

Marketing of Guava in Districts of Haryana State

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I. Introduction

In Haryana, Guava is cultivated in few districts only. It ranks fifth in cultivation after citrus, mango, apple and pear. Guava is highly perishable fruit and should be marketed immediately after harvest. Under the existing marketing systems most of the fruit is marketed through a long chain of intermediaries thus price spread is quite evident. Guava fruit are used making jam, jellies and various culinary purposes. But due to poor infrastructure facility, poor handling and lack of cold storage facilities it is spoilt.

Guava fruit is commercially grown throughout the country. In India, production of guava is 2.27 Metric Tons with an area coverage of 0.20 million hectares (Kumar *et al.*, 2010). In Haryana, production of guava is 0.053 Metric Tons with an area coverage of 0.007 million hectares (Anonymous, 2010).

The marketing cost per quintal of guava for group II (producer – retailer – consumer) was worked out to Rs. 92 and group III (producer – consumer) was Rs. 110.94. In marketing was done by channel II (producer - retailer – consumer) Naphade and Tingre (2008).

Hence study on the marketing channel, margins and price spread aspects may provide some guidelines about the economics of guava. In this context, the study was undertaken with the following specific objectives:

1. To study the marketing channel of guava orchard in different district of Haryana
2. To work out the marketing margins from guava orchard in different district of Haryana
3. To work out the marketing price spread of guava orchard in different district of Haryana
4. To study the marketing efficiency of guava orchard in different district of Haryana

II. Methodology

The present study was conducted in Hisar district, Hansi, Barwala Block, and Fatehabad district Bhuna, Fatehabad Block and Sirsa district Baraguda, Sirsa Block of Haryana, which was selected purposively on basis of highest area and production under Guava cultivation. Further, Hisar, Fatehabad and Sirsa market were selected for the market study during 2011-2012. Finally 60 growers from randomly selected two blocks from each district were selected for the present study. On the basis of the nature of the data, budgeting technique and various economic tools were used for estimation of marketing channel, margins and price spread.

Evaluation of marketing system The different market functionaries such as contractors, commission agents, retailers and consumers were randomly selected from the market in the area under study. The data collected from the different market functionaries were analyzed to estimate the marketing costs and margins through important marketing channels.

Selection of intermediaries

The market channels of guava were examined by selecting a random sample of such intermediaries as pre harvest contractors, wholesalers, commission agents and the retailers. As the large number of guava farmer sell out their produce before maturity to pre harvest contractors. So five commission agent/wholesalers six pre-harvest contractor and ten retailers were selected randomly from market to the study the marketing channels.

Marketing pattern of guava

Information regarding the marketing pattern/ channels of guava was collected from the producers and marketing agencies involved in the marketing of guava through different channel. Information was also obtained from the market intermediaries involved in the purchase of guava with in the village and in the market.

Marketing margins and costs

To find out the marketing margins and costs for different channels six commission agent / wholesalers, six pre-harvest contractor and twelve retailers were selected from the market. The relevant data were collected with the help of a pre tested, well designed schedule. Information regarding marketing aspects of guava was collected from the producers and the retailers in order to find out the producer's share in the price paid by the consumers. The main channels in operation in the marketing of guava were studied to work out the price spread. To estimate the marketing costs and margins through important marketing channels was used for computing the

marketing margins. From the gross margins, the costs incurred by the concerned agencies were deducted to arrive at the net margins. The marketing efficiency of different marketing channels were worked out by using the following method.

- (a) Shepherd's Method (ME), (Acharya and Agarwal 2011)
 $RP \div MC$

Where

RP = Retailer's sale price or consumer's purchase price
MC = Total marketing costs

- (b) Acharya's Method (MME), (Acharya and Agarwal 2011)
 $FP \div (MC+MM)$

Where

FP = Net price received by farmer
MC = Total marketing costs
MM = Total net margins of intermediaries

- (c) Conventional method, (Acharya and Agarwal 2011)
 $E = O/I \times 100$

Where

O= output is the value added
I= input is the real cost of marketing
E= marketing efficiency

III. Results And Discussion

Marketing of guava

Table-1, 2, 3, 4 and 5 showed that the marketing cost and margins were worked out for all the five marketing channels at Hisar, Fatehabad and Sirsa market. Comparing the results obtained through different channels, it was observed that the producer's share in consumer's rupee increased with the decrease of market functionaries. In the channel I and II net overall average share of producers were found to be 22.30 and 24.18 per cent of consumer's rupee. The producer's share in the consumer's rupee under overall average Channel III and IV were found to be 33.06 per cent and 38.73 per cent in the market. The highest net overall average price received by producer and share in consumer's rupee was found to be 94.31 per cent in channel V (Producer to direct consumer) in the study area. The share of producer in consumer's rupee was higher in Fatehabad district (95.61 per cent) in channel as compared to Hisar district was minimum in channel V (94.44 per cent) which was due to presence of better management and high yield in Fatehabad district. Due to this no pre-harvest contractor, commission agent, wholesaler and retailer. Also the price received by producer was maximum in Fatehabad and minimum in Hisar district. This channel was more appropriate because farmers get more benefit as compared to other channels. Similar findings were also reported by Sundaravaradarajan and Jaganmohan (2002), Randev (2005), Nirgude *et al.* (2007) and Abassian *et al.* (2012).

Marketing efficiency

The Table 6 depicted the marketing efficiency of guava in Hisar, Fatehabad, Sirsa market and overall average under different marketing channels. The marketing efficiency according to Acharya's method (Modified Measure of Marketing Efficiency) under different marketing channels i.e. Channel I, Channel II, Channel III, Channel IV and Channel V were 0.28, 0.31, 0.49, 0.60 and 16.57 in overall average respectively. From this efficiency index it could be observed that channel V was the most efficient among all marketing channels. This was because of the fact that in Channel V intermediaries were not involved and hence this channel was most efficient than all other channels. Moreover, marketing efficiency increased with the decrease in market intermediaries between producer and consumer. The marketing efficiency according to Conventional method under different marketing channels i.e. Channel I, Channel II, Channel III, Channel IV and Channel V were 4.16, 4.78, 3.45, 4.00 and 1.00 in Overall average respectively. From this efficiency index it could be observed that Channel V was the most efficiency among all marketing channels. The marketing efficient according to Sephard's method under different marketing channels i.e. Channel I, Channel II, Channel III, Channel IV and Channel V were 5. 5.36, 6.30, 5.15, 1.60, 17.57 in Overall average, respectively. From this efficiency index it could be observed that channel V was the most efficient among all marketing channels. Similar findings were also reported by Malaisamy *et al.* (2007)

Table 1: Price spread of guava in marketing channel-I in Hisar, Fatehabad, Sirsa markets and Overall average

Sr.	Particulars	(/qtls)			
		Hisar	Fatehabad	Sirsa	Overall average
1	Net Price received by producer/purchase Price of pre-harvest contractor	810 (23.14)	820 (21.58)	800 (21.05)	810(22.30)
2	Cost incurred by the pre-harvest contractor				
	i. Watch and ward	34.72 (0.99)	36.86 (0.97)	35.44 (0.93)	35.67(0.98)
	ii. Picking, grading and packing cost	104.25 (2.98)	106.68 (2.81)	105.66 (2.78)	105.53(2.90)
	iii. Packing material	75.15 (2.15)	77.20 (2.03)	76.56 (2.01)	76.30(2.10)
	iv. Loading and unloading charges	14.16 (0.40)	16.56 (0.44)	15.34 (0.40)	15.35(0.42)
	v. Transportation charges	35.40 (1.01)	37.60 (0.99)	36.40 (0.96)	36.46(1.00)
	Sub-total (2-I to V)	263.68 (7.53)	274.90 (7.23)	269.40 (7.09)	269.31(7.41)
3	Net margins of pre-harvest contractor	276.32 (7.89)	365.10 (9.61)	330.60 (8.70)	310.69(8.55)
4	Sale price of pre-harvest contractor/purchase price of wholesaler	1350 (38.57)	1460 (38.42)	1400 (36.84)	1390(38.26)
5	Cost incurred by the wholesaler				
	i. Loading, unloading and transportation charges	13.28 (0.38)	14.46 (0.38)	13.88 (0.37)	13.87(0.38)
	ii. Grading and repacking charges	74.16 (2.12)	75.14 (1.98)	74.88 (1.97)	74.72(2.06)
	iii. Commission @6 percent	81.00 (2.31)	87.00 (2.29)	84.00 (2.21)	83.40(2.30)
	iv. Market free@3 percent	40.50 (1.16)	43.50 (1.14)	42.00 (1.11)	41.70(1.15)
	v. Spoilage and storage charge	58.40 (1.67)	59.60 (1.57)	58.88 (1.55)	58.96(1.62)
	Sub total (5-I to V)	267.34 (7.64)	279.70 (7.36)	273.64 (7.20)	272.65(7.50)
6	Net margin of wholesaler	232.66 (6.65)	220.30 (5.80)	246.36 (6.48)	240.35(6.62)
7	Sale price of wholesaler/purchase price of retailer	1850 (52.86)	1960 (51.58)	1920 (50.53)	1903(52.38)
8	Cost incurred by the retailer				
	i. Transportation charges	25.30 (0.72)	26.12 (0.69)	25.88 (0.68)	25.77(0.71)
	ii. Loading and unloading charges	17.05 (0.49)	19.12 (0.50)	18.66 (0.49)	18.28(0.50)
	iii. Spoilage	31.42 (0.90)	32.44 (0.85)	31.88 (0.84)	31.91(0.88)
	iv. Packing material(Tockry and Petti	29.54 (0.84)	30.73 (0.81)	29.92 (0.79)	30.06(0.83)
	v. Other charges (rent of cart or shop etc.	29.45 (0.84)	30.56 (0.80)	30.00(0.79)	30.00(0.83)
	Sub total (8-I to V)	132.76 (3.79)	138.97 (3.66)	136.34 (3.59)	136.02(3.74)
9	Net margin of retailer	1517.24 (43.35)	1701.03 (44.76)	1743.66 (45.89)	1593.98(43.88)
10	Sale price of retailer/purchase price of consumer	3500 (100.00)	3800 (100.00)	3800 (100.00)	3633.00(100.00)

Note : Figures in parentheses are the percentage to the consumer's price

Marketing Channel I: Producer → Pre-Harvester Contractor → Commission agent → Wholesaler → Retailer → Consumer

Table 2: Price spread of guava in channel-II in Hisar, Fatehabad, Sirsa market and Overall average

Sr. No	Particulars	(/qtls)			
		Hisar	Fatehabad	Sirsa	Overall average
1	Net Price received by producer/purchase Price of pre-harvest contractor	810 (25.31)	820 (24.12)	800.00(22.86)	810(24.18)
2	Cost incurred by the pre-harvest contractor				
	i. Watch and Ward	34.72 (1.09)	36.86 (1.08)	35.44 (1.01)	35.67(1.06)
	ii. Picking, grading and packing cost	104.25 (3.26)	106.68 (3.14)	105.66 (3.02)	105.53(3.15)
	iii. Packing material	75.15 (2.35)	77.20 (2.27)	76.56 (2.19)	76.30(2.28)
	iv. Loading and unloading charges	35.40 (1.11)	16.56 (0.49)	15.34 (0.44)	15.35(0.46)
	v. Transportation charges	14.16 (0.44)	37.60 (1.11)	36.40 (1.04)	36.46(1.09)
	Sub-total (2-I to V)	263.68 (8.24)	274.90 (8.09)	269.40 (7.70)	269.31(8.04)
3	Net margins of pre-harvest contractor	186.32 (5.82)	405.10 (11.91)	290.60 (8.30)	320.69(9.57)
4	Sale price of pre-harvest contractor/purchase price of retailer	1260 (39.38)	1500.00 (44.12)	1360.00 (38.86)	1400.00(41.79)
5	Cost incurred by the retailer				
	i. Transportation charges	25.30 (0.79)	26.12 (0.77)	25.88 (0.74)	25.77(0.77)
	ii. Loading and unloading charges	17.05 (0.53)	19.12 (0.56)	18.66 (0.53)	18.28(0.55)
	iii. Commission @6 percent	78.60 (2.46)	90.00 (2.65)	81.60 (2.33)	84.00(2.51)
	iv. Market free @3 percent	37.80 (1.18)	45.00 (1.32)	40.80 (1.17)	42.00(1.25)
	v. Spoilage	31.42 (0.98)	32.44 (0.95)	31.88 (0.91)	31.91(0.95)
	vi. Packing material (polythene bag)	29.54 (0.92)	30.73 (0.90)	29.92 (0.85)	30.06(0.90)
	vii. Other charges (rent of cart or shop etc)	29.45 (0.92)	30.50 (0.90)	30.00 (0.86)	30.00(0.90)
	Sub total (5-I to vii)	246.16 (7.69)	273.97 (8.06)	258.74 (7.39)	262.02(7.82)
6	Net margin of retailer	1693.84 (52.93)	1626.03 (47.82)	1881.26 (53.75)	1687.98(50.39)
7	Sale price of retailer /Purchase price of consumer	3200 (100.00)	3400.00 (100.00)	3500.00 (100.00)	3350.00(100.00)

Note : Figures in parentheses are the percentage to the consumer's price

Marketing Channel II: Producer → Pre Harvester Contractor → Commission agent → Wholesaler → Retailer → Consumer

Table 3: Price spread of guava in channel-III in Hisar, Fatehabad, Sirsa market and Overall average (₹/qtls)

Sr. No.	Particulars	Hisar	Fatehabad	Sirsa	Overall average
1	Net Price received by producer	1116.32 (32.36)	1263.33 (36.62)	1110.14 (30.41)	1162.78(33.06)
2	Cost incurred by the producer				
	i. Watch and Ward	34.72 (1.01)	36.86 (1.07)	35.44 (0.97)	35.67(1.01)
	ii. Picking, grading and packing cost	104.25 (3.02)	108.45 (3.14)	106.12 (2.91)	106.44(3.03)
	iii. Packing material	75.15 (2.18)	77.20 (2.24)	76.56 (2.10)	76.30(2.17)
	iv. Loading and unloading charges	35.40 (1.03)	37.60 (1.09)	36.40 (1.00)	15.35(0.44)
	v. Transportation charges	14.16 (0.41)	16.56 (0.48)	15.34 (0.42)	36.46(1.04)
	Sub-total (2-I to V)	263.68 (7.64)	276.67 (8.02)	269.86 (7.39)	270.22(7.68)
3	Sale price of producer /purchase price at wholesaler	1380.00 (40.00)	1540 (44.64)	1380 (37.81)	1433(40.74)
4	Cost incurred by the wholesaler				
	i. Loading, unloading and transportation charges	13.28 (0.38)	14.46(0.42)	13.88 (0.38)	13.87(0.39)
	ii. Grading and repacking charges	74.16 (2.15)	75.14 (2.18)	74.88 (2.05)	74.72(2.12)
	iii. Commission @6 percent	82.80 (4.52)	92.40 (2.68)	82.80 (2.27)	85.98(2.44)
	iv. Market free@3 percent	41.40 (1.20)	46.20 (1.34)	41.40 (1.13)	42.99(1.22)
	v. Spoilage and storage charge	58.40 (1.69)	59.60 (1.73)	58.88 (1.61)	58.96(1.68)
	Sub total (4-I to V)	270.04 (7.83)	287.80 (8.34)	271.84 (7.45)	276.52(7.86)
5	Net margin of wholesaler	179.96 (5.22)	122.20 (3.54)	278.16 (7.62)	193.48(5.50)
6	Sale price of wholesaler/purchase price of retailer	1830.00 (53.04)	1950 (56.52)	1930 (52.88)	1903(54.11)
7	Cost incurred by the retailer				
	i. Transportation charges	25.80 (0.75)	26.12 (0.76)	25.88 (0.71)	25.77(0.73)
	ii. Loading and unloading charges	17.05 (0.49)	19.12 (0.55)	18.66 (0.51)	18.28(0.52)
	iii. Spoilage	31.42 (0.91)	32.44 (0.94)	31.88 (0.87)	31.91(0.91)
	iv. Packing material(Tockry and Petti)	29.54 (0.86)	30.73 (0.89)	29.92 (0.82)	30.06(0.85)
	v. Other charges (rent of cart or shop etc.	29.45 (0.85)	30.56 (0.89)	30 (0.82)	30.00(0.85)
8	Sub total (7-I to V)	132.76 (3.85)	138.97 (4.03)	136.34 (3.74)	136.02(3.87)
9	Net margin of retailer	1487.24 (43.11)	1361.03 (39.45)	1583.66 (43.39)	1477.98(42.02)
10	Sale price of retailer/purchase price of consumer	3450.00 (100.00)	3450.00 (100.00)	3650 (100.00)	3517(100.00)

Note : Figures in parentheses are the percentage to the consumer's price

Marketing Channel III: Producer → Commission agent → Wholeseller → Retailer → Consumer

Table 4: Price spread of guava in marketing channel –IV in Hisar, Fatehabad, Sirsa market and Overall average (₹/ qtls)

Sr. No.	Particulars	Hisar	Fatehabad	Sirsa	Overall average
1	Net Price received by producer	1086.32 (33.95)	1323.33 (36.76)	1580.14 (41.58)	1329.78(37.64)
2	Cost incurred by the producer				
	i. Watch and Ward	34.72 (1.09)	36.86 (1.02)	35.44 (0.93)	35.67(1.01)
	ii. Picking, grading and packing cost	104.25 (3.26)	108.45 (3.01)	106.12 (2.79)	106.44(3.01)
	iii. Packing material	75.15 (2.35)	77.20 (2.14)	76.56 (2.01)	76.30(2.16)
	iv. Loading and unloading charges	14.16 (0.44)	37.60 (1.04)	15.34 (0.40)	15.35(0.43)
		35.40 (1.11)	16.56 (0.46)	36.40 (0.96)	36.46(1.03)
	Sub-total (2-I to V)	263.68 (8.24)	276.67 (7.69)	269.86 (7.10)	270.22(7.65)
3	Sale price of producer /purchase price at retailer	1350 (42.19)	1600 (44.44)	1850 (48.68)	1600(45.29)
4	Cost incurred by the retailer				
	i. Transportation charges	25.30 (0.79)	26.12(0.73)	25.88 (0.68)	25.77(0.73)
	ii. Loading and unloading charges	17.05 (0.53)	19.12(0.53)	18.66 (0.49)	18.28(0.52)
	iii. Commission @6 percent	81.00 (2.53)	96.00(2.67)	111 (2.92)	96.00(2.72)
	iv. Market free@3 percent	40.50 (1.27)	48.00(1.33)	55.50 (1.46)	48.00(1.36)
	v. Spoilage	31.42 (0.98)	32.44 (0.90)	31.88 (0.84)	31.91(0.90)
	vi. Packing material(Tockry and Petti)	29.54 (0.92)	30.73 (0.85)	29.92 (0.79)	30.06(0.85)
	vii. Other charges (rent of cart or shop etc.	29.45 (0.92)	30.56 (0.85)	30 (0.79)	30.00(0.85)
5	Sub total (4-I to V)	254.26 (7.95)	552.97 (15.36)	302.84 (7.97)	280.02(7.93)
6	Net margin of retailer	1595.74 (49.87)	1447.03 (40.20)	1647.16 (43.35)	1652.98(46.79)
7	Sale price of retailer/purchase price of consumer	3200 (100.00)	3600 (100.00)	3800 (100.00)	3533(100.00)

Note : Figures in parentheses are the percentage to the consumer's price
Marketing Channel IV: Producer → Commission agent → Retailer → Consumer

Table 5: Price spread of guava in channel-IV in Hisar, Fatehabad, Sirsa market and Overall average (/qtls)

Sr. No.	Particulars	Hisar	Fatehabad	Sirsa	Overall average
1	Net price received by producer	2361.03 (94.44)	2485.94 (95.61)	2408.44 (94.45)	2404.89(94.31)
2	Cost incurred by the producer				
	i. Watch and ward	34.72 (1.39)	36.86 (1.42)	35.44 (1.39)	35.67(1.40)
	ii. Picking cost	104.25 (4.17)	108.45 (4.17)	106.12 (4.16)	109.44(4.29)
	Total Cost	138.97 (5.56)	145.31 (5.59)	141.56 (5.55)	145.11(5.69)
3	Sale price of producer/ purchase price of consumer	2500 (100.00)	2600 (100.00)	2550 (100.00)	2550(100.00)

Note : Figures in parentheses are the percentage to the consumer's price
Marketing Channel V: Marketing Producer→Direct Consumer

Table 6: Overall average marketing efficiency of guava under different marketing channels

Sr. No.	Particulars	Units	Channel I	Channel II	Channel III	Channel IV	Channel V
1	Retailers sale price or consumers purchase price (RP)	Rs./qtls	3633	3350	3517	3533	2550
2	Total marketing cost (MC)	Rs./qtls	677.98	531.33	682.76	550.24	145.11
3	Total net margins of intermediaries (MM)	Rs./qtls	2145.02	2008.67	1671.46	1652.98	-
4	Net price received by farmers (FP)	Rs./qtls	810	810	1162.78	1329.78	2404.89
5	Value added (1-4)	Rs./qtls	2823	2540	2354.22	2203.22	145.11
	Index of marketing efficiency						
A	Acharyas Method (MME) $4 \div (2+3)$	Ratio	0.28	0.31	0.49	0.60	16.57
B	Conventional Method $5 \div 2$	Ratio	4.16	4.78	3.45	4.00	1.00
C	Sepherds method (ME) $1 \div 2$	Ratio	5.36	6.30	5.15	1.60	17.57

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