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Market Analysis and Problem Faced by the Wild Pomegranate Growers in Himachal Pradesh, India

Devender Singh Dogra, Chandresh Guleria*, Amit Guleria and Manoj Kumar Vaidya

Department of Social Sciences, Dr Yashwant Singh Parmar University of Horticulture and Forestry, Nauni, Solan- 173230 (H.P.), India

*Corresponding author

ABSTRACT

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Marketing cost, Marketing efficiency, Price spread, Wild pomegranate and Chi-square.

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Wild pomegranate is one of the important cash crop tree species of the mid-hill zone of western Himalayan region. A multistage random sampling technique was used for the selection of the respondents. The analysis was based on data based on survey of 50 farm households. Highest efficiency of channel-A was observed (271.73) but the volume transacted was very less (5 %) and high quality produce was traded through this channel. Total marketing cost varies from Rs. 55.00 to Rs. 1618.00 and marketing margin Rs. 0.00 to Rs. 4382 in different marketing channels, Price spread were examined Rs. 55 in channel A to Rs. 6000 in channel E. Producer's share in consumer's rupee were examined in different marketing channels which varied from 99.63 % to 70.00 % in channel A to channel B, implying channel-A most efficient. The χ^2 value was found non-significant for the problems like lack of storage facilities and delayed payments indicating these problems equally same for different farm size categories. Information on market potential, price and market intelligence is required to be collected through regular market survey so that proper marketing strategy could be formulated. A sound data base of production potential along with their potential needs to be created.

Introduction

Wild pomegranate (*Punica granatum* L.) is a wild fruit of family Punicaceae which resembles with cultivated pomegranate for various morphological characters (Sharma and Sharma, 1990). Wild pomegranate is one of the important cash crop tree species of the mid-hill zone of western Himalayan region. It is distributed in Solan, Sirmaur, Mandi, Kullu, Shimla and Chamba districts of Himachal Pradesh (Bhrot, 1998). It is a good species for afforestation of degraded hill slopes or rehabilitation of wastelands. Its economic importance in the region has good potential of becoming a good source of

generating income. The adoption of improved technologies in production and efficient marketing system is a pre-requisite for stable and remunerative prices to the producers which go in a long way to provide necessary incentives to increase production and income of the growers. With the improvement in the technology of drying and new market avenues, the quality and the efficiency in drying of wild pomegranate has increased manifold, but the profitability has not shown that much significance in the improvement of rural household engaged in the dried pomegranate business (Dogra, 2013). This

may be due to the lack of awareness and authentic data on cost of production and selection of right marketing channels.

Materials and Methods

Sampling Design

A multistage random sampling technique was used for the selection of the respondents. The main objective of the study was to examine marketing aspects of wild pomegranate and attempts to describe the various facets of wild pomegranate farming in the study area.

Location of study area

The mid hill zone, ranging in altitude from 800 to 1600 meters, of Himachal Pradesh has a comparative advantage of growing wild pomegranate due to congenial climatic conditions for its growth.

Selection of sample size

Pachad block of district Sirmour having the maximum production of wild pomegranate among six blocks was selected for the study. In the first stage, a complete list of villages having major wild pomegranate area was prepared with the help of Agricultural Development Office and Tehsil Office of selected block. From this list, a nucleus village was selected having maximum concentration of wild pomegranate farmers. In the second stage, a cluster of three villages was formed by including adjoining villages. Thus, it forms a belt of wild pomegranate farmers including villages *Darodaevriya*, *Narag*, *Nohra* and *Naalti*. In the third stage of sampling, a complete list of wild pomegranate farmers from the selected villages was prepared with the help of Panchayat officials. From this list ten

farmers from each village were selected randomly, thus forming a sample of 40 farmers from the study area.

To examine the various marketing aspects of *anardana*, five local traders and five wholesalers were selected randomly from the local market of Solan. Five wholesalers and five retailers from the Shimla market were selected to study the functioning of market in Himachal Pradesh. Five wholesalers were also randomly selected from the Amritsar market dealing with wild pomegranate.

Data analysis

Analysis of data was done by using SPSS-2012 and XLSTAT-2015 through descriptive statistics such as chi square test, marketing margin, marketing cost, price spread, marketing efficiency and producer's share in consumer's rupees respectively.

For the marketing margin

Marketing Margin (MM) = Selling Price (SP) – Purchase price (PP)

Marketing efficiency of the marketing channels

In case of marketing channels, the marketing efficiency is concerned with the movement of goods from producer to consumer at the lowest possible cost consistent with the provision of services desired by the consumers. The marketing efficiency of various channels in the study area has been computed by using Acharya's method (Acharya and Agarwal, 2011), as under:

$$ME = \frac{CP}{MC + MM} - 1$$

Where,

ME = Marketing efficiency

CP = Consumer's price

MC = Total marketing costs.

MM = Total marketing margins

This study was restricted to only farmer who deal on local apple in the state.

The study was based on the data collected for one year only (2012-13) which may not necessarily hold true for other periods as well.

Producer's share in consumer's rupee

It is the price received by the farmer expressed by the farmer expressed as a percentage of retail price (*i.e.* the price paid by the consumer) (Acharya and Agarwal, 2011). If P_r is the retail price, the producer's share in consumer's rupee (P_s) may be expressed as follow:

$$P_s = \frac{P_f}{P_r} \times 100$$

Where,

P_s : Producer's share in consumer's rupee

P_r : Retail price or price paid by consumer

P_f : Farmer's price

Chi-square

The chi-square test is one of the simplest and most widely used non-parametric tests in statistical work. The quantity χ^2 describes the magnitude of the discrepancy between theory and observation (Gupta, 2009). It is defined as:

$$\chi^2 = \sum \frac{(O - E)^2}{E}$$

Where O refers to the observed frequencies and E refers to the expected frequencies.

Results and Discussion

Marketing channels

The marketing channel means the route through which a commodity travels from producer to the final consumer. Due to the existence of various agencies working between producer and consumer, there are different marketing channels for the same commodity. The agencies involved in the marketing of *anardana* and its by-product in the study area are local traders, primary wholesalers, secondary wholesalers and retailers. Findings were in line with the results of Randev (2005), who studied marketing channels of apple in Himachal Pradesh. Table 1 shows different marketing channel so *fanardana* in Himachal Pradesh.

Sale through local traders

This agency was most commonly used in Channels- C, D and E. Local traders collected the produce from the doorsteps of the producers and further sold it to primary wholesaler or secondary wholesaler when collected in sufficient amount. In the study area, about 85.24 per cent of the produce was disposed of through these channels (Table 2).

Sale through retailer

Four farmers adopted this agency for the sale of *anardana*. The total quantity marketed through this channel worked out to be 9.26 per cent of the total produce sold in the study area. Generally, the small and medium farmers sold the *anardana* directly to the retailers in market to fetch good prices.

Direct sale to consumer

This channel establishes a direct relationship with the consumer. This channel promises higher share of producer in the consumer's

rupee. About 5 per cent of the total produce was marketed through this channel. The medium farmers sold about 14.29 per cent of their produce, whereas proportion in large category was 11.11 per cent.

It can further be observed from the results (Table 2 and Fig. 1) that Channel- C was found to be the most preferred channel, since 47.50 per cent of the produce was traded. The major contribution were by marginal farmers (60 %) followed by medium farmers (57.14 %) and large farmers (44.44 %).

Price spread

In the marketing of agricultural commodities, the difference between the price paid by the consumer and the price received by the producer for an equivalent quantity of farm produce is known as price spread or gross marketing margin. It includes marketing cost

(the cost involved in moving the product from the point of production to point of consumption *i.e.* the cost of performing the various marketing functions and of the various agencies) and marketing margin (profits of the various market functionaries involve in moving the produce from point of production to ultimate consumer). A cursory glance at table 3 revealed that, in absolute terms, *anardana* producers received highest net returns in Channel- A. Net margins of local traders turned out to be Rs. 1720 in Channel- C and Channel-D. The primary wholesaler’s net margins were computed Rs. 1832 in Channel-E and its respective marketing expenses were Rs. 1138. Net margin of secondary wholesaler ranged from Rs. 888 per cent in Channel- C to Rs. 980 in Channel- D. Retailer’s net margin was higher in Channel- B (Rs. 862) followed by Channel- D and Channel-C.

Table.1 Marketing channels of *anardana*

Marketing Channels	Marketing intermediaries
Channel- A	Producer – Consumer
Channel- B	Producer – Retailer – Consumer
Channel- C	Producer – Local Trader – Secondary wholesaler – Consumer (Industries)
Channel- D	Producer – Local Trader – Secondary wholesaler – Retailer - Consumer
Channel- E	Producer – Local Trader – Primary wholesaler – Secondary wholesaler – Retailer – Consumer

Table.2 Quantity of *anardana* marketed through various channels (Per cent)

Particulars	Marginal	Small	Medium	Large	Overall
Channel- A	0.00	0.00	14.29	11.11	5.00
Channel- B	0.00	14.29	12.49	9.22	9.26
Channel- C	60.00	35.71	57.14	44.44	47.50
Channel- D	30.00	28.57	16.08	22.22	25.31
Channel- E	10.00	21.43	0.00	13.00	12.93
	100.00	100.00	100.00	100.00	100.00

Table.3 Price spread of *anardana* among the different marketing channels in the Shimla and Solan market of Himachal Pradesh (Rupees per Quintal)

Marketing functionaries	Marketing channels				
	A	B	C	D	E
Producer					
Sale Price	15000	15000	14000	14000	14000
Expenses	55	65	0	0	0
Net Margin	14945	14935	14000	14000	14000
Local Trader-Itinerant Merchant					
Sale Price			17000	17000	15000
Expenses			1280	1280	220
Net Margin			1720	1720	780
Primary Wholesaler					
Sale Price					18000
Expenses					1138
Net Margin					1862
Secondary Wholesaler					
Sale Price			18000	18000	19000
Expenses			112	92	92
Net Margin			888	908	908
Retailer					
Sale Price		16000		19000	20000
Expenses		138		168	168
Net Margin		862		832	832
Consumer Price	15000	16000	18000	19000	20000

Table.4 Marketing efficiency and producer's share in consumer's rupee

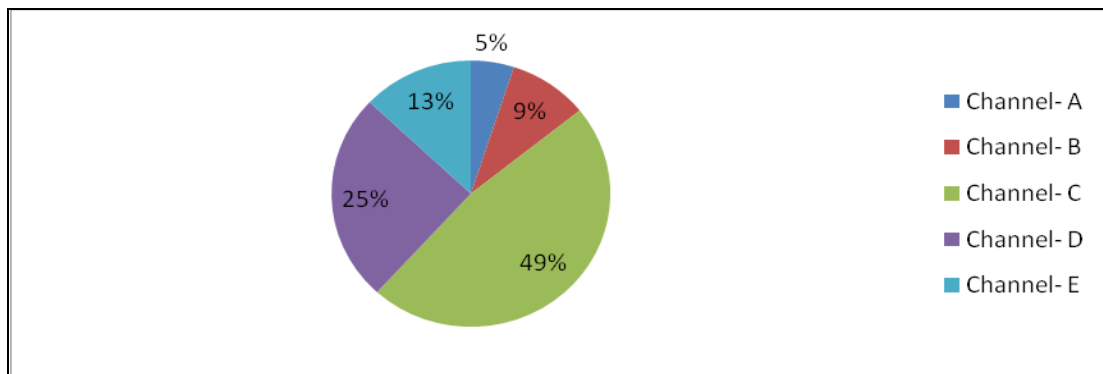
Particulars	Marketing Channel				
	A	B	C	D	E
Total marketing cost (Rs/ctl)	55	203	1392	1540	1618
Consumer's price (Rs/ctl)	15000	16000	18000	19000	20000
Producer's price	14945	14935	14000	14000	14000
Total net marketing margin (Rs/ctl)	0	862	2608	3460	4382
Marketing efficiency	271.73	14.02	3.50	2.80	2.33
Price Spread (Rs/ctl)	55	1065	4000	5000	6000
Producer's share in consumer's rupee (%)	99.63	93.34	77.78	73.68	70.00

Table.5 Problems faced by the wild pomegranate farmers in the study area (Multiple Response per cent)

Sr. No.	Problems Faced	Marginal	Small	Medium	Large	Overall	χ^2
1	Production						
i)	Lack of Capital	70.00	50.00	42.86	33.33	50.00	14.79*
ii)	Lack of Quality Planting material	80.00	64.29	85.71	44.44	67.50	14.94*
iii)	Lack of Technical Knowledge	60.00	57.14	71.43	44.44	57.50	6.33
iv)	Lack of irrigation facilities	90.00	71.43	71.43	66.67	75.00	4.27
v)	High wages of labour	20.00	35.71	71.43	77.78	47.50	45.46*
2	Harvesting						
i)	Non-availability of labour at peak of operation time	12.62	42.86	65.71	68.89	47.52	42.66*
ii)	Difficulty in Harvesting the fruits	90.00	64.29	71.43	55.56	70.00	9.14*
iii)	Large area to cover	80.00	85.71	71.43	55.56	75.00	7.07
3	Marketing						
i)	Lack of storage facilities	60.00	57.14	57.14	44.44	55.00	2.66
ii)	Delayed payments	60.00	42.86	42.86	44.44	47.50	4.39
4	Market intelligence						
i)	Inadequate information	60.00	50.00	57.14	44.44	52.50	2.80
ii)	Misleading information	70.00	57.14	57.14	44.44	57.50	5.71
iii)	Late information	80.00	64.29	57.14	44.44	62.50	10.74*
5	Others						
i)	Birds/Animals Menace	70.00	64.29	71.43	44.44	62.50	7.44
ii)	Fruit fly attack	60.00	78.57	71.43	66.67	70.00	2.66
iii)	Parasite attack	70.00	78.57	71.43	55.56	70.00	4.05
iv)	Pre-mature falling of fruits	70.00	85.71	71.43	33.33	67.50	23.01*
v)	Drying of trees	80.00	71.43	71.43	22.22	62.50	33.98*
vi)	Weather problem	90.00	78.57	71.43	44.44	72.50	15.80*

*significant at 5 per cent level of significance

Fig.1 Quantity transacted by different marketing channels



Marketing efficiency

Marketing efficiency is the effectiveness or competence with which a market structure performs its designated function (Jasdanwalla, 1966). Simply it is indicators of overall

performance of the marketing channels have been presented in table 4. The results indicate highest efficiency in channel A (271.73) followed by channels B (14.02), C (3.50), D (2.80) and E (2.33) respectively. Though channel A was found efficient but the volume

transacted was very less (5 %) and high quality produce was traded through this channel. Findings were in line with the results of Kashyap and Guleria (2015), who studied marketing aspects of apple in Himachal Pradesh.

The analysis reveals the net price, on per quintal basis, received by the growers to be Rs.14945, Rs. 14945, Rs. 14000, Rs. 14000 and Rs. 14000 in channel A, B, C, D and E respectively. Consumer's price or retailer's selling price were varied Rs. 15000 to Rs. 20000. Total marketing cost varies from Rs. 55.00 to Rs. 1618.00 and marketing margin Rs. 0.00 to Rs. 4382 in different marketing channels, Price spread were examined Rs. 55 in channel A to Rs. 6000 in channel E. Producer's share in consumer's rupee were examined in different marketing channels which varies from 99.63 % to 70.00 % in channel A to channel B, implies channel A was more efficient.

Problems in the production and marketing of *anardana*

The problems faced by the farmers were classified broadly under production, harvesting and marketing related problems and the results have been presented in table 5.

Production related problems

Based on the data in table 5, it could be observed that all the farmers faced the major problem of lack of irrigation facilities in common (75.00 %) followed by lack of quality planting material (67.50 %) and lack of technical knowledge (57.50 %). The χ^2 value was found significant for the problems like lack of capital, lack of quality planting material and high wages of labour which means these problems were significantly different with farm size categories.

Harvesting related problems

It was found that non availability of labour at peak of operation time was more among the large size farmers (68.89 %) as the harvesting time of wild pomegranate was coincided with the other seasonal vegetable crops farming. The χ^2 value was found significant for the problems like non-availability of labour and difficulty in harvesting the fruits at peak of operation time which means these problems were significantly different with farm size categories.

Marketing related problems

An informal discussion with the sampled farmers revealed that marketing of *anardana* has a few marketing problems. Mainly, the problem of *anardana* producers as a whole was lack of market information. The producers got the inadequate and misleading information about the market prices by the traders. The payments were also delayed by the traders to the producers. The χ^2 value found non-significant for the problems like lack of storage facilities and delayed payments which mean these problems were similar for farm size categories. Further the χ^2 value was found significant for the problems like late information, pre-mature falling of fruits, drying of trees and weather problem which means these problems were significantly different with farm size categories.

In conclusion, Wild pomegranate is an important non-timber forest product (NTFP) in mid hills of Western Himalayas. It is one of those fruits, which have got great economic importance in their respective region. Five marketing channels comprising of producers, local traders, primary wholesalers, secondary wholesalers, retailers and consumers were identified in *anardana* trade in the study area.

It was observed that 47.50 per cent of total produce was traded to industries through Channel- C (Producer – Local Trader – Secondary wholesaler – Consumer (Industries)). Highest efficiency of channel-A was observed (271.73) but the volume transacted was very less (5 %) and high quality produce was traded through this channel. Lack of irrigation facilities was the major problem among farmer in the study area. Harvesting of wild pomegranate was a major problem due to thorny nature of plant and the larger area to cover. χ^2 value was found non-significant for the problems like lack of storage facilities and delayed payments which mean these problems were alike for farm size categories.

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