketing costs	-	-	1,200	4.81	1,200	5.01
3	Gross price (1+2)	15,059	58.61	16,980	68.09	17,550	73.27
II	Commission agents (Rs)						
1	Purchase price	15,059	58.61				
2	Costs	1,524	5.93				
3	Margins	1,400	5.44				
4	Sale price (1+2+3)	17,983	70.0				
III	Wholesalers (Rs)						
1	Purchase price	17,983	70.0	16,980	68.09		
2	Costs	2,257	8.78	2,257	9.05		
3	Margins	1,950	7.5	2,200	8.82		
4	Sale price (1+2+3)	22,190	86.37	21,437	85.96		
IV	Retailers (Rs)						
1	Purchase price	22,190	86.37	21,437	85.96	17,550	73.27

2	Costs	600	2.33	600	2.40	1,900	7.93
3	Margins	2,900	11.28	2,900	11.62	4,500	18.78
4	Sale price (1+2+3)	25,690	100.0	24,937	100.0	23,950	100.0
	Price spread(Rs) (Sale price –Farmer price)	10,631	41.40	9,157	36.72	7,600	31.73
	Producer's share in Consumer's rupee (%)		58.62		63.27		68.26

Source: Primary Data.

Table 3 shows that the price spread of banana in Ravulapalem mandal. The Marketing Channel-I price spread was found to be Rs. 10,631 which is highest among all the channels and producer's share in consumer price was found to be 58.61 per cent. In Channel-II price spread was found to be Rs. 9,157 and producers share in consumer price was found to be 63.27 per cent. In Channel-III price spread was found to be Rs. 7,600 and producers share in consumer rupee was found to be 68.26 per cent.

The producer received a net price Rs.15,059 per 100 bunches of Banana. In the commission agent in local market and it informed 58.61 percent of the consumer price. The marketing cost per 100 bunches of Banana by the commission agents Rs.1,524 and market margin was Rs.1,400 and they accounted 5.93 percent and 5.44 percent respectively of consumer price. The wholesaler was incurred Rs.2,257 towards marketing cost and margin was Rs.1,950 and these two formed 8.78 percent and 7.5 percent of the consumer price. The retailers were incurred marketing cost was Rs.600 and marketing margin was Rs.2.900 and these two formed 2.33 per cent and 11.28 percent of the consumer price.

The Marketing channel II the producer sold the Banana bunches to the wholesaler in wholesale market. In this channel banana grower net price is Rs.15,780 and incurred a marketing cost of Rs.1,200. Thus, the producer received 63.27 percent of consumer price and marketing cost received 4.81 percent of consumer price. Next important intermediaries were the wholesaler who incurred Rs.2,257 towards marketing cost and earned margin was Rs.2,200. This item formed 9.05 percent and 8.82 percent of the consumer price. The retailer was incurred marketing cost was Rs.600 and marketing margin was Rs.2,900 and these two formed 2.40 per cent and 11.62 percent of the consumer price. In this channel III retailer purchased Banana bunches from the producer and sold to consumer. Producer received net price of Rs.16,350 and marketing cost was Rs.1200. Thus, the producer received 68.26 percent of the consumer price and marketing cost received 5.01 per cent of consumer price. The retailer who incurred Rs 1,900 towards marketing cost and marketing margin Rs.4,500. This item formed 7.93 per cent and 18.78 per cent of the consumer price. Therefor the table 5.13 reveals that farmers share in consumer price was comparatively highest in channel II and III.

Table: 4 Price Spread of Banana in Prathipadu Mandal(For 100 Bunches)

No	**Particulars**	**Channel- I**	**%**	**Channel- II**	**%**	**Channel- III**	**%**
I	Farmers/Producers (Rs)						
1	Net Price received	15,000	58.77	14,600	60.73	14,800	66.36
2	Marketing costs			1,400	5.82	1,400	6.27
3	Gross price (1+2)	15,000	58.77	16,000	66.56	16,200	72.74
II	Commission agents (Rs)	-	-				
1	Purchase price	15,000	58.77				
2	Costs	1,634	6.36				
3	Margins	1,400	5.48				
4	Sale price (1+2+3)	18,034	70.62				
III	Wholesalers(Rs)						
1	Purchase price	18,034	70.62	16,000	66.56		
2	Costs	2,337	9.15	2,337	9.72		
3	Margins	2,050	8.03	2,100	8.73		
4	Sale price (1+2+3)	22,421	87.85	20,437	85.02		
IV	Retailers(Rs)						
1	Purchase price	22,421	87.85	20,437	85.02	16,200	72.64
2	Costs	600	2.35	700	2.91	2,100	9.41
3	Margins	2,500	9.79	2,900	12.06	4,000	17.93
4	Sale price (1+2+3)	25,521	100.0	24,037	100.0	22,300	100.0
	Price spread(Rs) (Sale price –Farmer price)	10,521	41.22	9,434	39.26	7,500	33.63
	Producer's share in Consumer's rupee (%)		58.77		60.73		66.36

Sources: Computed Data
No*Indicates Price spread for 100 Banana bunches

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

The table: 4 shows that the net price received by the Producer was maximum in channel I which is Rs. 15,000. Per 100 Banana bunches. Compared to in channel I and channel II respectively Rs.14,600 and Rs.14,800. But the gross price received is higher in channel III which is Rs.16,200 per 100 Banana bunches than in channel I (Rs.15,000) and in channel II (Rs.16,000).

Whereas in Prathipadu mandal in Channel-I price spread was found to be 10,521 which is highest among all the channels and producer's share in consumer price was found to be 58.78 percent. In Channel-II price spread was found to be 9,437 and producers share in consumer price was found to be 60.73 per cent. In Channel-III price spread was found to be 7500 and producers share in consumer rupee was found to be 66.36 Percent.

Table: 5.0 Price Spread of different marketing channels – Atreyapuram

No	Particulars	Marketing Channels		
		I	II	III
1	Consumer price	25950	24650	24650
2	Producers Price	15029	15503	16190
3	Price Spread	10921	9147	8460
4	Marketing Cost	4521	4247	3460
5	Marketing Margin	6400	4900	5000

Table: 5.0 revels that the Price Spread of Banana in different marketing channels in Ravulapalem mandal. The Price Spread in marketing channel III is lowest with Rs 84,60 per 100 banana bunches, because of lower marketing cost (Rs.3,460/-) and higher producers share, and market margin is Rs.4,900/- The producers price was maximum in channel III with Rs. 16,190/- per 100 bunches. The Price Spread in channel I was highest among all the channel Rs. 10,921 because of more no of middlemen of higher marketing cost Rs. 4521 net price received by the producer was very low and high market margin is Rs. 6,400/-.

Table: 5.1 Price Spread of Different marketing channels in Ravulapalem Mandal

No	Particulars	Marketing Channels		
		I	II	III
1	Consumer price	25,690	24,937	23,950
2	Producers Price	15,059	15,780	16,350
3	Price Spread	10,631	9,157	7,600
4	Marketing Cost	4,381	4,057	3,100
5	Marketing Margin	6,250	5,100	4,500

Source: Primary Data

Table 5.1 revels that the Price Spread of Banana in different marketing channels in Ravulapalem mandal. The Price Spread in marketing channel III is lowest with Rs 7,600 per 100 banana bunches, because of lower marketing cost (Rs.3,100/-) and higher producers share, and market margin is Rs.4,500/- The producers price was maximum in channel III with Rs. 17,550/- per 100 bunches. The Price Spread in channel I was highest among all the channel Rs. 10,631 because of more no of middlemen of higher marketing cost Rs. 4381 net price received by the producer was very low and high market margin is Rs. 6,250/-.

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

Table: 5.2 Price Spread of different marketing channels in Prathipadu Mandal

No	Particulars	Marketing Channels		
		I	II	III
1	Consumer price	25,521	24,037	22,300
2	Producers Price	15,000	14,600	14,800
3	Price Spread	10,521	9,437	7,500
4	Marketing Cost	4,571	4,437	3,500
5	Marketing Margin	5,950	5,000	4,000

Source: Primary Data

Table 5.2 revels that the Price Spread of Banana in different marketing channels in Prathipadu mandal. The price spread in marketing channel III is lowest with Rs.7,500 per 100 Banana bunches, because of lower marketing cost (Rs.3500/-) and higher producers share is 66.36 Percent. And market margin is Rs.4,000/- The Producers gross price was maximum in channel III with Rs.16,200/- per 100 bunches. The Price Spread in channel I was highest among all the channel Rs.10,521 because of more no of middlemen of higher marketing cost Rs.4,571 net price received by the producer was Rs. 15,000/- and high market margin is Rs. 5,950.

Table: 5.3 Marketing Margin of Different Marketing Channels in Atreyapuram Mandal

No	Particulars	Marketing Channels		
		Channel I	Channel II	Channel III
1	Commission agents	1,500	-	-
2	Wholesalers	2,000	2,000	-
5	Retailers	2,900	2,900	5,000
	Total	6,400	4,900	5,000

Source: Primary data

The table 5.3 reveals that the marketing margin of various marketing channels in Atreyapuram mandal per 100 bunches of Banana. The market margin for the retailers is the highest in all channels the average margins of retailer in the above three channels is Rs 3,600 and commission agents are the lowest in all marketing channels. There is fluctuating in the marketing margin earned in lowest in all the channels, due to the absence of commission agents and whole sealers in the Marketing Channel III causes high margin to retailers. In channel II due to the absence of commission agents, the wholesalers the uniform rate of market margins from all marketing channels. The Commission agents' margin is low when compare to others i.e., Rs 1,500/-.

Table: 5.4 Marketing Margin of Different Marketing Channels in Ravulapalem Mandal

No	Particulars	Marketing Channels		
		I	II	III
1	Commission agents	1,400	-	-
2	Wholesalers	1,950	2,200	-

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

5	Retailers	2,900	2,900	4,500
	Total	6,250	5,100	4,500

Source: primary data

The table 5.4 shows that the marketing margin of various marketing channels in Ravulapalem mandal per 100 bunches of Banana. The market margin for the retailers is the highest in all marketing channels the average margins of retailer in the above three channels is Rs 3,444 and commission agents are the lowest in all marketing channels. There is fluctuating in the marketing margin earned in lowest at all the 3 channels causes of high margin to retailers. In channel II due to the absence of commission agents the market margin of wholesalers is Rs 2,200 in channel II, Commission agents' margin is low when compare to others i.e., Rs 1,400/-

Table: 5.5 Marketing Margin of Different Marketing Channels in Prathipadu Mandal

No	**Particulars**	**Marketing Channels**		
		I	**II**	**III**
1	Commission agents	1,400	-	-
2	Wholesalers	2,050	2,100	-
5	Retailers	2,500	2,900	4,000
	Total	5,950	5,000	4,000

Source: Primary data

The table 5.5 shows that the marketing margin of various marketing channels in Prathipadu mandal, per 100 bunches of Banana. The market margin for the retailers is highest in all channels the average margins of retailer in the above three channels is Rs 3,133 and commission agents are lowest in all marketing channel-I. Due to the absence of commission agents and whole sealers in Channel III causes higher margins to retailers. In channel II due to the absence of commission agents, the wholesaler's margin is Rs 2,050, and 2,100 in channel I and II respectively, The Commission agents were earned margin is low when compare to others i.e. Rs 1,400/-.

Table: 6.0 Marketing efficiency Analysis under Acharya & Agarwal Method in Atreyapuram Mandal

No	**Particulars**	**Marketing Channels**		
		I	**II**	**III**
1	Total Marketing Cost-I	4,521	4,247	3,460
2	Value added (Consumer Price-Producer price) (O)	10,921	9,147	8,460
3	Marketing Efficiency= (O/I)	2.41	2.15	2.44
4	Marketing efficiency Index (ME*100)	241	215	244

Source: Computed Data.

Table 6.0 reveals that the Marketing Efficiency index in Atreyapuram mandal. The marketing channel III, is better than of channel I and II, marketing efficiency of channel III is greater than channel I & II. The result reveals that channel III achieved highest marginal efficiency in that channel.

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

Table 6.1 Marketing efficiency Analysis under Acharya &Agarwal Method in Ravulapalem Mandal

Sl. No	Particulars	Marketing Channels		
		I	II	III
1	Total Marketing Cost-I	4,381	4,057	3,100
2	Value added (Consumer Price-Producer price) (O)	10,631	7,957	7,600
3	Marketing Efficiency= (O/I)	2.43	1.96	2.45
4	Marketing efficiency Index (ME*100)	243	196	245

Source: Computed data.

Table: 6.2 presents that the Marketing Efficiency index in Ravulapalem mandal. The marketing channel III, is better than of channel I and II, marketing efficiency of channel III is greater than channel I & II. The result indicates that channel III achieved highest marginal efficiency in that channel.

Table: 6.3 Marketing efficiency Analysis under Acharya &Agarwal Method in Prathipadu Mandal

Sl. No	Particulars	Marketing Channels		
		I	II	III
1	Total Marketing Cost-I	4,561	4,437	3,500
2	Value added (Consumer Price-Producer price) (O)	1,052	8,037	7,500
3	Marketing Efficiency= (O/I)	2.31	1.81	2.14
4	Marketing efficiency Index (ME*100)	231	181	214

Source: Computed Data.

The Marketing Efficiency index in Prathipadu mandal is presented in table 5.23. The Marketing channel I is better than of channel II and III, marketing efficiency of channel I is greater than channel II & III. The result indicates that the Banana in channel I achieved highest marginal efficiency in that channel.

Marketing Efficiency under Shepherd's Method

In this method, Market Efficiency is measured as the ratio of consumer price per 100 bunches of Banana to the marketing cost for 100 bunches. The higher the ratio indicates the higher the efficiency of marketing system presented in this method. The computing values under Shepherd's method are shown in table 7.0

Table:7.0 Marketing Efficiency under Shepherd's Method in Atreyapuram Mandal

No	Particulars	Marketing Channels		
		I	II	III
1	Consumer's Price(V)	25,950	25,950	25,950
2	Total Marketing Cost(I)	4,521	4,247	3,460
3	Marketing Efficiency	5.70	6.11	7.50

Source: Primary data.

Table: 7.0 Shows that the marginal efficiency is in channel III is better than channel II and channel I due to the low marketing cost i.e., Rs 3,460. The main reason for the efficiency in the marketing channel III is incurring less marketing

cost. The marketing efficiency of channel I is very poor because of its higher marketing cost i.e., Rs 4,521 per 100 bunches of Banana.

Table: 7.1 Marketing Efficiency under Shepherd's Method in Ravulapalem Mandal

No	Particulars	Marketing Channels		
		I	II	III
1	Consumer's Price(V)	25,690	24,937	25,150
2	Total Marketing Cost(I)	4,381	4,057	3,100
3	Marketing Efficiency	5.86	6.15	8.11

Source: Primary data.

Table: 7.1 reveals that the marginal efficiency is in channel-III is better than marketing channel II and I due to the low marketing cost i.e., Rs 3,100. The main reason for the efficiency in the marketing channel III is incurring less marketing cost. The marketing efficiency of channel-I is very poor because of its higher marketing cost i.e. Rs 4,381 per 100 bunches of Banana.

Table: 7.2 Marketing Efficiency under Shepherd's Method in Prathipadu Mandal

Sl. No	Particulars	Marketing Channels		
		I	II	III
1	Consumer's Price(V)	25,521	24,037	23,700
2	Total Marketing Cost(I)	4,561	4,437	3,500
3	Marketing Efficiency	5.60	5.42	6.77

Source: Primary data.

Table 7.2 indicate that the marginal efficiency is in channel III is better than channel II and channel I due to the low marketing cost i.e. Rs 3,500. The main reason for the efficiency in the marketing channel III is incurring less marketing cost. The marketing efficiency of channel I is very poor because of its higher marketing cost i.e.. Rs 4,561 per 100 bunches of bananas.

Composite Index Method:

Another one of the important marketing efficiency methods is the composite index method. This method was adopted to get final ranks which provide an indication of the marketing efficiency in various marketing channels. This method is a comprehensive method comprising the producer's price, the marketing cost and the marketing margin to analyze the marketing efficiency. The percentage of the producer's price, the marketing cost and the marketing margin to the end user price per 100 Bunches were calculated and were given ranks.

In these methods the calculation of scores were considered producer's share in the consumer's price, the highest producers share in the consumer price, lowest marketing cost incurred by the producer as well as by intermediaries‟ and highest marketing margin earned by the intermediaries. The total scores were fixed based on the highest producer's share in the consumer price the lowest marketing cost incurred by the producer as well as by the middlemen and the highest margin earned by the intermediaries. Total scores were obtained by adding the respective ranks in each marketing channel. The mean score was calculated for each marketing channel and on the basis of this mean score the efficiency of a market channel is evaluated. The channels which obtain the lowest mean score is considered the most efficient under the composite index method.

REDVET - Revista electrónica de Veterinaria - ISSN 1695-7504
Vol 25, No. 2 (2024)
http://www.veterinaria.org
Article Received: Revised: Accepted :

Table: 7.3 Marketing Efficiency under Composite Index Method for Banana in Atreyapuram Mandal

No	Marketing Channels	Scores As Indicator (% of consumer price)				
		Producers share in Consumer Price	Marketing Cost	Marketing Margin	Mean Score	Rank
1	I	3	3	3	3.0	III
2	II	2	2	1	1.66	II
3	III	1	1	2	1.33	I

Source: Primary data.

Table 7.3 displays the efficiency of marketing using the composite index approach for 100 banana bunches. The most effective marketing channel is III, yet its mean score is the lowest at 1.33. On the other hand, the channel I has a higher marketing margin than channels II and III, but marketing efficiency of channel - I is lower than channel II's. The two marketing channels I and II's respective means score are 3.0 and 1.66.

Table: 7.4 Marketing Efficiency under Composite Index Method for Banana in Ravulapalem Mandal

No	Marketing Channels	Scores As Indicator (percentage of consumer price)				
		Producers share	Marketing Cost	Marketing Margin	Mean Score	Rank
1	I	3	3	3	3.0	III
2	II	2	2	2	2.0	II
3	III	1	1	1	1.0	I

Source: Primary data.

\
The marketing efficiency using the composite index approach per 100 banana bunches is shown in Table 7.4 The Marketing channel II is more effective, but it has the lowest mean score (2.0). While, the marketing channel III has a higher marketing profit than channels I and II but a lower marketing efficiency than channel I. The two marketing channels I and III's respective mean scores are 3.0 and 1.0

Table: 7.5 Marketing Efficiency under Composite Index Method for Banana in Prathipadu Mandal

Sl. No	Marketing Channels	Scores As Indicator (percentage of consumer price)				
		Producers share	Marketing Cost	Marketing Margin	Mean Score	Rank
1	I	3	3	2	3.0	III
2	II	2	2	1	2.0	II
3	III	1	1	3	1.0	I

Source: Primary data.

The marketing efficiency using the composite index approach per 100 banana bunches is displayed in Table 7.5 The Marketing channel II is more effective, but it has the lowest mean score (2.0). While, the marketing channel III has a higher marketing profit than channels I and II but a lower marketing efficiency than channel I. The two marketing channels I and III's respective mean scores are 3.0 and 1.0

Findings

Challenges:

- **Limited Value Addition:** Lack of processing facilities.
- **Social Constraints:** Middlemen exploitation.
- **Environmental Constraints:** Wildlife damage.
- **Middlemen Dominance:** Control over the market.
- **Lack of Market Access:** Difficulty in finding buyers.
- **Perishability:** Requires efficient transportation and storage.

- **Limited Bargaining Power:** Weak negotiating position.

Opportunities:
- ✓ **Direct Marketing:** Selling directly to consumers.
- ✓ **Farmer Producer Organizations:** Collective bargaining power.
- ✓ **Value-Added Processing:** Creating higher-value products.
- ✓ **Improved Infrastructure:** Investments in transportation and storage.
- ✓ **Technology Adoption:** Using technology for better management.

Discussions

The Great Banana Heist

Bananas are a beloved fruit, enjoyed by billions around the world. India, with its rich soil and ideal climate, has emerged as a banana powerhouse, producing over 29 million tons annually. But as the demand for Indian bananas grows, so too do the challenges. Logistical hurdles, market fluctuations, and the grip of powerful intermediaries threaten to leave farmers behind. It's a battle for survival, with the future of India's banana industry hanging in the balance.

A Glimpse into the Shadows

Our journey takes us to the heart of Andhra Pradesh's banana country, where we delve into the murky world of marketing channels and middlemen. We meet the farmers, their faces weathered by the sun, their hands rough from years of labor. They speak of a system stacked against them, of prices dictated by commission agents and wholesalers, of a race to harvest and sell before their perishable crop rots.

We see the three main channels that bananas take from farm to table. The first, and most common, is a labyrinthine path involving commission agents, wholesalers, and retailers. The second cuts out the agents, allowing farmers to sell directly to wholesalers. And the third, the most direct, sees farmers selling straight to retailers. But even this shortest path is fraught with challenges, limited by the lack of assemblers and wholesalers willing to buy directly from the farmers.

The Middleman's Cut

As we follow the bananas on their journey, we see the costs adding up at each stage. Transportation, storage, and hefty commission fees eat into the price, leaving farmers with a shrinking share of the pie. The middlemen, with their bargaining power and market control, reap the biggest margins. It's a system that bleeds the farmers dry, leaving them as mere price-takers in a game they never seemed to win. In Atreyapuram, for example, commission agents purchased bananas from farmers at ₹15,029 per 100 bunches, incurring ₹1,574 in costs and realizing a ₹1,500 margin. They sold to wholesalers at ₹18,103, who then sold to retailers at ₹22,400, who in turn sold to consumers at ₹25,950. The total price spread was ₹10,921, with farmers capturing a mere 57.9% of the consumer price.

A Glimmer of Hope

But amidst the struggles, there are glimmers of hope. In Ravulapalem, Andhra Pradesh's largest banana market, farmers have found a way to break free from the chains of the intermediaries. The well-established market allows them to sell directly to wholesalers, cutting out the commission agents and their exorbitant fees. It's a model that shows promise, a beacon of light in the fight for fairness.

The Road Ahead

The road to a fairer system will be long and winding, but with the right strategies, change is possible. By empowering farmers and reducing the power of middlemen, we can create a more equitable banana industry. It won't be easy, but for the sake of the farmers, the consumers, and the future of India's banana industry, it's a fight worth fighting. The time for change is now, let the battle begin.

The Battle Cry

So let this be a battle cry, a call to arms in the fight for fairness. Let us stand with the farmers, let us shine a light on the flaws of the system, let us demand change. For in a world where bananas are a staple for billions, it's only right that those who toil in the fields should reap a fair reward. The time for change is now, let the battle begin.

Key takeaways from the discussion:
- The dominance of middlemen in the banana supply chain leads to unfair pricing and limited market access for farmers.
- The perishable nature of bananas makes it difficult for farmers to find suitable buyers and negotiate favorable terms.
- While there are opportunities for direct marketing and farmer-led initiatives, systemic changes are necessary to ensure a sustainable and equitable future for the industry.

A call to action:

- **Empower farmers:** Support the formation of farmer producer organizations (FPOs) to provide collective bargaining power and better market access.
- **Promote direct marketing:** Encourage direct sales from farmers to consumers to reduce the number of intermediaries.
- **Invest in infrastructure:** Improve transportation and storage facilities to minimize post-harvest losses and ensure efficient delivery.
- **Implement fair trade practices:** Advocate for transparent pricing mechanisms and fair treatment of farmers throughout the supply chain.
- **Support research and development:** Invest in research to develop new banana varieties with improved shelf life and resistance to diseases.

By addressing these challenges and implementing effective solutions, India can ensure a sustainable and prosperous future for its banana industry, benefiting both farmers and consumers alike.

Conclusion:

The banana market in East Godavari, Andhra Pradesh, has been grappling with significant supply chain challenges in 2024. These challenges have adversely impacted the livelihoods of farmers, traders, and consumers alike. Key issues that have contributed to these disruptions include:

- **Natural Disasters:** Cyclones and heavy rainfall have caused widespread damage to banana plantations, leading to reduced production and increased costs.
- **Market Fluctuations:** Price volatility, driven by factors such as demand fluctuations and global market trends, has created uncertainty for farmers and traders.
- **Infrastructure Deficiencies:** Inadequate transportation infrastructure, including roads and cold storage facilities, has hindered the efficient movement of bananas from farms to markets.
- **Middleman Dominance:** The dominance of middlemen in the supply chain has limited farmers' bargaining power, resulting in low prices and reduced profits.
- **Lack of Value-Added Processing:** Insufficient focus on value-added processing has hindered the diversification of the banana market and increased reliance on fresh fruit exports.

To address these challenges and ensure the sustainable growth of the banana market in East Godavari, several strategies can be implemented:

- **Strengthening Infrastructure:** Investing in improved transportation infrastructure, cold storage facilities, and processing plants can enhance efficiency and reduce losses.
- **Promoting Value-Added Processing:** Encouraging the development of value-added banana products, such as chips, flour, and jams, can diversify markets and increase farmers' income.
- **Supporting Farmer Organizations:** Fostering the growth of farmer cooperatives can empower farmers, improve their bargaining power, and facilitate collective marketing.
- **Government Interventions:** Providing financial assistance, subsidies, and training programs to farmers can help them cope with challenges and adopt modern agricultural practices.
- **Market Intelligence:** Enhancing market information systems can help farmers and traders make informed decisions and respond effectively to market fluctuations.

By addressing these challenges and implementing appropriate solutions, the banana market in East Godavari can become more resilient, sustainable, and profitable for all stakeholders involved.

References

1. Nalla Sridevi Parvathi, Andhra University, Visakhapatnam, Andhra Pradesh, Dr. Nagaraja, Andhra University, Visakhapatnam, Andhra Pradesh https://www.ijariit.com/manuscripts/v7i4/V7I4-1841.pdf Banana marketing challenges during Covid-19
2. Ms. N. Sridevi Parvathi, 2Prof. G Nagaraja, 3Dr R Thirumurugan, Marketing of Banana : A Study of East Godavari of Andhra Pradesh https://ijcrt.org/papers/IJCRT22A6034.pdf
3. Ms. N. Sridevi Parvathi, 2Dr Ganga Vidya, Economic Roller Coaster of East Godavari Dt Banana Market 2019-24 https://kuey.net/index.php/kuey/article/view/7080
4. Dassou, A., Tovignan, S., Vodouhè, F., Vodouhè, G., Tokannou, R., Assogba, G., ... & Vodouhè, S. (2021).
5. Debandya Mohapatra, Sabyasachi Mishra and Namrata Sutar (2010), Banana and its byproduct utilization: an overview, Journal of scienctific and industrial research, vol. 69, 323- 329.
6. FAOSTAT. (2020). FAOSTAT database (2019). http://www.fao.org/faostat/en/#data/QC.
7. Hetauda-Dumkibas road corridor, Nepal: An eclectic approach. Archives of Agriculture and Environmental Science.Constraints, and Implications of Organic Farming in Bananas and Plantains Production Sustainability in Benin. Agricultural Sciences, 12, 645-665.

8. Mehazabeen, A., Srinivasan, G., & Radhakrishnan, S. (2021). A constraint analysis on production and marketing of banana in Andhra Pradesh, India. Plant Arch, 21(Suppliment-1), 2215-2216.
9. Selvaraj, N. (2021). Marketable Surplus of Banana in Dindigul District of Tamilnadu
10. Tiwari, I., Verma, V. K., & Verma, M. (2021). To study the adoption rate of post-harvest management practices in banana cultivation. Journal of Pharmacognosy and Phytochemistry, 10(2), 757-759.
11. Wahome, C. N., Maingi, J. M., Ombori, O., Kimiti, J. M., & Njeru, E. M. (2021). Banana production trends, cultivar diversity, and tissue culture technologies uptake in Kenya. International Journal of Agronomy, 2021.
12. Yugandhar, V., Nagarjuna, V., Naik, G. S., Ranjula, S., & Srividhya Rani, N. (2021). Studies the effect of bunch management in yield and quality of banana Cv. Grand Naine (AAA).
13. http://timesofindia.indiatimes.com/articleshow/90922984.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
14. https://pib.gov.in/PressReleasePage.aspx?PRID=2006916#:~:text=Banana%20is%20a%20major%20horticultural,Maharashtra%2C%20Karnataka%2C%20Tamil%20Nadu%2C
15. https://pubmed.ncbi.nlm.nih.gov/29876112/#:~:text=Abstract,ripe%20bananas%20are%20very%20perishable.
16. https://www.bajajfinserv.in/farmer-producer-organisations#:~:text=Collective%20bargaining%20power%3A%20FPOs%20enable,prices%20for%20their%20agricultural%20produce.