Research Paper Agricultural

Marketing of Pomegranate in Middle Gujarat

S. K. PATEL Senior Research Fellow, Indian Institute of Soil & Water Conservation (ICAR), R.C.,Vasad, Gujarat.

***Dr. RS Pundir** Associate Professor and Head, Agribusiness Economics & Policies, International Agribusiness Management Institute, Anand Agricultural University, Anand-388110.Corresponding Author

ABSTRACT

The study was undertaken in middle Gujarat with a view to investigate the disposal pattern, marketing cost, marketing efficiency and price spread in pomegranate . A sample of 90 pomegranate grower as well as 15 wholesalers and 15 retailers was randomly selected from Vadodara, Chota Udepur and Kheda markets for indepth investigation. The results shows that, on an average marketable surplus was 98.32 per cent of total production of pomgranate. Among three major marketing channels, channel-I (Producer- Distant wholesaler) was found most popular among the farmers as about 72.39 per cent of total pomegranate production was marketed through this channel. It was found in the study that when produce was sold to distant wholesaler, growers received highest price of Rs 3537, at the same time estimated total marketing cost incurred by pomegranate grower was also least (Rs 4.74 per quintal) compared to other agencies like local wholesaler and APMC wholesaler. The detailed analysis of marketing channel- II showed that the total expenses incurred by wholesaler came to Rs 139.07 per quintal (2.20% of retail price). The total marketing cost incurred at retailer's level was Rs 148.47 per quintal. The total marketing cost and marketing margin were realised to be Rs 440.93 and Rs 2969.04 per quintal, respectively. Producer's share in consumer rupee was 46.09 per cent. The marketing efficiency was 0.85. The component wise total marketing cost revealed that weight loss due to damage and spoilage had lion's share of 45.74 per cent in total marketing cost, followed by transportation cost (29.10%) and packing and weighing cost (19.72%). The study has concluded that here was substantial scope of increasing pomegranate production and productivity by establishing pomegranate growers' cooperative or producer company along with improving marketing practices.

KEYWORDS

INTRODUCTION

Horticulture has emerged as an important sector of agriculture in India, It contributed 30.4 percent of agriculture GDP in 2013-14 (GOI, 2014). Total area under fruit crop and total fruit production in the state of Gujarat has increased in the year 2013-14 over 1993-94 by 187.39 and 256.01 percent, respectively (Anonymous, 2014a). The name "Pomegranate" came from two Latin words "Pomuni" and "Granatum" which means seeded apple. Being rich in minerals, alkaloids and nutrients it found special place in table fruits and Ayurvedic medicines. Pomegranate is mainly grown in the states of Maharashtra, Karnataka, Gujarat, Tamilnadu, Andhra Pradesh, Uttar Pradesh and Haryana. The most promising cultivars grown in the country are Bhargawa, Ganesh, Muskat, Alandi, Dhalka, paper Shell, Spanish ruby, Muskat red Vellodu, Seedless, and Arakta (Anonymous, 2014a).

According to APEDA, due to adoption of new technologies production of pomegranate can rise ten times and export can rise up to seven times. By the year 2025, area under pomegranate is expected to reach up to 7.5 lakh hectares and India can achieve remarkable success in export of pomegranate in future (Singh ***et al***., 2015). In 2013-14, the area under pomegranate in Gujarat was around 9370 hectares and production was about 99330 tonnes. Gujarat is the third largest producer of pomegranate after Maharashtra and Karnataka with 7.37 percent of total production at national level in the year 2013-14 (Anonymous, 2014b).

Researchers who have carried out major studies in the area of production and marketing of pomegranate in India include Khunt ***et al***., (2002), Ravikumar ***et al***., (2009), Kowjalgi ***et al***., (2012) and Nagesh ***et al***., (2012). They studies marketing cost, price spread, problems related to marketing and production apart from estimating the marketing efficiency using Shephard's and Acharya's formula.

Pomegranate area and production trend reflected positive scenario in the past few years but it lack sufficient awareness of marketing practices among farmers and market intermediaries. Hence, study on marketing aspect may provide some guidelines to farmers, intermediaries and policy makers about the need and ways of efficient marketing system of pomegranate. Keeping this in view, the present study was under taken with the following specific objectives.

Objectives:

1. To study the marketable surplus and disposal pattern of pomegranate and
2. To workout the marketing cost and price spread.

METHODOLOGY

Sampling design and Data

The present study was undertaken in Middle Gujarat which accounts15.04 per cent of total production of pomegranate in Gujarat state. A multi-stage sampling design was applied for the study. For the first stage, three districts viz., Vadodara, Chota Udepur and Kheda were selected from the six districts of Middle Gujarat on the basis of concentration of area under pomegranate. These three districts collectively accounted for 73.83 per cent area and 62.21 per cent production of pomegranate of Middle Gujarat. Talukas formed second stage of sampling units, where three talukas from each district were selected purposively on the basis of concentration of area under pomegranate. Thus, total nine talukas viz., Waghodiya, Karajan and Savli from Vadodara district, Sankheda, Nasavadi and Jetpur Pavi from Chota Udepur district and Kapadvanj, Virpur and Balasinor from Kheda district were selected for the study. In view of limited pomegranate growers in the talukas

and time and resource constraints, only ten pomegranate growers were selected at random from each of the selected talukas. Thus, in all, 90 pomegranate growers (28 marginal, 23 small, 21 medium and 18 large) were selected for in-depth investigation. The data were collected during the agriculture year 2013-14.

Selection of Intermediaries
For the detailed analysis of marketing and price spread of pomegranate, Vadodara, Chota Udepur and Kheda markets were selected which are located at district place. From each selected market, 5 wholesalers and from each selected district retail centers, 5 retailers were selected randomly. Thus, total 15 wholesalers and 15 retailers were chosen.

Statistical Tools Used for Analysis:
Simple and weighted average and percentage methods were used for tabular analysis. Further, analysis of specified objective was done by using various standard statistical tools.

Marketing Cost, Margin and Price Spread:
Marketing cost, marketing margin and price spread was calculated on per quintal basis. Producer's share in consumer's rupee and marketing efficiency was calculated by using following formula:

(1). The producer's share in consumer's rupee (PS) :

$$PS = \frac{Net\ price\ received\ by\ the\ Producer}{Price\ paid\ by\ the\ Consumer} \times 100$$

(2). Acharya's modified measure of marketing efficiency (MME)

$$MME = [RP \div (MC + MM)] - 1$$

Where,

MME = Index of marketing efficiency
RP = Price paid by consumer
MC = Total marketing cost
MM = Net marketing margin

RESULTS AND DISCUSSION
Marketing of Pomegranate:
The perishable and bulky nature of agriculture produce makes its marketing an important aspect of study. Marketing of agricultural produce involves various intermediaries in channel. In case of pomegranate, being a perishable commodity and involvement of various quality parameters like size, skin smoothness, colour tone of fruit etc; it needs special care in handling and marketing of produce. Therefore, different aspects of marketing viz., disposal pattern, marketable surplus, marketing channels, marketing costs and margins, etc were studied.

Marketable Surplus:
At farmer's level, total production of farms is utilized for various purposes. So it is important to know the pattern of utilization of produce by farmer and proportion of produce actually delivered to the market. The details of disposal pattern of pomegranate on different farm size groups are given in Table 1. As can be seen from the table, on an average, marketable surplus was found to be 98.32 per cent of total production. Of the remaining 1.67 per cent, 1.02 per cent was loss due to damage at farmer's level, 0.33 per cent was retained for home consumption, 0.20 per cent was given to relatives, and 0.12 percent was used for other purposes like given to labour or used for religious purpose.

Table- 1: Pattern of disposal of pomegranate

(Kg/ha)

Particulars	Farm Size Groups				
	Marginal	Small	Medium	Large	All Farms
Production	5311 (100)	5566 (100)	5307 (100)	5878 (100)	5483 (100)
Utilization					
1. Home consumption	16 (0.30)	17 (0.31)	19 (0.36)	19 (0.32)	18 (0.33)
2. Given to relatives	9 (0.17)	10 (0.18)	12 (0.23)	14 (0.24)	11 (0.20)
3. Damage	53 (0.99)	57 (1.02)	58 (1.09)	57 (0.96)	56 (1.02)
4. Other	6 (0.12)	7 (0.12)	7 (0.13)	6 (0.10)	7 (0.12)
Total Utilization (1 to 4)	84 (1.58)	91 (1.63)	96 (1.80)	96 (1.63)	92 (1.67)
Marketable Surplus	5227 (98.41)	5475 (98.36)	5211 (98.19)	5782 (98.36)	5391 (98.32)
Marketed	5227	5475	5211	5782	5391
Surplus	(98.41)	(98.36)	(98.19)	(98.36)	(98.32)

Note: Figures within the parentheses indicate the percentage to their total.

No much difference was observed in marketable surplus among different farm size group. The same proportion was observed in respects of quantity utilized for various purposes and loss due to damage. Further, it was observed that farmers sold their produce immediately after picking and no processing was done at farmer's level. So, marketable surplus and marketed surplus were equal at farmer's level.

Marketing channels:
Marketing of pomegranate follows different channels before reaching to the ultimate consumer or processor. In the study area three major channels were identified.These channels were:

Channel-I: Producer - Distant Wholesaler

Channel-II: Producer - Local Wholesaler - Retailer - Consumer

Channel-III: Producer-Wholesaler (APMC) - Retailer - Consumer

In channel- I pomegranate grower sold his produce to the distant wholesalers who arrived to the study area from distant places like Maharashtra. They approach the farmer directly to their field and collect the produce. In channel- II pomegranate grower sold their produce to the local wholesalers who act as bridge between grower and retailers. In channel-II pomegranate grower sell his produce to the wholesaler in regulated market. This produce then channelized to consumer through retailers. This channel exists in area around Vadodara region only. Because of unavailability of fruit wholesalers in small regulated market, this channel was not active in other regions of the study area.

The detail of agency wise quantity marketed by Pomegranate grower in different farm groups are presented in Table 2. The results revealed that pomegranate marketing mainly occurred through the channel-I (72.39 per cent) followed by channel-II (24.17 per cent) and with a minor share through channel III (3.44 per cent).

Table- 2: Agency-Wise Sale of Pomegranate by the Growers on Different Farm Groups
(Quantity in quintal)

Sr. no.	Agency	Category of farm				All farms
		Marginal	Small	Medium	Large	
1	Distant Wholesaler	591.00 (66.58)	654.45 (74.57)	506.6 (74.53)	408.49 (75.72)	2160.54 (72.39)
2	Local wholesaler	255.24 (28.76)	223.18 (25.43)	131.85 (19.40)	111.00 (20.57)	721.27 (24.17)

3	Whole-saler (In APMC)	41.35 (4.66)	0.00 (0.00)	41.25 (6.07)	20 (3.71)	102.60 (3.44)
	Total	887.59 (100.00)	877.63 (100.00)	679.70 (100.00)	539.49 (100.00)	2984.41 (100.00)

Note: Figures within the parentheses indicate the percentage to their total.

Marketing cost incurred by Pomegranate grower:
The detail of marketing costs incurred and net price realized by pomegranate grower with respect to given marketing agencies are given in Table 3.

It can be observed from the table that when produce was sold to the distant wholesaler, the gross price received by the grower was Rs 3537 per quintal, whereas estimated total marketing cost incurred by pomegranate grower was Rs 4.74 per quintal. Distant wholesaler approaches the farmer directly to their field for the purchase of produce. Thus, here, only two cost components grading and miscellaneous cost which accounted for 52.11 and 47.89 per cent in total marketing cost, respectively was observed.

It is evident from the table that in case of local wholesaler, the gross price received by the pomegranate growers was Rs 3068 per quintal and total marketing cost was Rs 153.38 per quintal which was highest among all the three identified channels. The net price received by the grower was Rs 2914.62 per quintal. When the produce was sold through local wholesaler, various components of marketing cost were observed among which loss due to damage accounted for the highest share(38.09 %) followed by transportation cost (28.36 %), packing and weighing cost (27.30 %), loading/ unloading cost (2.31 %), grading (2.14 %) and miscellaneous cost (1.79 %) of total marketing cost.

When the growers sold their produce to the wholesaler in APMC, the gross price received was Rs 3333 per quintal and total marketing cost was Rs 150.86 per quintal. Therefore, the net price received was found to be Rs 3182.14 per quintal. Out of total marketing cost loss due to damage accounted for highest share (37.16 %) followed by transportation cost (29.17 %), packing and weighing cost (26.72 %), miscellaneous cost (2.51 %), loading-unloading cost (2.32 %) and grading cost (2.09 %).

Even though, Channel-I has a lion share of 72.39 per cent of marketed surplus of pomegranate, it can be traced only up to the level of distant wholesaler. A detailed analysis of cost and marketing was carried out for channel-II only.

Table 3: Marketing cost incurred by pomegranate grower (Rs/q)

Sr. no	Items of costs	Distant Wholesaler	Local Wholesaler	Wholesaler in APMC
	Average price received	3537	3068	3333
1	Grading	2.47 (52.11)	3.28 (2.14)	3.16 (2.09)
2	Packaging & weighing	0 (0.00)	41.88 (27.30)	40.32 (26.72)
3	Transportation	0 (0.00)	43.50 (28.36)	44.02 (29.17)
4	Loading/ unloading	0 (0.00)	3.55 (2.31)	3.50 (2.32)
5	Damage/ spoilage	0 (0.00)	58.43 (38.09)	56.07 (37.16)
6	Miscellaneous	2.27 (47.89)	2.74 (1.79)	3.79 (2.51)
	Total cost	4.74 (100)	153.38 (100)	150.86 (100)
	Net price received	3532.26	2914.62	3182.14

Note: Figures within the parentheses indicate the percentage to their total.

Total Marketing Cost, Margins and Price Spread of Pomegranate
The details of marketing cost, margins and producer's share in consumer's rupee for the sample as a whole for pomegranate is depicted in Table 4. The results showed that the average gross price received by the producers was Rs3068.08 per quintal, whereas the marketing cost incurred by pomegranate growers was observed to be Rs 153.39 per quintal which is 2.43 per cent of consumer's price. So, the net price received by pomegranate grower was found to be Rs 2914.69 for the sample as a whole.

The total expense incurred by wholesalers was Rs139.07 per quintal which accounted for 2.20 per cent of consumer's price. Among the various expenses incurred by wholesalers, highest cost was weight loss due to damage and spoilage (0.89 per cent) followed by transportation cost (0.63 per cent), packing and weighing cost (0.57 per cent). The total net realization of wholesalers was found to be Rs 1397.28 per quintal which accounted for 22.09 per cent of the retail price.

At retailer's level, the total expenses incurred amounted to Rs148.47 per quintal which accounted for 2.35 per cent of retail price. The major items of cost incurred by retailers were the weight loss due to damage and spoilage (1.38 per cent), transportation cost (0.71 per cent). The net realization of retailer was Rs1571.76 per quintal (24.85 per cent of retail price).

Total Marketing cost and marketing margins amounted to Rs440.93 and Rs 2969.04 per quintal, respectively. The price spread which included total marketing cost incurred in whole marketing channel i.e., from producer to ultimate consumer and total margins earned by intermediaries amounted to Rs3409.97 per quintal (53.91 per cent). Further, it was found that the producer's share in consumer's rupee was 46.09 per cent. The marketing efficiency index was worked out to be 0.85.

Table 4: Price spread and marketing efficiency in pomegranate

Particulars		**Cost (**Rs**/q)**	Percentage To Consumer's rupee
Producer's level			
A	Price Received	3068.08	41.92
B	Expenses incurred		
	Cleaning and grading	3.28	0.05
	Loading/Unloading cost	3.55	0.06
	Transportation cost	43.5	0.69
	Damage/Spoilage/ Weight loss	58.43	0.92
	Packing & Weighing cost	41.88	0.66
	Personal cost	2.75	0.04
	Total expenses	153.39	2.43
C	Net price received	2914.69	46.08
Wholesaler's level			
A	Purchase price	3068.08	48.51
B	Expenses incurred		
	Cleaning & grading	1.56	0.02
	Loading & unloading	2.08	0.03
	Transportation cost	40	0.63
	Damage/Spoilage/ Weight loss	56.2	0.89
	Packing & Weighing cost	36	0.57
	Personal cost	3.23	0.05
	Total expenses	139.07	2.20
C	Sale Price	4604.43	72.80
D	Net margin	1397.28	22.09

Retailer's level			
A	Purchase price	4604.43	72.80
B	Expenses incurred		
	Cleaning & grading	1.78	0.03
	Loading/unloading	2.34	0.04
	Transportation	44.85	0.71
	Packing and weighing	9.09	0.14
	Damage/Spoilage/ Weight loss	87.06	1.38
	Personal cost	3.35	0.05
	Total expenses	148.47	2.35
C	Retail price / Consumer's price	6324.66	100
D	Net margin	1571.76	24.85
Total marketing cost		440.93	6.97
Total marketing margin		2969.04	46.94
Price spread [Total marketing costs + Total marketing margins]		3409.97	53.91
Producer's share in consumer's rupee (%)		46.09	
Index of marketing efficiency		0.85	

The components wise distribution of total marketing cost is presented in Table 5. A perusal of the table indicates that that the cost of weight loss due to damage & spoilage was highest (45.74 per cent) in total marketing cost. Another important cost was transportation cost (29.10 per cent) in total marketing cost which can be minimized through fruits cooperative at farmer's level. Other important costs were Packing & weighing cost (19.72), personal cost (2.11), loading & unloading cost (1.80) and cleaning& grading (1.50). Thus, there is a scope to reduce the marketing cost by establishing pomegranate grower's co-operatives or Producers Company or farmer's organization in this region along with adoption of suitable regulatory measures.

Table 5: Component wise total marketing cost in marketing of pomegranate

Particulars	**Cost (Rs/q)**	Percentage to total cost
Cleaning cost and grading cost	6.62	1.50
Loading – Unloading cost	7.97	1.80
Transportation cost	128.35	29.10
Packing and weighing cost	86.97	19.72
Damage/spoilage/weight loss cost	201.69	45.74
Personal Cost	9.33	2.11
Total Cost	440.93	100

The earnings of pomegranate producers and marketing agencies involved at different stages of trading are given in Table 6. The analysis revealed that the highest net earnings per quintal was at retailer's level (Rs 1571.76) followed by wholesaler's level (Rs 1397.06) and producer's level (Rs 389.00). Similarly, the input-output ratio was found maximum at producer's level (1:1.56) followed by wholesaler's level (1:1.44), and retailer's level (1:1.33). This was due to considerable long period of investment in case of producers compared to retailers and wholesalers. It was observed that intensive grading of pomegranate was done at wholesaler's level only. Thus, price benefit of grading was more exhausting at wholesaler's level.

Table 6: Business earning in pomegranate at different stages of marketing

(Rs/q)

Stages of marketing	Total cost (Investment)	Gross margin (Sale price)	Net margin	Input : output ratio
Producer	2679	3068	389	1:1.56
Wholesaler	3207.15	4604.43	1397.28	1:1.44
Retailer	4752.9	6324.66	1571.76	1:1.33

Problems Faced by Pomegranate Growers

Analysis of problems faced by the pomegranate growers revealed that on an average, dying of young plants in the initial stage of orchard was the most severe problem felt by majority (87.77%) of the grower. It could be attributed to the reason that majority of the farmers were using tissue culture plants as planting material. Since tissue culture plants are grown in controlled environment, they are more sensitive to open environment conditions. Shortage of labour was second major problem faced by 74.44 per cent of the farmers followed by plant protection problems faced by 66.67 per cent of the farmers. Sixty per cent of the farmers felt the problem of low and fluctuating prices whereas, 57.78 per cent of the farmers encountered the problem of high cost of sapling. Other major marketing problems faced by pomegranate grower were weed infestation (41.11), high cost of fertilizer (35.55), Lack of information of crop production technology (34.44), inadequate transportation facility (28.89) and short supply of electricity (21.11). The results of this study were in line with the findings of Khunt ***et al.,*** (2002) and Ravikumar (2009).

CONCLUSION AND POLICY IMPLICATIONS

The results showed that, on an average marketable surplus was 98.32 per cent of total production of pomgranate. Among three major marketing channels, channel-I (Producer- Distant wholesaler) was found most popular among the farmers as about 72.39 per cent of total pomegranate production was marketed through this channel. The study further revealed that producer's share in consumer's rupee was 46.08 per cent and marketing efficiency was 0.85 percent. It implies that, by looking at perishable nature of the crop, marketing system has been running at reasonable efficiency. Grading should be made more rigorous at farmer's level, which may help them to fetch more prices. Weight loss due to damage had the lion's share of about 45.74 per cent in total marketing cost which can be minimised by educating the marketing personnel for adopting proper packing and handling technology. Farmers were found more dependent on external agencies like distant wholesaler for the marketing of their produce. Major problem faced by the pomegranate growers included dying of young plants, shortage of labour, Plant protection problems, Low and fluctuating prices and high cost of sapling and inadequate transport facilities. For making pomegranate a lucrative proposition there was need of improving marketing practices. Also there was good scope of earning more benefits through promoting cooperative, producers' companies or farmers' organisation in marketing of pomegranate. Such cooperative efforts may open the doors of distant market selling and export of the produce too.

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