JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Marketing of Green Chillies in Karbi Anglong District of Assam

Mintu Tokbi
Assistant Professor
Department of Economics
J.D.S.G. College, Bokakhat

Gitarthi Hazarika
Assistant Professor
Department of Economics
J.D.S.G. College, Bokakhat

Abstract

The Present study was conducted with the aim of identifying the Prospects and Problems associated with various factors like Labour cost, Marketing cost, Price spread, Marketing channels and Marketing efficiency of farmers in the marketing of Green chillies in Karbi Anglong district of Assam. Karbi Anglong district is one of the hill districts of Assam with a tropical climate conditions suitable for Green Chillies cultivation. But due to lack of infrastructure and communication facilities in the district, the marketing of Green chillies is not as it should be.

Keywords: Labour cost, Marketing Channel, Marketing efficiency

Introduction:

Chilli is one of the major spices grown almost in every parts of the country. It belongs to the Solanaceous group with its origin in the Central America. India is the major producer, consumer, and exporter of Chillies, contributing in almost one fourth of the world production. Chillies contribute about 33% of the total spice export from India and holds for about a 16% share of the world spice trade. China is the major importer of Indian chillies (139966.14 tonnes) followed by Thailand (59363.72 tonnes) and Sri Lanka (50835.35 tonnes) in the year 2019-20.

Karbi Anglong district economy is based on agricultural economy. Over 80 percent of the district population relies on agriculture as a source of livelihood. Karbi Anglong district produces variety of food crops including rice, wheat, maize, oilsheed, spices. Among different spices produced in the district, chilli is one of the prominent spices. Chilli is called Jolokia in Assamese. There were varieties of chillies cultivated in Karbi Anglong district. Some of them are: Pusa Jwala and selected local varieties like Suryamukhi, Krishna, Balijuri, and Bhut Jolokia (variety- Borbhut, Ranibhut, Lotabhut). The majority of the farmers belong to the tribal

community and are do not follow any scientific cultivation practices and a very few of them use improved varieties and fertilizers in their farming practices.

Materials and Methods:

Karbi Anglong district (Undivided district) has four Sub-Divisions – Diphu Sub-Division (Sadar), Hamren Sub-Division, Howraghat Sub Division and Bokajan Sub Division and eleven Developmental Blocks. From these three Sub-Divisions, two sub division- Diphu Sub-Division and Hamren Sub-Division and from the eleven Developmental Blocks, four developmental blocks, two from Bokajan Sub-Division- Bokajan block and Nilip blocks and two from Hamren Sub-Division-Amri and Chinthong blocks are purposively selected for the study. The selection of these four blocks is based on the number of Chillies growers. In these four blocks the number of the chillies growers is more comparing with the other seven blocks of the district. From the each selected blocks- Bokajan block, Nilip block, Amri block and Chingthong block, a list of chillies grower villages are prepared with the help of District Agricultural Office -Diphu, DRDA-Diphu, GINFED Ltd. and respective Developmental Blocks of the district. According to the information given by the above mention sources seven villages from Bokajan block, nine villages from Nilip block, four villages from Amri block and five villages from Chingthong block are selected. Altogether twenty five villages are selected from the four selected blocks for the purpose of the study. From the twenty five selected villages, ten percent of the prominent Chillies growing households are purposively selected with the help of Village headman (Gangbura), VDC (Village Development Commitee) representative, respective Developmental Blocks and GINFED Ltd. From Bokajan block, 50 chillies growers households selected from the seven selected villages, from Nilip block 70 Chillies grower household are selected from the nine villages, from Amri block 30 Chillies grower households are selected from the four villages and from Chingthong block 50 chillies grower household are selected from the five villages. Altogether 200 chillies grower household are purposively selected on the basis of the size of operational holding

The statistical tools which are used for the study of this research is given below-

Cost of cultivation

The expenditure or cost of cultivation of chilli both in cash and kind is calculated with the help of cost concept- Cost 'A', cost 'B' and cost 'C'.

A. Cost A

Cost A for Chilli cultivation includes-

i. Value of hired human labour and

ii. Value of seed (both farm/own seed and purchase seed)

B. Cost B

Cost B includes Cost A plus rental value of land

C. Cost C

Cost C includes imputed value of family labour engaged in Chilli cultivation

Value of good

Value of Chilli is calculated on the basis of the value of total chilli produced at village market price.

Net income (NI)

NI=Gross value-Cost B

Profitability

Profit=Net Income-Cost C

Marketable surplus

Marketable surplus is calculated by deducting the quantity required for family consumption, wastages etc. from the total quantity available.

MS=P-C

MS-Marketable surplus

P-Total production

C-Total requirement for family and wastage

Marketing surplus

Marketing surplus refers the total quantity sold in the market

Marketing costs

Marketing cost is calculated with the help of the following formula-

Tc=Cp+Mc1

Where Tc-Total cost of marketing

Cp-Cost incurred by the producer in marketing of his product

Mc1-Marketing cost incurred by the ith trader

Marketing margin

Marketing margin is calculated with the help of the following formula

Am=Pma(Pa+Mc)

Where,

Am- is the absolute margin of the village traders/local traders or commission agents/middleman or wholesaler or retailer

Pm=Selling price of the trader

a= Quantity of produce

Pa=Buying price of the traders

Mc=Marketing cost of the traders

Grower's share in consumer rupee

Grower's share in the consumer rupee is calculated with the help of the following formula-

Ps= (Pp/Pr)x100

Where,

Ps=Grower's share in the consumer rupee

Pp=Producer's price for their produce

Pr=Price paid by the consumer or sale price of the retailers.

Marketing efficiency

It is calculated or estimated with the help of Acharya's method-

MME=FP/(MC+MM)

Where

MME-Modified measure of marketing efficiency

FP-Price received by the farmers

MC-Total marketing cost

MM-Total marketing margins of intermediaries

Garrett ranking

Garret's ranking method is used to show the problems of production and marketing according to the responses given by the chilli growers. The benefit for the use of this method is that the problems were arranged according to the selected households responds.

Garrett percentage position=100(Rij-0.5)/Nj

Where,

Rij= Rank given for the item jth individual

Nj=Number of items ranked by jth individual

Results and Discussion:

The cost-return and the profitability incurred from Green chilli cultivation (Per hectare) of the selected households according to the farm size is shown in Table: 1

Table: 1

Cost-Return and Profitability/Loss of Green chilli (Per hectare)

Particulars		Below-1	1-2	2-4	Total (Average)
1. Cost A (Rs.)					
a. Human labour wage (Hired labour in Rs.)		5230	10460	12890	9526.67
b. Seed cost (Rs.)		830	1120	1340	1096.67
c. Total cost (a+b)		6060	11580	14230	10623.33
2. Cost B (Rs.)					
a. Rental value and others		330	468	935	577.67
3. Total cost (Cost A+ Cost B)		6390	12048	15165	11201
4. Value of Green chilli	Quantity (Qtl)	151	154	165	156.67
	Value (per quintal) in Rs.	2370	2537	2892	2599.67
	Total value in Rs.	357870	390698	477180	408582.67
5. Net income		351480	378650	462015	397381.67
6. Cost C					
a. Imputed value (Family labour wage)		9649	4009	3799	5819
7. Profitability (5-6a) per hectare in Rs.		341831	374641	458216	391562.67
8. Profitability per quintal in Rs.		2263.78	2432.73	2777.07	2491.19

Source: Calculated from Survey data

The table shows that per hectare total input cost (Cost A plus Cost B) is varied according to the size of farm. It is seen in the table that the total cost of human labour wage and seed cost increases with the increase of the farm size.

The total quantity of production (Qtl.) is varied according to the farm size. The table shows that the per hectare production between the farm size below-1 hectare (151 quintal per hectare) and the farm size between 1-2 hectare (154 quintal) is almost same, but the per hectare production between the farm size 2-4 hectare (164 hectare) is more. The main reason of the production variation is the use of seed. The farm size between 2-4 hectare uses more seed comparing with the other two farm size hence the production is also more.

The profitability received of the Green Chilli growers after imputing the family wage is shown in Table: 1. The table shows that the farm size between 2-4 hectare, per hectare profit received is Rs. 458216 (Per quintal Rs.2777.07) which is more than the farm size below-1 hectare profit received Rs.341831 (Per quintal Rs. 2263.78) and the farm size between 1-2 hectare profit received Rs. 374641 (Per quintal Rs. 2432.73).

Pattern of disposal

There are two agencies through which the Green Chilli grower can sell/dispose their product. They are- private agency and public agency. Private agency consists of village traders and middleman and public agency consists of co-operatives/Limited (GINFED/NERAMAC etc). Table: 2. Shows the disposal pattern of Green Chilli of the selected chilli grower households according to the farm size.

Table: 2

Disposal pattern of chilli to different agencies according to size of holding

(Quintal/Hectare)

HH-Households

Qty-Quantity/Quintals

Size of holding (Per hectare)	Village /Local traders		Middleman/Commission agent		Wholesaler		Cooperatives (GINFED/ NERAMAC)		Total	
	HH	Qty/Qtls.	HH	Qty/Qtls.	HH	Qty/Qtls.	HH	Qty/Qtls.	HH	Qty/Qtls.
Below-1	38 (31.67)	42 (27.81)	32 (26.67)	52 (34.44)	28 (23.33)	45 (29.80)	22 (18.33)	12 (7.95)	120 (100.0)	151 (100.0)
1-2	22 (44.00)	45 (29.22)	16 (32.00)	46 (29.87)	8 (16.00)	32 (20.78)	4 (8.00)	31 (20.13)	50 (100.0)	154 (100.0)
2-4	13 (43.33)	63 (38.18)	9 (30.00)	47 (28.48)	6 (20.00)	31 (18.79)	2 (6.67)	24 (14.55)	30 (100.0)	165 (100.0)
Total	73 (39.67)	150 (31.74)	57 (29.55)	145 (30.93)	42 (19.78)	108 (23.12)	28 (11.00)	67 (14.21)	200 (100.0)	470 (100.0)

Source: Calculated from Survey data

Marketing Channel:

In the study area five marketing channels are found. They are- Grower-Commission agent/middleman-Wholesaler-Retailer-Consumer which is shown in table: 3. In the table it is shows that Green chilli grower net price received is Rs. 2600 (57.77 percent) and marketing cost borne by growers is Rs. 318 (7.06 percent of consumer rupee) per quintal for carrying basket, purchase/traditional bag, gunny bag, loading /unloading and labour charge (Labour charge means carrying chilli from paddy field to a particular place traditional way). In the marketing channel at village level chilli grower sale their product to commission agent/middleman at Rs. 2918(64.84 percent of consumer rupee) and incur marketing cost at Rs. 184 (4.08 percent of consumer rupee) for assembling, gunny bags, loading /unloading and transportation. Commission agent/middleman sale it to wholesaler at Rs. 3500 (77 percent of consumer rupee) and wholesaler incur marketing cost at Rs. 95.3 (2.11 percent of consumer rupee) for gunny bags charge, loading/unloading transportation, grading,

storage charge and got market margin of Rs. 398 (8.84 percent of consumer rupee). Again wholesaler sale it/ retailer purchase it at Rs. 4000 (88.88 percent of consume rupee) and incur marketing cost Rs. 90.50 (2.21 percent of consumer rupee) for the purchase of gunny bag, loading/unloading, transportation and market tax/administrative fees and got market margin at Rs. 409.5 (9.1 percent of consumer rupee) and the ultimate retailer sale/consumer purchase price in the channel is Rs.4500.

Table: 3

Marketing Channel-Grower-Commission agent/middleman-Wholesaler-Retailer-Consumer

Sl. No.	Particulars	Rs. Per quintal	Percentage of consumer price
1.	Grower net price	2600	57.77
2.	Cost		
	a. Carrying basket/bag charge (traditional)	50	1.11
	b. Loading/unloading charge	8	1.17
	c. Labour charge	260	5.77
	Grower marketing cost	318	7.06
3.	Grower sale price/Commission agent/middleman purchase price	2918	64.84
4.	Cost		
	a. Assembling	90	2.00
	b. Gunny Bags	80	1.77
	c. Loading and unloading	4	0.08
	d. Transportation	10	0.22
	Commission agent/middleman marketing cost	184	4.08
	Commission agent/middleman marketing margin	398	8.84
5.	Commission agent/middleman sale price/Wholesaler purchase price	3500	77.77
6.	Cost		
	a. Grading	80	1.77
	b. Loading and unloading	4	0.08
	c. Transportation	10	0.22
	d. Storage/administrative charge	1.30	0.02
	Wholesaler marketing cost	95.3	2.11
	Wholesaler marketing margin	404.7	8.99
7.	Wholesaler sale price/Retailer purchase price	4000	88.88
8.	Cost		
	a. Gunny bag	80	1.77
	b. Loading and unloading	6	0.13
	c. Transportation	2	0.04

	d. Market fees/tax	2.50	0.05
	Retailer marketing cost	90.50	2.01
	Retailer marketing margin	409.5	9.1
9.	Retailer sale price/Consumer purchase price	4500	100.00

Source: Calculated from Survey data

The marketing efficiency of the marketing channels of study area of chilli grower is presented in table: 4. It is observed from the table that for channel-I marketing efficiency is 0.95, for channel-II is 1.22, for channel-III 1.40, for channel-IV is 3.00 and for channel-V it is 1.50. Out of this five marketing channels, for chilli marketing, channel-IV is most efficient followed by channel-V, channel-III, channel-II and channel-I.

Table: 4

Marketing efficiency of chilli growers

Sl. No.	Particulars	Channel I	Channel II	Channel III	Channel IV	Channel V
1	Price received by the grower	2200	2300	2500	3000	3000
2	Marketing cost	758.1	619	448.5	474.5	534.4
3	Marketing margin	1541.9	1264	1335.5	525.5	1465.6
4	Marketing efficiency	0.95	1.22	1.40	3.00	1.50

Source: Calculated from Survey data

From the study it is found that the marketing efficiency of channel IV is more efficient in the study area. It means the growers are more benefited if they shall their product to GINFED/ NERAMAC/Cooperatives.

There are different issues involved for marketing of chilli in Karbi Anglong district. The main marketing constraints/problems faced by the chilli cultivator in the study area from the field survey and observation are presented in table: 5 with the help of Garrett ranking method.

Table: 5

Problems of Chilli marketing

Sl. No.	Problems	Score	Rank
1	Transportation issue and remoteness of areas	42.56	1
2	Perishability and lack of storage facilities	48.06	2
3	Lack of regulated market	48.36	3
4	Lack of proper knowledge	54.26	4
5	Price instability	57.26	5

Source: Calculated from Survey data

Transportation issue and remoteness of areas

Transportation issue and remoteness of areas of production is one of the bottlenecks of chilli marketing in the study area.

Perishability and lack of storage facilities

Perishability nature of chilli and lacking of storage facilities is one of most important problem face by the chilli cultivators in the study area.

Lack of regulated market

In the study it is found that 73.5 percent respondents response that lack of regulated marketing is another big problems faced by the chilli growers. As a result of that growers are become dependent on village traders, middleman etc. and need to sell at low price.

Lack of proper knowledge

Lack of proper market knowledge and awareness among the farmers is another problem found among the chilli growers in the study area. Maximum of the respondents response that they don't have any knowledge about the actual chilli price in the outside markets.

Price instability

Besides demand and supply many other factors also lead to price instability which confuse the growers many a times and demoralize them when they fail to accrue proper price for their product. Presence of middleman, change in market condition also leads to price instability.

Following are the important recommendation for the prospects of chilli marketing in the study area -

- Marketing development requires improvement of spread of market knowledge among farmers.
- There should be establishment of regulated markets and processing industry in the village level so that the farmers can get reasonable price of their product.
- The road and transportation condition in the study area is not good. Thus it is utmost necessity to improve and develop the road and transportation facilities from the village to the places of assembling and marketing.
- Due to the lack of storage facilities chilli growers sell their product just after harvesting at low prices. Thus installing proper storage and processing units would also help better marketing of chilli and farmers would be benefitted.

Conclusion:

To conclude, it can be said that, one of the primary source of livelihood of the people living in the study area (Specially the selected households) is chilli cultivation. Traditionally in these areas input requirement for chilli cultivation is less, while output is high hence people are interested in chilli cultivation owing to good prospect. Inspite of the prospects, cultivators are facing problems like lack of financial assistance or any other aid either from the govt. or NGO's or any other agencies which hinders the production which could have been achieved otherwise. Thus intervention by govt. or any other agency has become important to boost the Chilli industry in Karbi Anglong district.

Reference:

1. Parkey Gogoi et. al "Assessment of growth and yield attributes of chilli variety Arka khyati in Dima Hasao district of Assam" -The Pharma Innovation Journal 2021.

2. Hnamte V., Chatterjee R., Chattopadhyay P.K. and Pariori A. (2012), "Spices Scenario in the North Eastern States of India with special reference to production and marketing", Journal of Crop and Weed,8(2), p-109-112.

3. Ginger Growers Co-operative Marketing Federation, Karbi Anglong Report, 2007.

4. Agarwal, L. N. (2004), "Agricultural Marketing", Yojana, 48:p.41.

5. WWW.Indiastat.com