Economics of Banana Marketing in Goalpara District of Assam

Pubali Barman, D. C. Kalita

ABSTRACT

The present study was conducted in the district of Goalpara, Assam to examine the economics of marketing in the district covering a total sample size of 258 banana growers. The banana growers were stratified into five groups based on land holding viz., Marginal (Below 4.0 ha), Small (4.0-8.0 ha), Semi-Medium (8.0-16.0 ha), Medium (16.0-40.0 ha) and Large (40.0 ha and above). The study mainly based on primary and data were collected through pre-tested survey schedule through personal interview method of sampling. The Shepherd formula for marketing efficiency was used to analyze the data. The results revealed that Jahaji Banana, Seni-Champa Banana and Malbhog Banana were banan varieties grown in the study area. The banana growers used four marketing channels in the district. Results revealed that for marketing of Jahaji Banana, Seni-Champa Banana and Malbhog Banana, the marketing Channel I, Channel IV and for Channel I were most efficient Channel for marketing of banana.

Pubali Barman[1]*, Dr D. C. Kalita[2]

[2]Professor

[1,2]Department of Rural Development and Agriculture Production, North-Eastern Hill University, Tura Campus 794002, India

Email: pubali.barman2113@gmail.com
*Corresponding author

INTRODUCTION

After rice, wheat, and corn, bananas are the most consumed food by humans and the most well-liked fruit. The banana is the most widely grown and ancient fruit in human history. It is one of the first fruits that humans have domesticated since prehistoric times. It is an important horticulture fruit for India as it makes up the second-biggest fruit business in India. This fruit is readily digested, tasty, and nutrient-rich. A banana has a higher calorific value than a potato and is higher in carbs, minerals, calcium, potassium, magnesium, sodium, and phosphorus. In addition to being eaten raw, it can be processed into a variety of foods, including as chips, powder, flakes. Chopped banana pseudo stem is fed to cattle. The leaves are also utilized as a plate.

In addition to being a staple diet for millions of people, bananas are the most significant commercial fruit in the tropics. With a production volume of 97.5 million tons, it is a significant fruit crop for the world.

The Food and Agriculture Organization (FAO 2023) estimates that 19.1 million tons of bananas were exported worldwide in 2022. To provide food security, bananas are also a basic food in many developing nations.

Developing nations produce 98% of the bananas produced worldwide. The banana-producing sector is a significant contributor to global agricultural trade. The production of banana has consistent growth from 2010-2021. The total world banana production in 2021 was approximately 125 million tons (FAO) There are more than 1000 varieties of banana in the world which are found more than 150 countries. Cavendish banana is the most produced and highly marketable banana variety in the world which account for 47% of the world banana production.

India leads banana production in the world since 1983 surpassing Brazil. The total estimated annual production is 34.5 million tonnes in 2022 which is almost double that of China, the second largest banana producer. India contributes 25.5% of global banana production. Banana cultivation accounts for 13% of the total area under fruit cultivation and 33% of the total fruit production in the country. Andhra Pradesh is the leading producer of bananas, followed by Maharashtra and Gujarat at number two and three position, respectively. Where Assam placed on 10th rank with 1108 MT production in 2021-22 (National Horticultural Board of India). Therefore, the present study was conducted with the objective of studying the economics of banana marketing and their efficiency.

MATERIALS AND METHODS

The present study was conducted in Goalpara district of Assam to examine the economics of banana marketing in Goalpara district of Assam covering a total sample size of 258 banana growers. The banana growers were stratified into five groups based on land holding viz., Marginal (Below 4.0 ha), Small (4.0-8.0 ha), Semi-Medium (8.0-16.0 ha), Medium (16.0-40.0 ha) and Large (40.0 ha and above). The study mainly based on primary and data were collected through pre-tested survey schedule through personal interview method of sampling. The methodology used to fulfil the objective was discussed below.

Marketing costs

Marketing cost was calculated by estimating the cost incurred in marketing of banana. The cost incurred from harvesting the crop to finally delivering it to consumer's hand generally constitutes the marketing cost. It included transportation costs, handling costs, storage costs, market fees, weighing charges, labor charges for packing, loading, and unloading. The marketing cost at various stages of marketing was calculated and finally, the total marketing cost was computed (Acharya and Agarwal 1999).

Price spread

The price spread in agriculture is the difference between the prices at different stages of value chain. It is the price paid to cultivator for the banana production and the final price that has been paid by the consumer. It mainly consists of marketing costs and margins (Kalidas *et al.* 2021). The formula of price spread as follows (Acharya and Agarwal 1999).

Price spread $(PS) = P_c - P_f$

Where,

P_c is the price paid by the consumer,
P_f is the price receive by the cultivator.

Marketing efficiency

Marketing efficiency ensures agriculture products move from agricultural field to finally consumers seamlessly, maximizing economic return for cultivators by meeting demand of consumer effectively. It plays vital role in maximizing agricultural productivity profitability and sustainability in the value chain. It measures effectiveness in the agricultural product distribution covering all stages from production to consumption.

In the agricultural economics, the Shepherd market efficiency method is used to measure marketing efficiency. The ratio of value of goods purchased by consumer (total value of goods) to total cost of marketing is used as a measure of marketing efficiency. It is defined by using following formula (Dukpa and Zarenthung 2020).

Table 1. Types of bananas dealt in banana market.

Varieties of banana	Retailers	%	Wholesalers	%
Malbhog	79	97.88	58	95.08
Seni-Champa	63	77.78	48	78.68
Jahaji	70	86.24	53	86.88
All varieties	63	77.78	48	78.68
N	81	100	61	100

Source: Field survey.

$$ME = V / I - 1$$

Where,

ME = Marketing efficiency index;
V = Value of goods purchased by consumer,
I = The total cost of marketing.

RESULTS AND DISCUSSION

Table 1 shows the varieties of bananas which are basically dealt by the retailers and wholesalers. In the study area, out of all varieties of Banana, Jahaji, Seni-Champa and Malbhog banana were the most demanded and most sellable Banana. Both retailer and wholesaler were basically dealt with these types of bananas. Out of 81 retailers, 79 (97.88%) dealt with Malbhog Bananas, 63 (77.78%) dealt with Seni-Champa Banana, 70 (86.24%) dealt with Jahaji Banana and 63 (77.78%) dealt with all the variety of bananas. From Table 1 it was found that out of all varieties of banana Malbhog Banana was found to be the most popular Banana.

Marketing channel

Four marketing Channels were identified for banana marketing in the study area. These are shown in the Table 2.

Table 2. The marketing channels for banana cultivation in the district of Goalpara, Assam.

Channels	Intermediaries in the channels
Channel I	Producer → Consumer
Channel II	Producer→ Wholesaler →Retailer→ Consumer
Channel III	Producer→ Local traders (Aggregator)→ Wholesaler →Retailer→ Consumer
Channel IV	Producer →Pre-harvest contractor→ Wholesaler →Retailer →Consumer

Source: Field survey.

Table 3. Marketing efficiency of Channel I.

Sl. No	Particulars	Jahaji	Seni-Champa	Malbhog
1	Sale price (Producer to Consumer)	254.00	127.00	262.00
2	Total cost of the producer	90.50	85.50	103.50
A	Harvesting cost	10.00	5.00	20.00
B	Transportation cost	15.00	15.00	15.00
C	Entry fees	30.00	30.00	30.00
D	Brokerage charges	5.50	5.50	5.50
E	Wastage	10.00	9.00	11.00
F	Loading charges	3.00	3.00	3.00
G	Weighing and packing	4.00	4.00	5.00
H	Labor charges	7.00	8.00	8.00
I	Miscellaneous expenses	6.00	6.00	6.00
3	Total marketing cost	90.50	85.50	103.50
4	Net amount received by producer	254.00	127.00	262.00
5	Price spread	163.50	41.50	158.00
6	Consumer's paid price	254.00	127.00	262.00
7	Producer's share in consumer rupees (in %)	64.37	32.68	60.31
8	Marketing efficiency	1.81	0.49	1.53

Source: Field survey.

Marketing cost, marketing margin and price spread of banana marketing with their marketing efficiency

The marketing cost, marketing margin and price spread of variety wise banana marketing is presented channel wise in Tables 3–6.

Channel 1: Producer-Consumer

Table 3 shows the results of marketing cost, marketing margin and price spread in Marketing Channel I, i.e. Producer → Consumer. In this channel the producer directly sold their product to the consumers. In Jahaji Banana, the producer sold the Banana in Rs 254/Bunch, Seni-Champa Banana in Rs 127/Bunch and Malbhog Banana Rs 262/Bunch respectively. The selling cost included harvesting cost, transportation cost, entry fees to the market, brokerage charge, wastage, loading charges, weighing and picking charges, labor charges and miscellaneous expenses for every variety of Banana. In Channel I, the marketing efficiency was found to be highest in Jahaji Banana (1.81) as compared to all other varieties of Banana. Similar findings were reported by Patowary *et al.* (2022).

Table 4. Marketing efficiency of Channel II.

Sl. No.	Particulars	Jahaji	Seni-Champa	Malbhog
1	Sale price (Producer to Wholesaler)	254.00	127.00	262.00
2	Total cost of the producer	90.50	85.50	103.50
A	Harvesting cost	10.00	5.00	20.00
B	Transportation cost	15.00	15.00	15.00
C	Entry fees	30.00	30.00	30.00
D	Brokerage charges	5.50	5.50	5.50
E	Wastage	10.00	9.00	11.00
F	Loading charges	3.00	3.00	3.00
G	Weighing and packing	4.00	4.00	5.00
H	Labor charges	7.00	8.00	8.00
I	Miscellaneous expenses	6.00	6.00	6.00
3	Total expenditure	90.50	85.50	103.50
4	Wholesaler			
5	Purchase price	254.00	127.00	262.00
6	Marketing cost incurred	120.00	65.00	125.00
7	Sale price	423.00	249.00	433.00
8	Net marketing margin	49.00	57.00	46.00
9	Margin as % of purchase price	19.29	44.88	17.56
10	Retailer			
11	Purchase price	423.00	249.00	433.00
12	Marketing cost incurred	65.00	55.00	60.00
13	Sale price	593.00	393.00	576.00
14	Net marketing margin	105.00	89.00	83.00
15	Margin as % of purchase price	24.82	35.74	19.17
16	Consumer's price	593.00	393.00	576.00
17	Total cost of marketing	275.50	205.50	288.50
18	Total marketing margin	154.00	146.00	129.00
19	Total price spread	339.00	266.00	314.00
20	Price spread as per cent of consumer's rupee	57.17	67.68	54.51
21	Producer's share in consumer's rupee	42.83	32.32	45.49
22	Marketing efficiency	1.15	0.91	1.00

Source: Field survey.

Channel -II: Producer- Wholesaler-Retailer-Consumer

Table 4 shows the total marketing cost, total price spread and total marketing efficiency for Channel II. Two intermediaries were identified through which every verity Bananas reaches to the consumers from producers, i.e. wholesalers and retailers. Here, the producer sold the product to the wholesaler, wholesaler sold it to the retailer and retailer sold it to the consumers.

In jahaji Banana, marketing cost when producer sold their product to wholesaler was Rs 245/Bunch, wholesaler sold it to the consumer Rs 423/Bunch and at last retailer sold it Rs 593/Bunch to the consumer. The price spared of Jahaji Banana was 339 and marketing efficiency was 1.15.

In Seni-champa, Banana marketing cost when producer sold their product to wholesaler was Rs 127/Bunches, wholesaler sold it to the consumer Rs 249/Bunches and at last retailer sold it Rs 393/Bunches to the consumer. The price spared of Seni-Champa Banana was 266 and marketing efficiency for Seni-champa Banana was 0.91.

In Malbhog Banana marketing cost when producer sold their product to wholesaler in the market was Rs 262/Bunches, wholesaler sold it to the consumer Rs 433/Bunches and at last retailer sold it Rs 576/Bunches to the consumer. The price spared of Malbhog Banana was 314 and marketing efficiency was 1.00.

All selling cost included harvesting cost, transportation cost, entry fees to the market, brokerage charge, wastage, loading charges, weighing and picking charges, labor charges and miscellaneous expenses for every variety of Banana.

Channel-III: Producer→ Local Trader (Aggregator) → Wholesaler →Retailer → Consumer

Table 5 shows the total marketing cost, total price spread and total marketing efficiency for Channel III. In this marketing channel, three intermediaries were identified to sell the produced bananas to the consumers, i.e. local trader (aggregator), wholesalers and retailers. In this channel, the producer sold the bananas to the local trader (aggregator), local trader (aggregator) sold the bananas to the wholesaler, wholesaler sold it to the retailer and retailer sold it to the consumers.

In Jahaji Banana marketing cost when producer sold their product to the local trader (aggregator) was Rs 210/Bunches, local trader (aggregator) sold to the wholesaler was Rs 254/Bunches, wholesaler sold it to the consumer Rs 423/Bunches and at last retailer sold it Rs 593/Bunches to the consumer. The price spared of Jahaji Banana was 383 and marketing efficiency was 1.30.

Table 5. Marketing efficiency of Channel III.

Sl. No.	Particulars	Jahaji	Seni-Champa	Malbhog
1	Producer			
2	Sale price (Producer to local traders)	210.00	102.00	215.00
3	Marketing cost incurred	55.00	52.00	65.00
4	Net price received	155.00	50.00	150.00
5	Local trader (Local aggregator)			
6	Purchase Price	210.00	102.00	215.00
7	Marketing Cost Incurred	18.00	15.00	22.00
8	Sale price	254.00	127.00	262.00
9	Net marketing margin	26.00	10.00	25.00
10	Margin as % of purchase price	12.38	9.80	11.63
11	Wholesaler			
12	Purchase price	254.00	127.00	262.00
13	Marketing cost incurred	120.00	65.00	125.00
14	Sale price	423.00	249.00	433.00
15	Net marketing margin	49.00	57.00	46.00
16	Margin as % of purchase price	19.29	44.88	17.56
17	Retailer			
18	Purchase price	423.00	249.00	433.00
19	Marketing cost incurred	65.00	55.00	60.00
20	Sale price	593.00	393.00	576.00
21	Net marketing margin	105.00	89.00	83.00
22	Margin as % of purchase price	24.82	35.74	19.17
23	Consumer's price	593.00	393.00	576.00
24	Total cost of marketing	258.00	187.00	272.00
25	Total marketing margin	335.00	206.00	304.00
26	Total price spread	383.00	291.00	361.00
27	Price spread as per cent of Consumer's rupee	64.59	74.05	62.67
28	Producer's share in consumer's rupee	35.41	25.95	37.33
29	Marketing efficiency	1.30	1.10	1.12

Source: Field survey.

Table 6. Marketing efficiency of Channel IV.

Sl. No.	Particulars	Jahaji	Seni-Champa	Malbhog
1	Producer			
2	Sale price of producer to pre-harvest contractor	160.00	95.00	180.00
3	Marketing cost incurred	25.00	12.00	30.00
4	Net price received	135.00	83.00	150.00
5	Pre-harvest contractor			
6	Purchase price	160.00	95.00	180.00
7	Marketing cost incurred	18.00	15.00	22.00
8	Sale price	254.00	127.00	262.00
9	Net marketing margin	76.00	17.00	60.00
10	Margin as % of purchase price	47.50	17.89	33.33
11	Wholesaler			
12	Purchase price	254.00	127.00	262.00
13	Marketing cost incurred	120.00	65.00	125.00
14	Sale price	423.00	249.00	433.00
15	Net marketing margin	49.00	57.00	46.00
16	Margin as % of purchase price	19.29	44.88	17.56
17	Retailer			
18	Purchase price	423.00	249.00	433.00
19	Marketing cost incurred	65.00	55.00	60.00
20	Sale price	593.00	393.00	576.00
21	Net marketing margin	105.00	89.00	83.00
22	Margin as % of purchase price	24.82	35.74	19.17
23	Consumer's price	593.00	393.00	576.00
24	Total cost of marketing	228.00	147.00	237.00
25	Total marketing margin	365.00	246.00	339.00
26	Total price spread	433.00	298.00	396.00
27	Price spread as per cent of consumer's rupee	73.02	75.83	68.75
28	Producer's share in consumer's rupee	26.98	24.17	31.25
29	Marketing efficiency	1.60	1.67	1.43

Source: Field survey.

In Seni-Champa Banana, marketing cost when producer sold their product to the local trader (aggregator) was Rs 102/Bunch, local trader (aggregator) sold to the wholesaler was Rs 127/Bunch, wholesaler sold it to the consumer Rs 249/Bunch and at last retailer sold it Rs 393/Bunch to the consumer. The price spared of Seni-Champa Banana was 291 and marketing efficiency was 1.10.

In Malbhog Banana, marketing cost when producer sold their product to the local trader (aggregator) was Rs 215/Bunches, local trader (aggregator) sold to the wholesaler was Rs 262/Bunches, wholesaler sold it to the consumer Rs 433/Bunches and at last retailer sold it Rs 576/Bunches to the consumer. The price spared of Seni-Champa Banana was 361 and marketing efficiency was 1.12.

All selling cost included harvesting cost, transportation cost, entry fees to the market, brokerage charge, wastage, loading charges, weighing and picking charges, labor charges and miscellaneous expenses for every variety of Banana.

Channel-IV: Producer→ Pre-Harvest Contractor→ Wholesaler →Retailer → Consumer

Table 6 shows the total marketing cost, total price spread and total marketing efficiency for Channel IV. In this marketing channel, three intermediaries were identified to sell the produced bananas to the consumers from producers, i.e. pre-harvest contractor,

Table 7. Marketing efficiency of three varieties of bananas in four different channel.

Sl. No.	Variety of bananas	Channel I	Channel II	Channel III	Channel IV	Most efficient channel
1	Jahaji	1.81	1.15	1.30	1.60	Channel I
2	Seni-Champa	0.49	0.91	1.10	1.67	Channel IV
3	Malbhog	1.53	1.00	1.12	1.43	Channel I

wholesalers and retailers. In this channel, the producer sold the bananas to the pre harvest contractor, pre harvest contractor sold the bananas to the wholesaler, wholesaler sold it to the retailer and retailer sold it to the consumers.

In Jahaji Banana marketing cost when producer sold their product to the pre-harvest contractor was Rs 160/Bunches, pre-harvest contractor sold to the wholesaler was Rs 254/Bunches, wholesaler sold it to the consumer Rs 423/Bunches and at last retailer sold it Rs 593/Bunches to the consumer. The price spared of Jahaji Banana was 433 and marketing efficiency was 1.60.

In Seni-Champa Banana marketing cost when producer sold their product to the pre-harvest contractor was Rs 95/Bunches, pre-harvest contractor sold to the wholesaler was Rs 127/Bunches, wholesaler sold it to the consumer Rs 249/Bunches and at last retailer sold it Rs 393/Bunches to the consumer. The price spared of Seni-Champa Banana was 298 and marketing efficiency was 1.67.

In Malbhog Banana, marketing cost when producer sold their product to the pre-harvest contractor was Rs 180/Bunches, pre-harvest contractor sold to the wholesaler was Rs 262/Bunches, wholesaler sold it to the consumer Rs 433/Bunches and at last retailer sold it Rs 576/Bunches to the consumer. The price spared of Seni-Champa Banana was 396 and marketing efficiency was 1.43.

All selling cost included harvesting cost, transportation cost, entry fees to the market, brokerage charge, wastage, loading charges, weighing and picking charges, labor charges and miscellaneous expenses for every variety of Banana.

Table 7 displays the marketing efficiency of all three variety of Banana, i.e. Jahaji, Seni-Champa and Malbhog of four different marketing channels. For Jahaji Banana, Channel I, Seni-Champa Banana Channel IV and for Malbhog Banana Channel I was most efficient Channel for marketing.

CONCLUSION

In conclusion we can state that Jahaji, Seni-Champa and Malbhog were the three most demanded variety of Banana in the study area. Out of all variety of Bananas, the Malbhog Banana was the most popular Banana among the consumer. For Jahaji Banana and Malbhog Banana, Channel I and for Seni-Champa Banana, Channel IV was most efficient channel for marketing. Marketing Channel I was the most efficient marketing channel for banana marketing in the area.

REFERENCES

Acharya SS, Agarwal NL (1999) Agriculture marketing in India. Oxford and IBH Publishing Co Pvt Ltd, New Delhi, pp 48.

Dukpa P, Ezung TZ (2020) Analysis of vegetable marketing efficiency in Phek District, Nagaland. *Economic Affairs* 65 (3): 427-432.

FAO (2023) Banana Market Review 2022. Rome.

Kalidas K, Mahendran K, Palanisamy VN, Senthinathan T, Kavithambika B (2021) *Frontiers in Crop Improvement* 9(5): 2184-2188.

National Horticulture Board (2023) National Horticulture Board, Indian Horticulture Database.

Patowary M, Kumar S, Singh V (2022) A study on marketing aspect of banana in Goalpara District of Assam. *Agriculture and Veterinary Science* 5(15): 01-08.