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Price spread and marketing efficiency of Guava (*Psidiumguajava* l.) in Kaushambi district, Uttar Pradesh – an economic analysis

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Abstract

Guava has a specific significance amongother horticultural crops grown in the state. The study was purposively carried out in Kaushambidistrict of Uttar Pradesh. The share of guava growers in the consumer rupee was very low as it was evident by the study due to the irregularities in marketing. Hence guava may be included in the list of notified agriculture commodities and to be brought under the preview of utter Pradesh agriculture marketing produce (Regulation) Act. The major constraints faced by produces were non-availability of skilled labour, lack of capital, hygienic conditions, high degree of competition, and lack of storage and proper packaging material at reasonable prices. The marketing unitsshould be given impetus by the administrator/policy makers by providing better quality of packing material and better technology which will help in improving the quality of the guava. The policy makers may take up the consumer's awareness campaign to educate them, so that consumerscould switch over to some extent toconsume the guava. This will also help in market expansion. Since the inadequate capital happened to be the stumbling block to the producer therefore, the administrator and the lending agency should provide financial assistant and grants so that the marketing of guava could beefficiently taken up by the producer, which would be helpful in generating the employment, reducing the marketing cost/margin and ultimatelywould help in realizing the better returns to the producer. The period of enquiry was the Agricultural year 2008-2009

Keywords- Marketing cost, marketing margin, marketing efficiency, price-spread

Introduction

Guava has a specific significance among other horticultural crops grown in the state. The total area under guava in Uttar Pradesh (plains) is estimated to be about 18 thousand-hectare with the production of guava about 185 thousand MT during 2008-09. The average productivity of guava in the state (plains) is reported 10.3 MT/ha. Uttar Pradesh is one of the most important guava producing states in India as Allahabad and Kaushambi, a city within the provinces of Uttar Pradesh, has the reputation of

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growing the best quality guava in the country as well as in the world. In Kaushambi and Allahabad district, the total area under guava is estimated at around 12399 hectare with a production of 145068 MT. The most popular varieties of guava in Allahabad are 'AllhabadSafeda' and 'Apple Colour'.The study has been carried out with the specific objectives to examine the different marketing channels, Marketing costs, margins, price spreads and marketing efficiency in the marketing of guava.

Methodology

The study was purposively carried out in Kaushambi district of Uttar Pradesh. District Kaushambi is famous for producing the best guava in the world. 5 villages namely Baraithi, Chillashahavazi, Ibrahimpur, Kara khas and Chillauli of Kara block were selected randomly for the present study. However, the guava producers were categorized on the basis of guava production: Small- upto100 Q, Medium- from 101 to 300 QandLarge - above 300 Q. Mundera 'A' grade wholesale secondary market was selected, which was fed by the maximum guava producing area of the fruit belt. Only one category of licensed market functionary i.e. commissioned agent cum whole seller was prevalent in the wholesale secondary market. Only these licensed functionaries could deals with the marketing of fruits. Out of licensed 40 commissioned agents cum whole sellers involved in the marketing, 20% i.e. 8-commission agent cum whole sellers were selected for the present study.The period of enquiry was the Agricultural year 2008-2009

Analytical tools

Price Spread can be defined as term sometimes applied to an absolute margin particularly one representing combined margins of several types of dealers. To calculate the price spread of guava for different marketing channels, following estimates were obtained:

1.Weighted average of price received by the guava producers from different market intermediaries.

2.The average marketing cost incurred by the farmers to sell their produce to various intermediaries.

3.The net price received by the producers at the time of first sale as follows: $P_F = P_A - C_F$

Where

P_F= net price received by producers (Rs. Per quintal)

P_A= weighted average of price received by the producers (Rs. Per quintal)

C_F= marketing cost incurred by the producer (Rs. Per quintal)

4.The producer's share in the consumer's rupee is as follows:

$P_S = (P_F/P_C). 100$

Where

P_s = producer's share in the consumer's rupee

P_c = price paid by the consumer.

P_F= net price received by producers

The marketing cost incurred at different stages of marketing by various intermediaries.

The average price, prevailing for guava, at different stages of marketing to calculate the margins of different intermediaries as follows -

i) $A_{mi} = P_{Ri}-(Ppi+ C_{mi})$

Where,

A_{mi} = net margin of the i^{st} middleman (Rs. per quintal)

P_{Ri}= sale price (Rs. per quintal)

P_{pi}= purchase price (Rs. per quintal)
C_{mi}= cost incurred on marketing (Rs. per quintal)
ii) Percentage margin of ith type of market functionary (P_{mj})

S No.	Particulars	Allahabad Safeda				Apple Colour			
		Channel I	Channel II	Channel III	Channel IV	Channel I	Channel II	Channel III	Channel IV
1.	Producers sale price	1250	1060	1380	1062	1450	1120	1625	1125
2.	Cost incurred by producer								
a.	Assembling charges	10.0	-	10.50	-	10.25	-	10.75	-
b.	Transpiration charges	11.0	-	22.25	-	12.00	-	15.00	-
c.	Commission Charges	-	-	24.00	-	-	-	36.25	-
d.	Palledari	-	-	5.33	-	-	-	5.25	-
3.	PHC's purchase price	-	1060	-	1062		1120	-	1125
Absolute margin of producer		1229	1060	1317.92	1062	1427.75	1120	1557.75	1125
4.	Cost incurred by PHCs								
a.	Assembling charges	-	10.00	-	10.50	-	10.50	-	10.50
b.	Transportation charges	-	11.50	-	21.04	-	13.00	-	16.00
c.	Palledari	-	-	-	24.25	-	-	-	37.00
d.	Commission Charges	-	-	-	5.50	-	-	-	6.00
5.	PHC's price	-	1275	-	1385	-	1475	-	1640
Absolute margin of phcs		-	193.50	-	261.71	-	331.50	-	445.50
6.	WS/CA's commission from producer/PHC	-	-	24	24.25	-		36.25	37.00
7.	WS/CA's commission from producer	-	-	26	25.50	-		26.25	26.00
8.	Cost incurred-a. Mandi fee.	-	-	10.40	10.20	-		10.50	10.40
b.	Development Charge	-	-	2.60	2.55	-		2.63	2.60
Net commission received by ws/ca		-	-	37.00	37.00	-		49.37	50.00
9.	Purchase price of retailer	-	-	1380	1385	-		1625	1640
10.	Cost incurred by retailer								
a.	Commission Charges	-	-	26	25.50	-		26.25	26.00
b.	Transportation charges	-	-	48	50.00	-		25.50	51.75

c.	Other	-	-	10.0	10.50	-		15.00	14.00
11.	Sale price of retailer	-	-	1750	1760	-		2150	2150
Absolute margin of retailer		-	-	286	289	-		431.50	418.20
12.	Consumer' purchase price	1250	1275	1750	1760	1450	1475	2150	2150

$$P_{mi} \quad \frac{P_{Ri} - (P_{Pi} + C_{mi})}{P_{Ri}} x\,100$$

Where,

P_{Ri}= Total value of receipts per unit of produce (Sale price Rupees per quintal)

P_{Pi}= Purchase value of goods per unit (Purchase price Rupees per quintal)

C_{mi} = Cost incurred on marketing per unit of produce (The Marketing Cost includes all the ascertainable charges made over the Transaction of the quantity of guava (Rs/Qt).

The average price paid by the processor and ultimate consumer.

Results and discussion

Price Spread, Marketing Costs and Marketing margins in the Marketing of Fresh Guava. There were seven channels involved in the marketing of fresh guava in Kaushambidistrict. These channels constitute several middlemen like PHC, WS/CA (LM_F), retailers (LM_F), WS (DM_F), retailers (DM_F) etc. The marketing costs incurred by each middleman, marketing margins earned by him and price spread at every stage are discussed as the Table-1 revealed that in case of channel I, the producer received the highest margin as they sold the guava direct to the consumers in the primary markets or some time from orchards itself. In selling Allahabad Safeda variety guava on an average received the highest share of consumer's rupee (94 percent). On the other side, table-1 reveals that in selling apple colour guava. In the marketing of Apple Colour guava through channel I, the producers received 95.96 percent of consumer's rupee. In channel I, the producers received highest percentage of consumers' rupee but in absolute terms, they did not get large amount as they sold.

Table-1. Price Spread, Marketing Costs and Marketing Margin (Rs/qtl) – Channel wise for 'Allahabad Safeda' and ' Apple Colour' Guava in Kaushambi District

Channel I -Producer→Consumer (LM_F)

Channel II -Producer→PHC (LM_F) →Consumer (LM_F)

Channel III -Producer→WS/CA (LM_F)→Retailer (LM_F) →Consumer (LM_F)

Channel IV -Producer→PHC (LM_F) →WS/CA (LM_F)→ Retailer (LM_F)→ Consumer (LM_F)

Table -2 revealed that in case of selling Allahabad Safeda, the producers incurred Rs. 12 per quintal as assembling charges and earned the margin of Rs. 1238 per quintal (96.57 percent of selling price Rs. 1250/- of producers) and in selling the Apple Colour guava, they earned Rs. 1412.50 as the margin [97.62 percent of Rs. 1425, selling price of producer to WS (LMp)] after paying Rs. 12.50 per quintal as assembling charges.

Table 2.Price spread, marketing cost and marketing margin (rs/qtl.) -channelwise for 'Allahabad safeda and 'apple colour' guava in Kaushambi district

S. No	Particulars	Within U.P.						Outside U.P.					
		Allahabad Safeda			Apple Colour			Allahabad Safeda			Apple Colour		
		V	VI	VII	V	VI	VII	V	VI	VII	V	VI	VII
1	Sale price of Producer	1055	1050	1250	1120	1125	1425	1050	1050	1250	1125	1125	1450
2	Cost incurred by producer												
a	Assembling charges	-	-	12	-	-	12.50	-	-	11.50	-	-	12
b	Transportation charges	-	-	-	-	-	-	-	-	-	-	-	-
c	Commission charges	-	-	-	-	-	-	-	-	-	-	-	-
d	Palledari	-	-	-	-	-	-	-	-	-	-	-	-
3	PHC's purchase price	1055	1050	-	1120	1125	-	1050	1050	-	1125	1125	-
Absolute margin of producer		1055	1050	1238	1120	1125	1412.5	1050	1050	1238.50	1125	1125	1438
4	Cost incurred by PHCs												-
a	Assembling charges	11.00	11.00	-	11.25	12.00	-	10.50	11.00	-	11.50	11.50	-
b	Transportation charges	-	22.00	-	-	20	-	-	22.50	-	-	19	-
c	Commission charges	-	25.00	-	-	37.50	-	-	25.50	-	-	37.50	-
d	Palledari	-	5.00	-	-	5.00	-	-	5.00	-	-	5.50	-
5	PHCs sale price	1300	1400	-	1450	1650	-	1275	1410	-	1450	1650	-
Absolute margin of phcs		234	287	-	318.75	450.50	-	214.50	296	-	313.75	451.5	-
6	WS/CA commission from producer PHC	-	25.00	-	-	37.50	-	-	25.50	-	-	37.50	-
7	WS/CA commission from producer	-	25.25	-	-	26.50	-	-	26	-	-	27	-
8	Cost incurred a. mandi fee	-	10.10	-	-	10.60	-	-	10.40	-	-	10.8	-
b	Development charges	-	2.53	-	-	2.65	-	-	2.60	-	-	2.70	-
Net commission received by ws/ca			37.12	-	-	50.75	-	-	38.50	-	-	51	-
9	Purchase price of wholesaler (DM_F)	1300	1400	1250	1450	1650	1425	1275	1410	1250	1450	1650	1450
10	Cost incurred by WS (DM_F)												

a	Palledari at local market field	5.50	5.00	5.00	5.50	5.50	5.00	5.50	5.00	5.00	5.50	5.00	5.00
b	Packing charges	50.00	48.00	42.00	60	65	62	110	112	110	125	125	130
c	Transpiration charge	56.00	56.00	56.00	60	58	60	164	164	164	164	164	164
d	Commission/Mandi fee	10.00	25.25	8.75	13.75	26.50	13.13	9.38	26	8.75	13.75	27	13.15
e	Palledari at distant markets	12	12	12.50	12.50	12	13	12	12.50	11.50	11.50	11	11
f	Risk factor	10	10	11.00	15	15.50	16	11.50	12	12.50	16	16.50	16
g	Mandi fee at distant market	-	-	-	-	-	-	14.25	15.38	14.40	18	20.63	18
11	Sale price of WS (DM_F)	1650	1750	1650	1900	2080	1900	1850	1980	1860	2100	2275	2100
Absolute margin of ws (dm_f)		206.50	193.75	264.75	283.25	247.5	305.87	248.37	223.12	283.85	296.25	255.87	292.25
12	Purchase price of retailers (DM_F)	1650	1750	1650	1900	2080	1900	1850	1980	1860	2100	2275	2100
13	Cost incurred by retailers												
a	Transpiration charge	30.00	28.00	30	30	35	36	40	38	40	39	35	38
b	Commission Charges	37.50	42.50	37.50	50	53	47.50	76	82	76.80	96	110	96
c	Palledari	11.00	10.00	11.50	11	10.50	11.25	10	9.50	12	11	10	10.50
d	other costs	15	14	15.50	18	18.50	18	18	17.5	18	20	22	20.50
14	Sale price of retailers	2000	2100	2050	2400	2550	2450	2300	2400	2325	2700	2850	2700
Absolute margin of retailers (dm_f)		256.50	255.50	305.50	391	353	437.25	306	273	318.20	434	398	435
15		2000	2100	2050	2400	2550	2450	2300	2400	2325	2700	2850	2700

Channel V -Producer $\rightarrow$ PHC $\rightarrow$ WS (DM_F) $\rightarrow$ Retailer (DM_F) $\rightarrow$Consumer (DM_F)

Channel VI -Producer $\rightarrow$ PHC $\rightarrow$ WS/CA (LM_F) $\rightarrow$ WS (DM_F) $\rightarrow$ Retailer (DM_F) $\rightarrow$ Consumer (DM_F)

Channel VII -Producer $\rightarrow$ WS/CA (DM_F) $\rightarrow$ Retailer (DM_F) $\rightarrow$ Consumer (DM_F)

In case of selling one quintal of Apple Colour guava within UP, the wholesalers of distant market incurred on an average Rs. 166.75 and earned Rs. 283.25 as absolute margin i.e. 28.33 percent. In selling the Apple Colour guava outside UP, the wholesalers had to pay Rs. 353.75 in the form of aggregate marketing cost. However, they received absolute margin of Rs. 296.25 i.e. 24.69 Percent as percentage margin.

Marketing efficiency of different channels observed in the marketing of fresh guava

Thus, the efficiency of any channel can be analyzed either on the basis of producers' share in consumers' rupee or on the basis of cost and margins realized by market functionaries involved in the channel. Marketing efficiency shows direct relation with producers' share in consumers' rupee and inverse relation with marketing cost and marketing margin. Producers' share, marketing cost and marketing margins realized by the functionaries in the marketing of Allahabad Safeda guava and Apple Colour guava are shown in table -3 & table -4, respectively. The marketing efficiency showed the same pattern for both the varieties of guava, therefore the results for both the varieties are discussed simultaneously for each channel.

Table-3. Producer's share, marketing cost and marketing margins (rs/q). in marketing of 'allahabad safeda' guava.

Channels / Particulars	Local market				Distant market (within U.P.)			Distant market (outside U.P.)		
	I	II	III	IV	V	VI	VII	V	VI	VII
Producers' share	1229.00 (94.00)	1060.00 (42.67)	1317.92 (49.17)	1062.00 (18.84)	1055.00 (14.09)	1050.00 (12.50)	1238.00 (29.39)	1050.00 (10.71)	1050.00 (10.00)	1238.50 (23.75)
Marketing cost	21.00 (6.00)	21.50 (5.73)	146.08 (17.19)	147.29 (17.13)	248 (22.55)	313.75 (26.15)	241.75 (21.02)	481.13 (34.37)	557.88 (37.19)	484.45 (34.00)
Marketing margin	–	193.50 (51.60)	286 (33.65)	550.71 (64.04)	697 (63.36)	736.25 (61.35)	570.25 (49.59)	768.87 (54.92)	792.12 (52.81)	602.05 (42.25)
Consumers' price	1250 (100)	1275 (100)	1750 (100)	1760 (100)	2000 (100)	2100 (100)	2050 (100)	2300 (100)	2400 (100)	2325 (100)

Note: - Figures in Parentheses Show the Percentage of producers' share, marketing cost and marketing margin in consumer's rupee

Table -3 revealed that in the marketing of fresh Allahabad Safeda, channel I exhibited the highest efficiency as the producers' share in consumers' rupee was the maximum in this channel as well as the marketing cost incurred was the minimum. In case of Apple Colour guava also, it was observed that the producers received the highest percentage of consumers' rupee and the marketing cost was at the minimum in comparison to that in other marketing channels. The margin earned by other functionaries was recorded nil in this channel because no middleman was involved in the guava trade. Thus, channel I was found to be the most efficient channel in the marketing of fresh guava.

Table-4. Producer's share, marketing costs and marketing margins in (Rs./qt.) the marketing of apple colour' guava in kaushambi

Channels / Particulars	Local market				Distant market (within U.P.)			Distant market (outside U.P.)		
	1	II	III	IV	V	VI	VII	V	VI	VII
Producers' share	1427.75 (95.96)	1120.00 (38.26)	1557.75 (52.58)	1125.00 (18.00)	1120.00 (14.67)	1125.00 (13.64)	1412.5 (33.07)	1125.00 (12.50)	1125.00 (11.54)	1438.00 (29.89)
Marketing cost	22.25 (4.05)	23.50 (4.09)	161.00 (12.88)	161.25 (12.90)	287.00 (19.13)	374.00 (22.67)	294.38 (18.99)	531.25 (29.51)	619.63 (31.78)	534.75 (29.71)
Marketing margin	–	331.50 (57.65)	431.50 (34.52)	863.75 (69.10)	993.00 (66.20)	1051.00 (63.70)	743.12 (47.94)	1044.00 (58.00)	1105.37 (56.69)	727.25 (40.40)
Consumers price	1450.00 (100)	1475.00 (100)	2150.00 (100)	2150.00 (100)	2400.00 (100)	2550.00 (100)	2450.00 (100)	2700.00 (100)	2850.00 (100)	2700.00 (100)

Note: - Figures in parentheses show the percentage of producers' share, marketing cost and marketing margin in consumers' rupee.

Thus, it is revealed from the above table that within local market, the producers received better percentage of consumers' rupee and channel I was the most efficient channel followed by channel III and II for both the varieties of guava. In selling outside Allahabad, channel VII was observed to be the most efficient channel in which orchardists/producers direct sold the fruits to the wholesalers of distant markets.

Conclusion

The share of guava growers in the consumer rupee was very low as it was evident by the study due to the irregularities in marketing. Hence guava may be included in the list of notified agriculture commodities and to be brought under the preview of utter Pradesh agriculture marketing produce (Regulation) Act. The major constraints faced by produces were non-availability of skilled labour, lack of capital, hygienic conditions, high degree of competition, and lack of storage and proper packaging material at reasonable prices. The marketing units should be given impetus by the administrator/policy makers by providing better quality of packing material and better technology which will help in improving the quality of the guava. The policy makers may take up the consumer’s awareness campaign to educate them, so that consumers could switch over to some extent to consume the guava. This will also help in market expansion. Since the inadequate capital happened to be the stumbling block to the producer therefore, the administrator and the lending agency should provide financial assistant and grants so that the marketing of guava could be efficiently taken up by the producer, which would be helpful in generating the employment, reducing the marketing cost/margin and ultimately would help in realizing the better returns to the producer.

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