A Study on Marketing Pattern of Chilli Cultivation in Wokha District of Nagaland, India

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Abstract

The present research was conducted in Wokha district of Nagaland during the year 2015-16 to understand and analysis the pattern of marketing of chilli. Altogether 60 chilli growers were identified by following multi-stage stratified random sampling method. The identified chilli growers were grouped into three categories *viz.,* marginal (<1 ha), small (1.01 to 2.00 ha) and medium (>2.01 ha) based on area of chilli cultivation owned by the respondents. From the study two marketing channels of chilli were identified in the study area *viz*., Producer - Consumer (Channel I), Producer-Retailer-Consumer (Channel II). It was found out that the producer share in consumer rupee was higher in channel–I which was as high as 80.00% as compared to that of channel–II which was only 57.14%. Marketing efficiency estimated by Shepherd's formula revealed that marketing efficiency was higher in channel - I (39.02%) as compared to channel-II (18.67%).

1. Introduction

Chilli also known as hot pepper is a mostly grown in tropical region as vegetable and spice crop. It is commonly used worldwide as spice due to its pungency and red colour of ripe fruits as well as for its green fruits for its pungency and flavour. India is one of the leading chilli producing and exporting countries in the world. Other major chilli growing countries are Mexico, Japan, Ethiopia, Uganda, Nigeria, Thialand, Turkey, Indonesia, China and Pakistan. Chilli (*Capsicum annum* L.) is one among the most important and cultivated commercial crops in our country. Studies has shown that the export of chilli increased annually by 14.32% with an export value by 23.16 %. India has a huge comparative advantage in growing and export of chilli, thus this potential can be realised through initiatives of the government in facilitating the farmers and traders by means of developing transport facilities and other inputs in the process of marketing (Babu et al., 2003). In India, chilli is cultivated almost all over the country .The major chilli producing and exporting states *viz.,* Andhra Pradesh, Karnataka, Maharashtra, Orissa, Tamil Nadu, Madhya Pradesh, West Bengal and Rajasthan accounts for more than 80.00 % of the total area and production. The state of Andhra Pradesh is the leading producer of chilli both in area and production contributing on an average of 25.00 % of the total area and as high as 40.00-50.00 % of the total production (Gaganjot and Chahal, 2009). The state of Nagaland is predominantly an agrarian economy and agriculture contributes the largest

workforce in the state providing employment to over 60.00 % of the working population in the state. Total cropped area in the state recorded 4.88 lakh hectare in 2012-2013 from 4.74 lakh hectare in 2011-2012. Thus, total cropped area in the state increases by 2.95 % or 0.14 lakhs hectare over the previous year. In Nagaland about 14.00 % of the operational holders fall in the large size category, 11.00 % fall in the small size category and only 4.00 % of the operational holders fall in the marginal size category (NES, 2014).

2. Materials and Methods

The present research was carried out in Wokha district of Nagaland. In Wokha District out of total five Rural Development Blocks (R.D Blocks), two (2) R. D. Blocks viz; Wozhuro-Ralan and Wokha Block, were identified due to good number of chilli growers. Two (2) villages from each R. D Block were randomly selected for the detailed study of chilli marketing pattern. The varieties of chillies covered under the study are indigenous local landrace varieties. The distribution of total respondents based on the size group of land holding were classified as given in Table 1.

Both tabular as well as functional analysis was employed for the study to meet the objectives of the research. The marketing channels of chilli cultivation were studied on the basis of number of intermediaries engaged in the marketing process from the point of production to the point of final consumption. Marketing cost was worked out by estimating

Table 1: Distribution of the total respondents based on the size group of land holding

Group	Land holding size (ha)	No. of selected farmers
Marginal	<1.00	11
Small	1.01-2.00	14
Medium	>2.01	34
Total		60

the cost incurred by all the intermediaries in the channel. Marketing cost in the study includes transportation cost, handling cost, storage cost, market fees, weighing charges and labour charges for packing, loading and unloading. After arriving at the marketing margins at different stages, finally the total marketing margins was calculated. Marketing margin of intermediaries in chilli marketing was calculated as follows.

$MM_i = SP_i - (PP_i - MC_i)$

Where,

MM_i=Marketing margin of the ith middlemen

SP_i=Selling price of the ith middlemen

PP_i=Purchase price of the ith middlemen

MC_i=Marketing cost incurred by the ith middlemen

Price spread which is the actual difference between the price paid by the consumer and the price received by the producer for the same produce. It may consist of marketing costs and margin the price spread analysis was carried out as follows:

Producers share in consumers rupee $=$ (Producer's price ÷ Consumer's price) ×100

The efficiency of various identified marketing channels was calculated through the Shepherd's formula. The formula is given below:

ME=CP÷MC

Whereas:

ME = Marketing efficiency Index.

CP = Consumer's price.

MC = Total marketing cost.

3. Results and Discussion

3.1. Channels involved in marketing of chilli

From the study, two marketing channels of chilli were identified in the study area. The two marketing channels are:

1. Channel I: Produce-Consumer

2. Channel II: Produce–Retailer-Consumer

The quantity of produce sold through the two different marketing channels is shown in Table 2. It was found out that,

Table 2: Effectiveness of various marketing channels of chilli according to different size groups

Sl. No.	Channels	Marginal		Small		Medium		Total	
		Qty (q)	%	Qty (q)	%	Qty (q)	%	Qty (q)	%
1	I	1.3	100.00	1.2	54.54	8.00	34.78	10.5	39.62
2	II	0.00	0.00	1.00	45.46	15.00	65.22	16.00	60.38
	Total	1.30	100.00	2.2	100.00	23.00	100.00	26.5	100

channel - II was the most effective channel through where marginal, small and medium farmers transacted 00.00, 45.46 and 65.22 % of their marketed surplus. For all groups of farmer 16.00 q or 60.38 % of the total produce was sold from channel- II. Whereas, marginal, small and medium farmer transacted 100.00, 54.54 and 34.78 % of their marketed surplus through channel – I (Produce - Consumer). For all groups of farmers 10.5 q or 39.62 % was sold through channel - I. Rajur and Patil (2013) also made a similar finding in the past study.

It was also evident that, channel- II was the more effective for small and medium group of farmer in which they transacted 45.46 and 65.22 % of their marketed surplus through this channel. Channel - I was the most effective for marginal group of farmer where they transacted 100.00% of marketed surplus through this channel. Parthasarathi et al. (2014) and Jagtap et al. (2014) also revealed similar finding in their study on marketing of chilli.

The marginal group of farmers mostly preferred to sell their produce through channel - I which is due to the fact that their volume for transaction is less and channel - I is easier for marketing. On the other hand medium group of farmers had comparatively larger marketed surplus and preferred to sell through channel - II.

3.1. Marketed and marketable surplus of chilli

The actual quantity of the produce which the producer is willing to sold in the market without deducting family requirement, farm needs and other payments is called marketed surplus. Whereas, that quantity of the produce which the producer sold in the market after meeting his requirement and obligations is known as marketable surplus.

Area, production, requirement for family consumption, marketable surplus and marketed surplus of chilli production shown in Table 3. From the table it was observed that, the average size of operational holding under chilli was 0.005, 0.007 and 0.017 for marginal, small and medium group of farmers respectively. The average yield of chilli (q ha^{-1}) was found to be maximum in medium group of farmers followed

Table 3: Area, production, marketable surplus and marketed surplus of chilli for different size groups

Sl. No.	Farm size group	Area under chilli (ha)	Production (q)	Average area under chilli (ha)	Yield (q ha^{-1})	Requirement for family consumption (q) + Non market Transaction	Marketable surplus (q)	Marketed surplus (q)	Marketed surplus (q ha^{-1})
1.	Marginal	0.064	4.8	0.005	75.00	3.5	1.3	4.8	75.00
2.	Small	0.107	8.00	0.007	74.76	5.8	2.2	7.9	73.83
3.	Medium	0.569	43.00	0.017	75.57	17.2	23.2	40.4	71.00
4.	Average	0.245	18.6	0.009	75.11	8.84	8.9	17.7	73.28

by small and marginal group of farmers, the amount being 75.57 q, 75.00 q and 74.76 q, respectively. From the table it was observed that marketed surplus was higher than marketable surplus for all groups of farmers. This finding is in conformity with Thakur and Sharma, 1994. This is due to the fact that chilli is perishable in nature and the farmers are in need of hard cash for meeting their family consumption and for other commodities.

3.2. Marketing cost and marketing margins

Marketing cost incurred by the intermediaries in the process of marketing is shown in Table 4. From the table, it was found out that maximum marketing cost was incurred in channel-II (INR 700.00 quintal^{-1}). It is mainly because of the presence of middleman or intermediaries operating and participating in the channel. The marketing cost for Channel- I (INR 238.09 q^{-1}).

The cost incurred by the intermediaries (Retailer) was 56.25 % of the total marketing cost in channel- II. It was also revealed from the table that, marketing margins of the middleman or intermediaries in marketing of chilli was INR 2300.00 quintal^{-1}.

3.3. Price spread

The difference in the price paid by the consumer and price received by the producer of the commodity in various channel of marketing is referred to as price spread (Ramachandra et al., 2012).

The price spread of the marketing of chilli in the study area shown in Table 4. It can be seen that, the producer share in consumer rupee was found to be higher in channel-I (80.00 %), where no intermediaries was involved, as compared to channel-II (57.14 %) where there was a presence of retailer in the channel.

Table 4: Price spread analysis and marketing efficiency for different marketing channels

Sl. No.	Items	Unit	Channel- I	Channel-II
1: Marketing cost				
a	Producer	₹ q^{-1}	238.09	0.00
b	Retailer	₹ q^{-1}	0.00	0.00
c	Total marketing cost	₹ q^{-1}	238.09	700.00
2: Marketing Margin				
a	Producer	₹ q^{-1}	0.00	0.00
b	Retailer	₹ q^{-1}	0.00	2300.00
c	Total marketing margin	₹ q^{-1}	0.00	2300.00
3	Consumer's price	₹ q^{-1}	4000.00	7000.00
4	Producer's share in consumer's price	%	80.00	57.14
5	Marketing efficiency	-	21.00	10.00

3.4. Marketing efficiency

Estimates of marketing efficiency by using shepherd's formula shown in Table 4. The table showed that the marketing efficiency was higher in channel-I (21.00) as compared to channel-II (10.00). Marketing efficiency in channel-I was higher because there was no intermediaries involved in the channel.

Producer - Consumer (Channel- I) and Producer - retailer - Consumer (Channel- II). The producer share in consumer rupee was higher in channel-I (80.00 %) as no intermediaries were involved and marketing efficiency as estimated using shepherd's formula showed that the marketing efficiency was higher in channel-I (21.00) as compared to channel-II (10.00).

4. Conclusion

From the study two marketing channels for marketing of chilli were identified in Wokha District of Nagaland viz;

5. References

Babu, G.S.K., Naidu, S.H., Prasad, Y.E., 2003. Price spread and marketing of green chillies - a case study in Andhra

Pradesh. Indian Journal of Agricultural Marketing 46(1), 21–23.

Gaganjot, S., Chahal, S.S., 2009. An economic analysis of chilli cultivation in Punjab. Haryana. Journal of Horticultural Science 38(3), 366–371.

Jagtap, P.P., Shingane, U.S, Kulkarni, K.P., 2014. Resource use efficiency and economics of marketing of green chilli. Journal of Spices and Aromatic Crops 23(1), 32–37.

NSE., 2015. Nagaland Economic Survey. Directorate of Economics & Statistics. Kohima, Nagaland. 2015.

Parthasarathi, G., Senthilnathan, S., Suresh, L., 2014. Marketing of chillies in Thoothukudi District of Tamilnadu. International Journal of Science and Technology 8(1), 16–19.

Rajur, B.C., Patil, B.L., 2013. Export performance of chilli - an analysis. Karnataka Journal of Agricultural Sciences 26(2), 233–237.

Ramachandra, V.A., Choudhary, K., Pavithra, B.S., 2012. Production and export of chillies from India. International Research Journal of Agricultural Economics and Statistics 3(2), 353–358.

Thakur, D.S., Sharma, K.D., 1994. Economics of off-season vegetable production and marketing in hills. Indian Journal of Agricultural Marketing 8(1), 72–82.