



Research Paper

Agricultural marketing in hills: A socio-economic analysis of *Rajmash* marketing under North-Western Himalayan region of J&K

■ SANJEEV KUMAR, S.P. SINGH, ANIL BHAT, NAVEED HAMID, ASHISH KUMAR ISHER AND AKSHAY DEEP

See end of the paper for authors' affiliations

Correspondence to :

S. P. SINGH

Division of Agricultural Economics and Agri-Business Management, SKUAST- J, Main Campus, CHATHA (J&K) INDIA
Email : singh_sp073@yahoo.com

Paper History :

Received : 30.05.2017;

Revised : 01.08.2017;

Accepted : 09.08.2017

ABSTRACT : The Himalayan region extends all along the Northern boundary of India. The diverse eco-habitat of Himalayan region hosts a wide range of plant diversity as well as crop diversity on which native people rely for their food and nutritional security. Traditionally, agriculture on hills was practiced on a subsistence basis but, with the development of means of transport, storage facilities and other infrastructure, hill agriculture has become commercial in character. The present study has been carried out in Bhaderwah and Bhalla blocks of Doda district of J&K state which fall in the North-Western Himalayan region of J&K state. A sample of 100 farmers was drawn for the present study which comprised of 78 marginal farmers, 14 small farmers and 8 medium farmers. Primary data were used to analyze the results. The results revealed that both marketable surplus as well as marketed surplus was higher in case of medium farmers followed by small farmers and marginal farmers. It was found that three types of marketing channels mainly channel-I (Producer - Village Trader - Retailer - Consumer), channel-II (Producer - Retailer - Consumer) and channel-III (Producer - Consumer) were involved in the marketing of *Rajmash* in the study area. The total marketing cost and marketing margin was found higher in channel-I followed by channel-II and channel-III. The results also indicated that the marketing efficiency of channel-III (1.85) was highest as compared to channel-II (1.44) and channel-I (1.28) and the producer's share in consumer's rupee was also maximum in channel-III (97.51 %) followed by channel-II (82.49 %) and channel-I (76.25 %) in the study area.

KEY WORDS : *Rajmash*, Marketable surplus, Marketed surplus, Marketing efficiency

HOW TO CITE THIS PAPER : Kumar, Sanjeev, Singh, S.P., Bhat, Anil, Hamid, Naveed, Isher, Ashish Kumar and Deep, Akshay (2017). Agricultural marketing in hills: A socio-economic analysis of *Rajmash* marketing under North-Western Himalayan region of J&K. *Internat. Res. J. Agric. Eco. & Stat.*, **8** (2) : 325-329, DOI : 10.15740/HAS/IRJAES/8.2/325-329.

INTRODUCTION :

India is a country with diverse agro-climatic endowments; conditions under which agriculture in the plains and hills present differing scenario. Among the 34

million people that inhabit the Himalayan region, a large percentage is of the hill farming communities. They sustain largely on subsistence farming which they practice on marginal, rainfed and some irrigated farmlands. The unique ecological entity and topographical diversities are

the exclusive characteristics of the hill and mountain regions in India. The designated area under hills in India is estimated to be 6.91 lakh sq km. Agriculture is the dominant activity in the hilly economy although confronts many risks and uncertainties. About 76 per cent of the gross cropped area of the Himalayan region is under staple food grain crops. The entire Himalayan range is favourable for growing a wide range of fruits, vegetables, pulses and other cash crops.

Pulses have a vital role to play in Indian agriculture and society for various factors like their nutritive value (protein), predominantly vegetarian diet, ability to improve soil fertility, low resource requirement and their contribution to farmer's income and employment. India is the largest pulse producing nation. In India, pulses are grown on an area of about 25-26 million hectare with an annual production of 16-21 million tonnes (MT). Among pulses, *Rajmash* (*Phaseolus vulgaris* L.) is a potential cash crop grown mainly in *Kharif* season extensively in subtropical or temperate regions. Like other pulses, they are rich in proteins, carbohydrates, vitamins and minerals. It provides crude protein (21.25%), fat (1.7%) and carbohydrates (70%) and represents 50 per cent of the grain legume consumed worldwide (McConnell *et al.*, 2010). Globally, *Rajmash* is cultivated over an area of 29.92 million hectares with an annual production of 23.23 million tons. Currently, Brazil is the No. 1 producer of *Rajmash* followed by India, Myanmar and China (Anonymous, 2013). In India, *Rajmash* is grown on an area of about 10.80 million hectares with an annual production of 4.87 million tonnes (Anonymous, 2015).

Jammu and Kashmir is a hill state with varied topography and great diversity in cultural, social and economic practices in its different regions. However, agriculture remains the backbone of the economy of J&K with over 65 per cent of its population depends on agriculture and allied sectors. The North-Western Himalayan region of the state exhibits a great variation in the agro-climates and indicates the inherent agriculture potential for cultivation of *Rajmash* crop. The areas in which *Rajmash* is grown in the state includes Doda, Poonch, Rajouri, Udhampur, Ramban, Kathua and Reasi districts and Marwah, Dachhan, Mandi, Bani and the other parts, mainly dry temperate areas of Kishtwar district of J&K state. In Doda district, it is mainly grown in Baderwah, Bhalla, Marmat, Ghat Doda, Bhalessa, Bhagwah, Thathri, Gundana and Assar blocks. In this backdrop, the present study was undertaken with the

objective to estimate the marketed and marketable surplus of *Rajmash* and evaluate the marketing efficiency of the different channels involved in the marketing of *Rajmash* in the study area.

MATERIALS AND METHODS :

The present study has been carried out during agricultural year 2015-16 in Doda district of J&K state purposively as this district has the second highest area (around 6000 ha) under *Rajmash* in Jammu region and also *Rajmash* grown in this district is the niche and valuable cash crop and popular not only in the state, but even at national level for its taste, texture, aroma and palate (Agriculture Department, Jammu) (Anonymous, 2014). Two blocks of Doda district, namely Baderwah and Bhalla were selected purposively on the basis of maximum area and farmers under *Rajmash* cultivation in the district. From each block, five villages were selected randomly. Further, from each village, 10 farmers were also selected randomly without replacement to constitute a sample size of 100 farmers in total. The sample farmers were further categorized into marginal (upto 1 ha), small (1.01-2 ha) and medium farmers (2.01-4 ha) based on their land holding size. Thus, the total sample of 100 farmers comprised of 78 marginal farmers, 14 small farmers and 8 medium farmers. Required data regarding marketing of *Rajmash* were collected through a pre-tested schedule by visiting farmers, village traders as well as different markets involved in the marketing of *Rajmash*. Tabular analysis has been used to obtain the result of the study.

Marketing efficiency:

For estimation of marketing efficiency, Acharya and Agarwal approach was used. The modified marketing efficiency (MME) formula is given below.

$$ME = \frac{NP_p}{MM + MC + ML}$$

where,

NP_p is net price received by the producers (Rs./kg),

MM is the marketing margin,

MC is the marketing cost.

ML is the marketing loss.

Marketing margin :

Marketing margin of middlemen was calculated as the difference between the total payment (marketing cost

+ purchase price) and receipts (sale price) of the middlemen and was calculated as:

$$A_{mi} = P_{ri} - (P_{pi} + C_{mi})$$

where,

A_{mi} is the absolute marketing margin of i^{th} middlemen

P_{ri} is the total value of receipts per unit

P_{pi} is the purchase value per unit

C_{mi} is the cost incurred on marketing per unit.

Marketing cost :

The total marketing cost (MC) incurred by the producer / seller and by various intermediaries was calculated as:

$$MC = C_f + C_w + C_r$$

where,

MC is the marketing cost

C_f is the cost incurred by farmer

C_w is the cost incurred by wholesaler and

C_r is the cost incurred by retailer.

Marketing loss :

The loss in the total value of produce due to injury/ damage caused during handling of produce from the point of harvest till it reached the consumers was estimated as per equation:

$$ML = \{L_f \times GP_f\} + \{L_w \times GP_w\} + \{L_r \times GP_r\}$$

RESULTS AND DATA ANALYSIS :

An efficient marketing structure minimizes costs and benefits all section of society. Thus, marketing of any product is the ultimate stage of any production system. A marketing system should be such that the produce should reach to consumer in good state without damage with least cost and within a shortest time after harvest. An efficient marketing system is an important mean for raising the income level of the farmers. The marketing analysis for *Rajmash* in the study area has been presented below.

Production, consumption, marketable surplus and marketed surplus of *Rajmash* in the study area :

Per family production, consumption, marketable surplus and marketed surplus of *Rajmash* was worked out and presented in Table 1 which revealed that on an average, marketable surplus of medium farmers (9.92 quintal/family) was highest followed by small farmers (5.31 quintal/family) and marginal farmers (1.43 quintal/family). The per family marketed surplus was also highest in case of medium farmers with 9.61 quintal followed by small farmers with 5.02 quintal and marginal farmers with 1.35 quintal. The average all farms per family marketable and marketed surplus was found to be 2.40 quintal and 2.29 quintal, respectively. Quantity of produce retained for home consumption and other purposes was 1.13 quintal on marginal farms, 1.45 quintal on small farms and 1.69 quintal on medium farms. Per family quantity retained for seed was 0.21 quintal on marginal farms, 0.38 quintal on small farms and 0.57 quintal on medium farms. Overall, for all farms, quantity retained for home consumption and other purposes and seed was 1.46 quintal and 0.28 quintal, respectively.

Marketing pattern :

The main marketing channels identified in the study area which were involved in the marketing of *Rajmash* can be summarized as follows:

Channel I: Producer - Village trader - Retailer- Consumer

Channel II: Producer – Retailer - Consumer

Channel III: Producer – Consumer

These three types of marketing channels were worked out in the study area and are presented in Table 2 and 3.

Marketing cost, marketing margin and price spread of *Rajmash* under different marketing channels:

The marketing cost, marketing margin and price spread under different marketing channels of *Rajmash* in the study area was worked out and presented in Table

Table 1: Per family production, consumption, marketable and marketed surplus of *Rajmash* on sampled farms under study

Particulars	Production		Consumption and other purposes (q)	Retained for seed (q)	Marketable surplus (q)	Marketed surplus (q)
	Main product (q)	By- product (q)				
Marginal	2.77	2.50	1.13	0.21	1.43	1.35
Small	7.14	6.40	1.45	0.38	5.31	5.02
Medium	12.18	10.90	1.69	0.57	9.92	9.61
All farms	4.14	3.72	1.46	0.28	2.40	2.29

2, which revealed that for one kg of *Rajmash* producer received maximum net price in channel-III (Rs.141.40) followed by channel-II (Rs.131.99) and channel-I (Rs.129.62). Net margin of producer was also highest in channel-III (Rs.72.96) followed by channel-II (Rs. 63.55) and channel-I (Rs.61.18). The net margin of village trader and retailer in channel-I was Rs.13.61/kg

and Rs.18.35/kg and net margin of retailer when producer directly sold the produce to retailer was Rs.22.83/kg. The results related to marketing loss indicated that in case of channel-I, marketing losses were highest (Rs.1.85/kg) as compared to channel-II (Rs. 0.90/kg) and channel-III (Nil). The results also revealed that the marketing cost was higher in channel-I (Rs. 6.57/ kg) as

Sr. No.	Particulars	Channels		
		I	II	III
1.	Producer's sale price	133.14	135.69	145.00
2.	Marketing cost incurred by producer			
	Packaging and weighing	1.00	1.00	1.00
	Transportation	0	1.50	1.50
	Loading and unloading	0	0.10	0.10
	Commission	1.32	0	0
	Miscellaneous charges	1.20	1.10	1.00
	Total	3.52	3.70	3.60
	Net price received by producer	129.62	131.99	141.40
	Cost of cultivation	68.44	68.44	68.44
	Net margin of producer	61.18	63.55	72.96
3.	Marketing cost incurred by village trader			
	Transportation	1.50	-	-
	Loading and unloading	0.10	-	-
	Miscellaneous	0.90	-	-
	Total	2.50	-	-
	Marketing loss	0.75	-	-
	Net margin of village trader	13.61	-	-
4.	Marketing cost incurred by retailer			
	Loading and unloading	0.10	0.10	-
	Miscellaneous	0.45	0.48	-
	Total	0.55	0.58	-
	Marketing loss	1.10	0.90	-
	Net margin of retailer	18.35	22.83	-
5.	Price paid by consumer (Rs.)	170.00	160.00	145.00

Sr. No.	Particulars	Channels		
		I	II	III
1.	Net price received by producer	129.62	131.99	141.40
2.	Marketing cost (MC)	6.57	4.28	3.60
3.	Marketing margin (MM)	93.14	86.38	72.96
4.	Marketing loss (ML)	1.85	0.90	0.00
5.	Price paid by consumer	170.00	160.00	145.00
6.	Producer's share in consumer's price (%)	76.25	82.49	97.51
7.	Marketing efficiency (ME)	1.28	1.44	1.85

compared to channel-II (Rs. 4.28/ kg) and channel-III (Rs. 3.60/ kg). It was also found that when there was no intermediary involved in between producer and consumer (channel-III), both producer and consumer gained because the net price received by producer was highest and price paid by the consumer was lowest (Bhat *et al.*, 2011 and Sharma *et al.*, 2013).

Marketing efficiency of different marketing channels for *Rajmash* :

Table 3 indicated the marketing efficiency and price spread of *Rajmash* in different channels under study. It was found that net price received by the producer was Rs.129.62, Rs.131.99 and Rs.141.40 in case of marketing channel-I, II and III, respectively. The marketing cost and marketing margin in channel –I, II and III was Rs. 6.57, Rs. 4.28, Rs. 3.60 and Rs. 93.14, Rs. 86.38 and Rs. 72.96, respectively. The marketing loss incurred in channels-I and II was Rs.1.85 and Rs. 0.90, respectively. The table also indicated that producer's share in consumer's rupee was maximum in channel-III (97.51 %) followed by channel-II (82.49 %) and channel-I (76.25 %), indicated that direct sale of produce to consumer provided a higher share to producer in consumer's rupee. The marketing efficiency was found maximum in channel-III (1.85), when the produce was sold directly to consumer. When the produce was sold through intermediaries, the marketing efficiency was lower as it was 1.44 in channel-II and 1.28 in channel-I. Similar results were obtained by Sultan *et al.*, 2014 in common bean.

Conclusion:

Based on the results, it can be inferred that in general, marketable surplus as well as marketed surplus was higher in case of medium farmers followed by small farmers and marginal farmers in the study area. On an average, per family marketable and marketed surplus was estimated 2.40 quintals and 2.29 quintals, respectively. There were three types of marketing channels involved in the marketing of *Rajmash viz.*, channel-I (Producer - Village Trader - Retailer – Consumer), channel-II (Producer – Retailer – Consumer) and channel-III (Producer – Consumer). The total marketing cost and marketing margin was higher in channel-I followed by channel-II and channel-III. The marketing efficiency of

channel-III (1.85) was found maximum followed by channel-II (1.44) and channel-I (1.28). The producer's share in consumer's rupee was also found maximum in channel-III (97.51 %) followed by channel-II (82.49 %) and channel-I (76.25 %). This indicated that when the produce was directly sold to consumer, marketing efficiency as well as producer's share in consumer's rupee was found maximum.

Authors' affiliations:

SANJEEV KUMAR, ANIL BHAT, NAVEED HAMID, ASHISH KUMAR ISHER AND AKSHAY DEEP, Division of Agricultural Economics and Agri-Business Management, SKUAST- J, Main Campus, CHATHA (J&K) INDIA

LITERATURE CITED :

- Anonymous (2015). *Agricultural statistics at a glance*. Directorate of Economics and Statistics. Department of Agriculture and Cooperation. Ministry of Agriculture, NEW DELHI, INDIA.
- Bhat, A., Kachroo, J. and Kachroo, D. (2011). Economic appraisal of kinnow production and its marketing under North-Western Himalayan region of Jammu. *Agric. Econ. Res. Rev.*, **24** (2) : 283-290.
- McConnell, M., Mamidi, S., Lee, R., Chikara, S., Rossi, M., Papa, R. and McClean, P. (2010). Syntenic relationships among legumes revealed using a gene-based genetic linkage map of common bean. *Theoretical & Appl. Genet.*, **40** : 110-124.
- Sharma, P. K., Dwivedi, S. and Jamwal, S. (2013). Agricultural marketing in hills: Problems and opportunities. *Hill Agriculture: Econ. & Sustain.*, pp. 263- 271.
- Sultan, S.M., Dar, S.A., Dand, S.A. and Sivaraj, N. (2014). Diversity of common bean in Jammu and Kashmir, India: a DIVA-geographic information system & cluster analysis. *J. Appl. & Nat. Sci.*, **6**(1): 226-233.

WEBLIOGRAPHY

- Anonymous (2013). Food and Agriculture Organization of the United Nations. FAOSTAT database. Website: <http://www.fao.org>.
- Anonymous (2014). Agriculture Department, Jammu. District Doda at a Glance. Web portal of Doda District, J&K, India. Website: <http://doda.gov.in>.
- Anonymous (2015). Central Statistics Office, Ministry of Statistics and Programme Implementation, Govt. of India. Website: www.mospi.nic.in.

8th
Year
★★★★★ of Excellence ★★★★★