CASE REPORT

MARKETING CHANNELS OF GARLIC: A CASE OF RATLAM DISTRICT OF MADHYA PRADESH

Pradep Kumar Patidar[1]., Khan N[2] and Santosh Kumar*[3]

[1,2]Department of Agricultural Economics and Farm management, JNKVV, College of Agriculture,
Rewa, M.P-486001 (India)
[3]ICAR-Directorate of Weed Research, Jabalpur, M.P-482004 (India)

ARTICLE INFO

ABSTRACT

The study was undertaken to analyze the marketing system and post harvest practices of garlic both at farmers and trades level. Three marketing channels were identified in garlic marketing. The study indicated that longer marketing channel gave lesser share to farmer than shorter channel. The study indicated that shorter channel showed less marketing loss and longer channel it was high. High price gap was found between farmers and consumers level. The intermediaries sorted decayed and removed the outer loose shell of garlic before marketing. Farmers faced the problem of traders collusion, fluctuation in garlic unit price, no display of proper marketing information, lack of storage in market yard as well as storage facility in marketing information, lack of storage in market yard as well as storage facility ect.

INTRODUCTION

Garlic is one of the most popular spices in the world and it is extensively used in all the countries. Since ancient times, garlic has been used as a good cure. Garlic is one of the important bulb crops grown and is used as a spice or condiment not only in India but also throughout the world (M.Manoharan and T.Ramalakshmi, 2015).

Garlic is consumed in every home and use in processing industry has a fairly constant market demand. Bulbs are easily stored for 5-6 months after harvest which favors long marketing season. Garlic is transported to the assembling centers in open bullock cart or tractor trolleys in open. It is also carried in jute bags in trucks. While loading the bags in trucks care should be taken in loading up to 5-6 bags height as over loading will damage the garlic bulbs in lower bags by pressure. Use of hooks should be avoided as it injures the bulbs /cloves and such bulbs when stored loose more weight and also rot easily. Garlic bulbs after reaching to the assembling centers are generally sold to the local traders for distribution to the consuming markets. These transactions usually take place with the help of commission agents. Exporters either buy their requirements directly from assembling centers through local commission agents or from wholesalers in the important assembling or regulated markets. Garlic is sold by open auction in regulated markets.

Corresponding author: **Santosh Kumar**
ICAR-Directorate of Weed Research, Jabalpur, M.P-482004 (India)

In other markets sale often takes place by mutual negotiations which may either be direct between the buyer and seller or through commission agents or brokers.

Garlic is one of the important spice crops of Madhya Pradesh. The availability of garlic throughout the year and to minimize the fluctuation of prices in the market, the advanced techniques of storage of garlic should be practiced .The major losses during the storage of garlic are loss in weight, rotting, sprouting etc. The important factors affect the shelf life of garlic are variety of the garlic, dose of fertilizer, irrigation, and per harvest treatment, time of harvesting and technique of harvesting.

The storage of garlic is done by the traditional methods i.e. the environmental conditions. Due to this practice there is no control over the temperature and moisture. Garlic is perishable commodity having very high post harvest losses estimated to the tune of 20-30 percent. Any attempt in loss prevention of perishable commodities directly adds to the productivity. Reduction of post harvest losses through genetic and cultural manipulations has been tried. Further, low cost ventilated storage structures designed by various institutes have been demonstrated to the farmers and traders.

Value added products of Garlic has its own value, Garlic is dehydrated for use in curries and soup powders. Dehydrated garlic is also used in pharmaceutical preparation. Such products are not only cost effective, nutritionally superior and have a long shelf life. Garlic extracts are obtained from aged garlic cloves after their processing.

The major constraints in the production of garlic are the fluctuation in the market prices, the lack of storage facilities and the transportation. Also the lack of processing industries is one of limiting factors in the production of garlic.

Madhya Pradesh is also leading in garlic production, area and productivity than others state. In Madhya Pradesh major garlic producing district are Ratlam, Ujjain, Dewas, Mandsaur, Dhar and Indore. Now a day's production of garlic in Ratlam district is increasing significantly. In Ratlam district, garlic is cultivated in 21709 ha. area and production is 269944 tonnes in year 2013-14 and its contributed 10% total production of Madhya Pradesh.

India's and Madhya Pradesh garlic, the contribution of new seed varieties is very marginal. Nearly 70 to 80 percent production comes from local types maintained by farmer's themselves.

MATERIAL AND METHODS

A multistage stratified random sampling technique was adopted for selection of the block, villages and the respondents in Ratlam district. The three villages namely Delanpur, Dhamnod and Bilpank were purposively selected from Ratlam block of Ratlam district by the field survey on the basis of being the prominent garlic producing areas. The sample size for the study was 60 farmers with 20 farmers each village randomly selected. The samples were drawn from the list of farmers according to the size of land holding, who having more area under garlic crop to their total cropped area. The garlic producing farmers were categorized as small (>2 ha.), medium (2 to 4 ha.) and large (above 4 to 10 ha.), based on land holding size of the farmers. All the sample garlic producers were sold their produce through the forwarding agent in the wholesale market. The actual marketing cost incurred by the sample garlic producers through different channels was considered. The tabular method and percentage analysis were carried out to examine costs, margins and price spread in Ratlam vegetable mandies. The relevant information regarding the marketing of garlic was obtained from these selected market intermediaries by interviewing personally with the help of pre-tested schedules. The primary data on the relevant, aspects specified were collected from the sample farmers.

Analytical Tools

Price spread analysis

Price Spread in general, is referred to as the difference between the price paid by the Consumer and the Price received by the Producers per unit quantity of the commodity. Price Spread analysis would estimate the share of different market intermediaries in the consumer rupee and this would often facilitate the understanding of the relative efficiencies otherwise of alternative channels in marketing. To analyze the Price Spread in the distribution of Garlic, the following formula is used.

$$\text{Price spread (\%)} = \frac{\text{Consumer price} - \text{producer price}}{\text{Consumer price}} * 100$$

Producer's share in consumer rupee

It is the price received by the farmer expressed as a percentage of the retail price. It has been calculated by using following formula;

$$P_S = \frac{P_F}{P_R} * 100$$

Where,
   P_F = Producer's price
   P_R = Consumer retail price
   P_S = Producer's share in the consumer rupee

Marketing margin

It's is difference between the total payments (Cost+Purchase price) and receipts (sale price) of the middleman.

Garrett's ranking technique

$$\text{Percentage position} = \frac{100(R_{ij} - 0.5)}{N_j}$$

Where,
R_{ij} = Rank given for the ith item by the jth respondent and
N_j = Number of items ranked by the jth respondent

RESULTS AND DISCUSSION

Marketing channel refers to the sequential arrangements of various marketing intermediaries involved in the movement of products from producers to consumers. Garlic moves from farmers to ultimate consumers through a number of marketing channels. A number of intermediaries like wholesaler and retailer were involved in garlic marketing. Three major channels of garlic were identified in the study areas.
The channels are as follows

Channel –I	:	Farmers - consumer
Channel –II	:	Farmers – retailer – consumer
Channel –III	:	Farmers – wholesaler – retailer – consumer

Marketing cost and margin of garlic

Channel-I

It is the simplest marketing channel having no involvement of market intermediaries in the trading of garlic. In the marketing of garlic directly interaction made between producer and consumer. It means minimum cost in marketing of garlic incurred on producer. The share of producer in consumer's paid price was maximum as approaching nearly 98 percent (Table 1).

Table 1 Marketing cost and margin of garlic by different intermediaries level in channel-I

S. No.	Particulars/ Market functionaries	Amount (Rs./ha)
1	Marketing costs at producer level	
	Transportation	35
	Loading, unloading & weighing	20
	Sub total	55
	Producer net price	2258
	Consumer paid price/producer sale price	2313
2.	Producer's share in consumer's rupee (%)	97.62
3.	Price Spread (%)	2.38

Channel-II

The involvement of retailer in between producer and ultimate consumers denoted by channel- II indicate that beside the relevant cost incurred by producer the substantive cost and margins incurred in the part of retailer in one side reduced the share of producer 90.39% in ultimate consumer's paid price but given no relief in the part of ultimate consumer because of the reduced share of producer ultimately gown in the hand of retailer resulting the expansion in paid price of consumer (Table 2).

Table 2 Marketing cost and margin of garlic by different intermediaries level in channel-II

S. No.	Particulars/ Market functionaries	Amount (Rs./ha)
1	Cost incurred by producer	
	Transportation	35
	Loading, unloading & weighing	20
	Sub total	**55**
	Producer net price	2258
	Producer's sale price/retailer's paid price	2313
2	Cost incurred by retailer	
	Weighing, loading and unloading	20
	Two gunny bags	45
	Transportation	20
	Sub total	**85**
	Retailer margin	100
	Retailer's sale price/consumer's paid price	2498
3.	Producer's share in consumer rupee (%)	90.39
4.	Price Spread (%)	9.61

Channel III

In this channel, marketing done between producer and ultimate consumer there was an involvement of wholesaler and retailer. The function of wholesaler and retailer which plays the part in searching and creation of demand of consumer charge their margin and cost incurred on various activities rendered by them. Due to these functions and involvement of marketing cost and returns margins expanded the difference in price received by producer and price paid by ultimate consumer. Thus the result, decreases of producer share up to 87.24 percent in consumer's paid price.

Table 3 Marketing cost and margin of garlic by different intermediaries level in channel-II

S. No.	Particulars/ Market functionaries	Amount (Rs./ha)
1	Cost incurred by producer	
	Transportation	35
	Loading, unloading & weighing	20
	Sub total	**55**
	Producer net price	2258
	Producer's sale price/retailer's paid price	2313
2	Cost incurred by wholesaler	
	Weighing, loading and unloading	20
	Two gunny bags	45
	Transportation	20
	Sub total	**85**
	wholesaler margin	100
	wholesaler 's sale price/retailer's paid price	2498
3.	Costs incurred by retailer	
	Weighing, loading and unloading	20
	Transportation	20
	Sub total	**40**
	Retailer margin	50
	Retailer's sale price/consumer's paid price	2588
4	Producer's share in consumer rupee (%)	87.24
5.	Price Spread (%)	12.76

Comparative statement of percentage share by different marketing agencies

The comparative statement based on the observation on channel I, II, and III on a common platform indicates that when where was no involvement of market functionaries in the trading of garlic producer get higher share approaching nearly 97.62 percent consumer's paid price on one side and provided a chief in the part of ultimate consumer who secured the same quantity of at lesser price (Rs. 2313) contrast to that involvement of retailer in channel II not only decreased the share of producer in consumer's paid price but also increased

that price of same quantity of garlic as paid by ultimate consumer (Rs. 2498) in this intercourse of trading the retailer charged 4 percent margin beside the cost incurred by him (7.40 percent).

In channel III the involvement of wholesaler and retailer further expended per unit price of garlic as a result of charging of their margins and actual cost incurred in the trading of this commodity. Here on one side the share of producer in consumer's paid price tend to decline up to 87.24 per cent and reverse to that expanded the consumer's paid price up to Rs. 2588 (Table 4).

On the basis of above comparative statement conclusion is drawn that when there is involvement of higher number of marketing functionaries in the dealing of garlic marketing tend to decrease the producer's share in ultimate consumer's paid price one side and forced the ultimate consumers to pay higher price for the same quantity of garlic as a consequence of incurring of various costs and margins recovered by market functionaries for their rendered services in the trading of this commodity.

Table 4 Comparative statement of percentage share by different marketing agencies in marketing of garlic

S. No.	Particulars	Channel- I	Channel-II	Channel-III
1	Producer's share (%)	97.62	90.39	87.24
2	Producer's cost (%)	2.37	-	-
3	Wholesaler's shares (%)	-	4	-
4	Wholesaler's cost (%)	-	3.40	-
5	Retailer's share (%)	-	-	1.93
6	Retailer's cost (%)	-	-	1.54
	Total (`)	2313	2498	2588

Marketing efficiency of different channels involved in garlic marketing

The efficiency of marketing denoted here that when there was no functionaries between the interaction of producer and consumer the market efficiency was higher which tend to decline as per increase of number of marketing functionaries and services rendered by them including their respective margin (Table 5)

The marketing efficiency also indicates that if there is creation of utility in a consumer's good in the form of place, time, and form utility its higher degree may be more appreciable as it converted the raw material nearly to more useable form for consumer but without increasing such utilities the expansion of cost and margins of market agencies incurred in the trading of commodities will definitely reduce the efficiency of that commodity in market.

Table 5 Comparative study of different marketing agencies in garlic marketing

S. No.	Particulars	Value of the good (Rs./ha)	Total marketing cost (Rs.)	Total margin (Rs.)	Final value of the good (Rs./q)
1	Channel –I	2258	55	-	2313
2	Channel –II	2258	140	100	2498
3	Channel –III	2258	180	150	2588

Post harvest technique

In the case, garlic crop there was no post harvest technique followed at producer's level except drying of bulb for a time being and grading of that as per their convenience and removing of dry roots of the bulbs. A few producers having their own store or godowns keep this commodity for a time

being and observe the waiting period for better price in future. During the survey period respondents taken into account had no such facilities therefore, study in this respect was not further extended.

Problem and prospects

The problems observed by respondents during the period of study based on the opinion of respondents if corrected or minimized either from their own end or through the cooperation of state agencies and corporate bodies may enhance the prospect of cultivation of this crop. Searching and creation of demand of garlic agencies involved in marketing and exporting of this commodity are not properly associating. The only cultivation prospect will not expand much higher because higher production of garlic will enhance the aggregate supply of this commodity in the local market which ultimately, influence the ruling price in market towards lower side price is the most powerful element, which alone attracts higher cultivated are in specific crop but unfavourable price reverse to that creates a problem in the farming community. Therefore, sound-pricing system justified both in the part of producer as well as ultimate consumer should always be kept in mind.

Problems faced by sample farmers in the marketing of garlic

The problem faced by the sample farmers in the marketing of garlic were clubbed in respective types of problems as per the incidence of their severity commonly faced by all the respondents as an independent unit. Farmers faced the problem of traders collusion, fluctuation in garlic unit price, no display of proper marketing information, lack of storage in market yard as well as storage facility in marketing information, lack of storage in market yard as well as storage facility in godowns were the other severe problems ranked in the descending order viewed seriously which may be verified the given information furnished in Table 6.

Table 6 Problems faced by the sample farmers in marketing of garlic

S. No.	Constraints relating to	Size of farm groups				Ranking
		Small (N= 20)	Medium (N= 20)	Large (N= 20)	Total (N= 60)	
1	Lack of proper guidance and training	20 (95)	16 (76)	17 (94)	53 (88)	I
2	Lack of risk bearing ability	20 (95)	17 (81)	15 (83)	52 (87)	II
3	Lack of storage facilities	18 (86)	18 (86)	15 (83)	51 (85)	III
4	Lack of marketing news	19 (90)	15 (71)	16 (89)	50 (83)	IV
5	Lack of agencies to purchased product	16 (76)	18 (86)	15 (83)	49 (82)	V
6	Irregular visit of agriculture officers	16 (76)	15 (71)	16 (88)	47 (78)	VI
7	Lack of govt. facilities	13 (62)	17 (81)	14 (77)	44 (73)	VII
8	Unavailability of loan facility	6 (28)	9 (43)	6 (33)	21 (35)	VIII
9	Dependence on middle man for disposal	6 (28)	5 (24)	9 (50)	20 (33)	IX

CONCLUSIONS

On the basis of foregoing discussion of marketing cost and margins conclusion is that the marketing functionaries reduced the share of the producer in consumer paid price on one side and on the other size increased the consumer's paid price indicate that share of producer price tend to decline as per increase in the number of marketing functionaries and compelled the consumers to pay higher prices for the same quantity of garlic without any relief. So, storage facility and transport facility should be improved in producer level to cut marketing channel.

References

M.Manoharan and T.Ramalakshmi (2015) Trends of area, production and productivity of garlic in Dindigul district, India, *International Journal of Current Research and Academic Review*,Volume 3 Number 7 (July-2015) pp. 153-165.

Sekhar, C. Prahadeeswaran, M. and Nagaraj, R. (2014) Garlic Trading - A Potential Agribusiness Venture in India, *Journal of Horticulture*, Volume 1 • Issue 3, 1:3 http://dx.doi.org/10.4172/2376-0354.1000118

Verma AR. (2004) Economic analysis of production, resource use efficiency, Marketing and constraints of garlic in Indore District of Madhya Pradesh, *Agricultural Marketing,* 47: 2, 37-48.3.

Kumbhar, J.S. (2000) Economic of production and marketing of Rabi Onion in Pune district, M.Sc. (Agriculture) Thesis MPKV, Maharashtra.

Das AK. and Sarkar SC. (2005) Value addition, processing and marketing of spices, *Agriculture situation in india*, vol. 05. Pp 33-40.

Sarker SC. and Das JK. (2005) Consumption pattern, marketing channel and price of spices, *Agricultural Marketing* : 48(2):2-11

Akinpelu CA., Adebayo OS., Adelaja BA., Adesegun EA., Aminu-Taiwo RB and Adeoye IB (2011) An economic analysis of spices marketing in three selected states of Nigeria, *Research on Crops*; 2011. 12(3):817-821. 10 ref.

****