Market channels analysis of the Chickpea in Bemetara district of Chhattisgarh, India

Abstract

The present study was conducted for assess the Economics of Marketing of Chickpea in Bemetara district of Chhattisgarh. The multistage sampling design was used for selection of district, block, villages and chickpea growers. In all 225 chickpea growers were selected to collect the data. These farmers were further classified into different categories based on their land holding i.e., marginal, small, medium and large farmers for the present study The data were collected for the year 2018-19 and analyzed marketing cost, margin and price spread in marketing of chickpea was achieved through tabular analysis. There are 3 channels of marketing, in channel-I the product was directly sold to the consumers in field. The most used channel of marketing by all sample farms was channel-II and channel-III. In channel II the produce reached to the consumer by wholesaler to retailer and in the third marketing channel the produce reached to the consumer by village trader. The goal of the study was to fill the knowledge gap that existed on the topic, contribute to a proper understanding of the difficulties and enhance market development strategies for the benefit of producers, traders and other market participants. The study focuses on expanding farmers' educational levels, improving finance and extension services, constructing transportation infrastructure to provide producers more negotiating power, and gaining access to improved production techniques as a tool to select the optimal marketing outlet. Government agencies and relevant parties must step in to address the issues by disseminating current market data on the chickpea industry, enhancing market connectivity and supplying the market with their goods at competitive prices.

Keywords: Market, farmers, marketing channel & conduct

1. Introduction:

"The primary driving force behind economic growth and agricultural marketing directs and suggests changes to the production and distribution of agricultural goods" **(Tewodros, 2014). "**Particularly for the traditional rural economies, the agricultural marketing system assumes increasing significance. Market access is a crucial tool for implementing the sustainable development goals. The influence on the sustainable development goals , however, is dependent on a number of external and endogenous factors, such as country size, location, import and export mix, connectivity to important markets,

availability of natural resources, degree of development and institutional **strength" (United Nation Conference on Trade and Development [UNCTAD], 2015).**

Bekele et al. (2007) claim that "insufficient access to timely and accurate information about prices, quality–price relationships and demand patterns by market participants, along with high transaction costs, force smallholder farmers to sell their small market surpluses at lower prices at the farm gate, which in turn encourages highly speculative behaviours and extreme unpredictability in the chickpea markets".

Chickpea production in the district is mainly for consumption and market. The production is much uncoordinated especially where all growers produce similar type of crop. Chickpea production is increasing in the state but producers are not selling their produce in profitably, and they are not benefited. So there are needed to be further investigation. Hence this study was aimed to analyse chickpea market chain is the district.

2. Methodology-

2.1. Type, source and method of data collection-

The data used for this study were both qualitative and quantitative and collected from primary and secondary sources. Primary data were gathered from respondents who had been randomly selected, including sampling households, district retailers, collectors, and wholesalers. When gathering primary data in the district, focus groups, field observations, and semi-structured questionnaires were used. By using checklist, data were collected from farmers and extension agents through interview and focus group discussion. The secondary data were collected from a Bemetara agriculture departement, a survey report and in published and unpublished documents.

2.2. Sampling technique & sample size-

A multi-stage sampling design has been adopted for the ultimate selection of chickpea growing farmers. Chhattisgarh state consists of 33 districts, out of these 33 districts Bemetara district cover largest area in production of Chickpea in state and hence Bemetara district was selected purposely for the study. For the selection of the chickpea respondents 15 farmers were selected randomly from each village. A total 225 farmers were selected for the study. **(Worku & Mengistu, 2023)**

2.3. Marketing Pattern and Marketable Surplus Disposal Pattern

To examine the marketing pattern of Chick pea at different categories of farms,

simple analysis was done. To estimate the marketable surplus of produce, total quantity used for different purposes is deducted from total production of crop. MS = Total quantity – Quantity used at home Produced for different purposes Similarly, the quantity sold to different market intermediaries at different prices are also worked out by making an simple analysis.

Marketable Surplus

MS = P – (C +W+ f)

Where,

MS = Marketable Surplus P = Total Production

C = Family Consumption W = Quantity use for Wage

f= Quantity used for cattle feed.

2.4 Estimation of marketing costs, margin, and price spread and producer's share in consumer's rupee in marketing of chickpea :

Marketing cost :

Total cost incurred in marketing by producer and by various intermediaries involved in sale and purchase of commodity till it reaches to the ultimate consumer.

Market margin :

It is the net profit earned by each functionary involved in movement of chickpea from the point of production till it reaches the ultimate consumer.

Price spread :

It is the difference between the price paid by the consumer and the price received by the producer for an equivalent quantity of farm produce.

Producer's share in consumer's rupee (%)

$$PS = \frac{\text{Ratail price (Consumers price)}}{\text{Price received by producer}} * 100$$

(Pihad, S.P. and Wagh, H.J. (2014)

3. Results

3.1. Marketing of chickpea

"Production activity never completed until and unless the product reaches in the hands of final consumer. The product can be reach to the consumer by various routs which are known as marketing channel in agricultural marketing. Attempt was made in the present

study to identify various marketing channels involved in marketing of chickpea. The analysis of marketing channels is proposed to provide information about the tracking of goods and services from their producers to the final consumer. Chickpea producers in the study area used different channels to distribute and sell their products. Based on the results of the survey, three marketing channels were identified for the chickpea market chain in the study area" [Patel et al.2020; Worku et al. 2023].

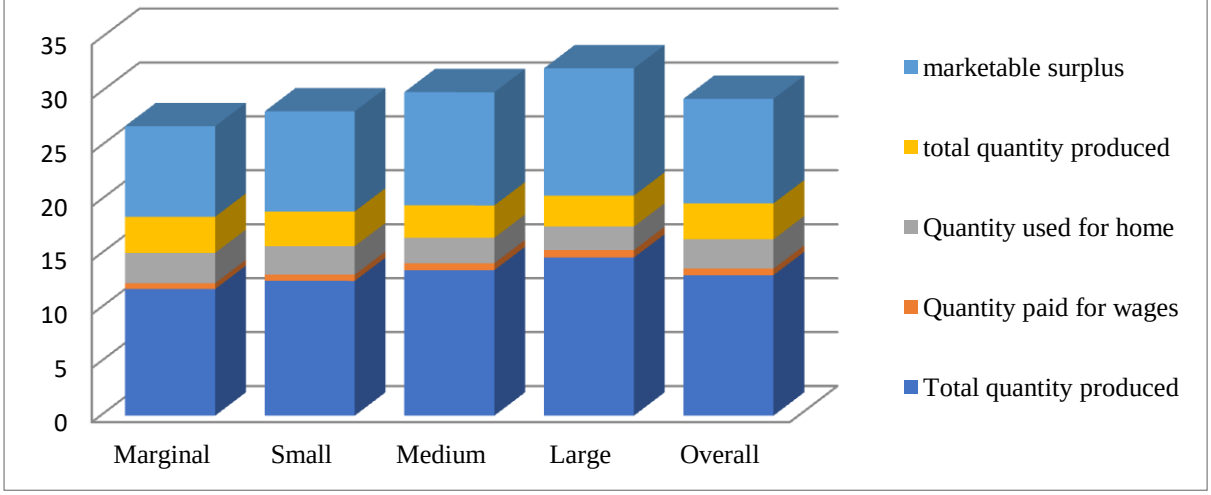
3.2 Disposal pattern and marketable surplus of chick-pea

The disposal pattern of chickpea from different sample farms was also worked out, presented in table 1. The total production per farm was maximum in large farms (14.67) followed by medium farms (13.50), small farms (12.50), marginal farms (11.75) and overall production per farm was observed as 13.03 qt. Marginal farms have more home consumption (2.81) as compared to small, medium and large farms. Marketable surplus was highest in large farms 11.80 qt/farm followed by medium 10.50 qt/farm again followed by small farms 9.28 qt/farm and lowest in marginal farms as 8.4 qt/farm.

Table 1: Disposal pattern and Marketable surplus of chickpea of sampled households

S. No	Particular	Marginal	Small	Medium	Large	Overall
1	Total produced quantity	11.75 (100)	12.50 (100)	13.50 (100)	14.67 (100)	13.03 (100)
2	Quantity paid for wages	0.54 (4.59)	0.58 (4.64)	0.64 (4.74)	0.69 (4.70)	0.61 (4.68)
3	Quantity used for home	2.81 (23.93)	2.64 (21.12)	2.36 (17.49)	2.18 (14.86)	2.72 (20.88)
4	Total quantity utilized	3.35 (28.52)	3.22 (25.76)	3 (22.23)	2.87 (19.56)	3.33 (25.56)
5	Marketable surplus	8.4 (71.48)	9.28 (74.24)	10.5 (77.77)	11.8 (80.43)	9.7 (74.44)

Fig 1:Marketable surplus of chick-pea



3.3 Marketing Channels of Chickpea growers

Sample farmers sell their produce through three channels such as

Channel-I: Producer →Consumer.

Channel-II: Producer →Wholesaler →Retailer →Consumer.

Channel- III: Producer → Village trader

Marketing cost and marketing margin of various agencies in the marketing of chick-pea/qt. in channel-I

It is simplest marketing channel in which no market intermediaries are involved in the producer sell directly their produce to consumer in field condition or sell their produce in nearly market like as retailer all cost like loading, unloading, weighting, transportation fees etc beard by producer and the producer's share in consumer rupees was relatively high (98.51%) as compare to other marketing channels. We can see from the table 2 in which various marketing cost per quintal of channel-I is shown in the table and total marketing cost 74.30 rupees per quintal was find out. Findings are in consonance with studies conducted by **Vanraj (2008).**

Table 2: Marketing cost and marketing margin of various agencies in the marketing of chick-pea/qt. in channel- I

S. No.	Particulars/ Market functionaries	Amount (Rs. /qt.)
1.	Loading	4.00
2.	Weighing	1.40
3.	Transportation	10.40
4.	Market fee	5.00
5.	Gunny bag	50.00
6.	Miscellaneous expenditure	3.50
	Sub-total	74.30
6	Producer sale price	5000
7	Marketing cost	74.30
8	Net price received	4925.70
9	Producer share in consumer rupees (%)	98.51
10	Price spread (Rs.)	74.30

Marketing cost and marketing margin of various agencies in the marketing of chick-pea/qt. in channel-II

In the second marketing channel producer sent their produce to wholesaler to sold out, wholesaler sell their produce to retailer and take their commission from producer at the rate of 234.80. Retailer takes produce to nearby market and sold to consumer and earn their margin and various cost which are shown in the table 3. In this type of marketing channel wholesaler incurred lowest cost in terms of shop rent maintenance etc. we can see from the table that total cost incurred by producer, wholesaler, and retailer was 67.40, 65.20 and 40.50 rupees per quintal respectively and net margin received by wholesaler and retailer was 234.80 and 359.50 rupees per quintal respectively.

Table 3: Costs and margins of various agencies in the marketing of Chickpea/qt. in channel- II

S. No.	Particulars	Amount (Rs. /qt.)
Marketing cost incurred by producer		
1.	Loading	4.00
2.	Weighing	1.40
3.	Transportation	12.00

4.	Gunny bag	50.00
Sub-Total		**67.40**
5.	Producer sale price	4500
6.	Marketing cost	67.40
7.	Net price received	4432.60
Marketing cost incurred by wholesaler		
1.	Loading	4.00
2.	Weighing charges	1.40
3.	Commission	30.00
4.	Transportation	20.00
5.	Storing	5.30
6.	Miscellaneous charges	4.50
Sub-Total		**65.20**
7.	Wholesalers purchase price	4500
8.	Wholesalers sell price	4800
9.	Wholesale margin	234.80
Marketing cost incurred by retailer		
1.	Loading	4.00
2.	Transportation	25.00
3.	Weighing	1.40
4.	Miscellaneous charges	4.50
5.	Storing	5.60
Sub-Total		**40.50**
6.	Retailer purchase price	4800
7.	Retailer selling price	5200
8.	Retailer margin	359.50
9.	Producer share in consumer rupees (%)	86.53%
10.	Price spread (Rs.)	700

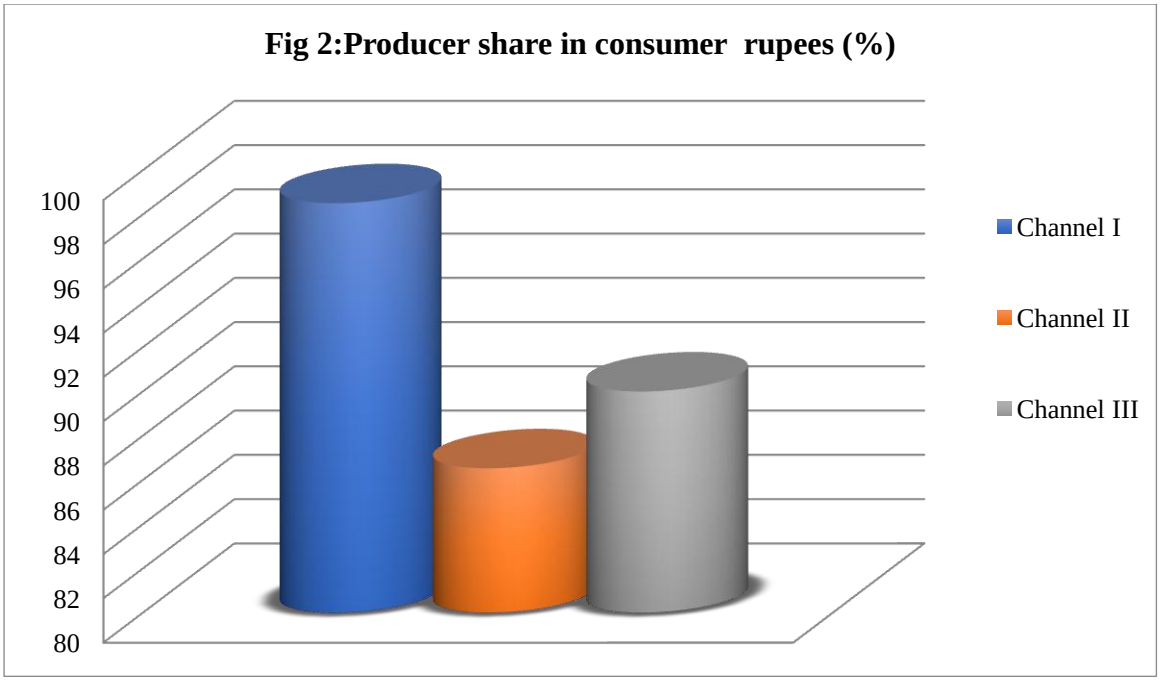
Marketing cost and marketing margin of various agencies in the marketing of chickpea/qt. in channel- III

In the third marketing channel producer sent their produce to village trader to sold out, village trader sells their produce direct to the consumer and earn their margin and various cost which are shown in the table 4. In this type of marketing channel village trader incurred

higher cost in terms of store charge, cleaning and grading etc. we can see from the table that total cost incurred by producer and village trader was 55.40 and 60 rupees per quintal respectively and net margin received by village trader was 440 rupees per quintal respectively. Similar result was reported by **Banerjee (2010).**

Table 4: Costs and margins of various agencies in the marketing of chickpea/qt. in channel- III

S. No.	**Particulars**	**Channel III**
Marketing cost incurred by producer		
1.	Loading	4.00
2.	Weighing	1.40
3.	Gunny bag	50.00
	Sub-total	**55.40**
4.	Marketing cost	55.40
5.	Producer sale price	4500
6.	Marketing cost	55.40
7.	Net price received	4444.60
Marketing cost incurred by village trader		
1	Store charge	10.00
2	Cleaning and grading	50.00
Sub-total		60.00
3	Marketing cost	60.00
4	Village trader purchase price	4500
5	Village trader selling price	5000
6	Margin	440
7	Producer share in consumer rupees	90%
8	Price spread	1000



4. Discussion and Conclusion

Chickpeas are an affordable source of nutritional protein for vegetarians and are extensively consumed in the Indian subcontinent as curries. As a result of growing health awareness, consumers increasingly prefer products with high protein content, driving chickpea demand even higher. The production of chickpeas is also rising in the country. For instance, as per **FAO data**, 11.3 million metric ton of chickpeas were produced in the country in 2018, which increased to 11.9 million metric ton in 2021. India is the largest country in terms of Chickpea production. Over recent years, the area under chickpea cultivation in the country has significantly increased. For instance, according to Food and Agriculture Organization **(FAO, 2021)** data, the area under chickpea cultivation was 9.6 million ha in 2019 in India, which increased to 10.9 million ha in 2021. According to the **(FAO, 2021)** India, Australia, Ethiopia, Turkey, Myanmar, and Russia were the prominent producers of chickpeas, accounting for 11,910.0 thousand metric ton, 876.4 thousand metric ton, 478.2 thousand metric ton, 475.0 thousand metric ton, 467.3 thousand metric ton, and 316.8 thousand metric ton, respectively. The growing awareness about healthy products is expected to drive the market during the forecast period as chickpeas are highly nutritional.

There are 3 channels of marketing, in channel-I the product was directly sold to the consumers in field. The most used channel of marketing by all sample farms was channel-II and channel-III. In channel II the produce reached to the consumer by wholesaler to retailer and in the third marketing channel the produce reached to the consumer by village trader.

Producers share in consumer rupee was 98.51%, 86.53% and 90.00% in channel-I, channel-II and channel-III respectively. Marketing margin was employed to analyse the performance of market channels. Therefore, to evaluate the performance of the chickpea market chain, it is important to consider market related cost, marketing margin and share of producers as well as intermediary from consumer price of products. The chickpea market in the research area is concentrated in the hands of a few traders, there is a lack of clear market information to disseminate to all actors, there is low bargaining power, entry barriers (lack of capital and the need for a license to operate the business), and there are high price differentials between producers and consumers, all of which contribute to the chickpea market being imperfect. As a result, responsible government bodies and stakeholders are expected to intervene to alleviate the challenges by disseminating current chickpea market information, improving market linkages and credit services, connecting producers to the market, and providing consumers with information and their products.

Strategy for Chickpea Improvement-

· Large rice fallow area can be brought under chick pea, urd, Moong and other pulses

· Popularization of high yielding varieties supported by strong seed programme

· Promotion of seed treatment and use of bio fertilizer.

· Improvement in farm drainage to mitigate problem of water logging **(Kumari & Singh, 2016)**

References-

Banerjee, Gangadhar and Palke, L.M. 2010.Economics of Pulses Production and Processing of India.National Bank for Agriculture and Rural Development.Occasional Paper - 51.

Bekele, S., Johns R., Silim S, Taklewold, H., & Gwata E. (2007). Analysis of competitiveness and production costs market opportunities of Desi and Kabuli variety of chickpea in Ethiopia. IPMS (Improving Productivity and Market Success) of Ethiopian farmers Project Working Paper 3. ILRI, Nairobi, Kenya.

EWOA (Este Woreda Office of Agriculture). (2019, August 20). Este Woreda unpublished Report.

Gumma MK, Charyulu Deevi K, Mohammed IA, Varshney RK, Gaur P, Whitbread AM, et al. Satellite imagery and household survey for tracking chickpea adoption in Andhra Pradesh, India. International Journal of Remote Sensing 2016;37(8):1955-1972.

Kumari M, Singh R. Production and marketing of chickpea in Bihar: Problems and Prospects for the farmers. International Journal of Agricultural Science and Research (IJASR) 2016;6(3):125-136

Meena LK, Bairwa SL, Lakra KEROBIM, Sirohiya Lokesh. Analysis of the profile on participating and non-participating farmers in chickpea production technology. Agriculture Update 2014;9(1):31-36.

Pande S, Sharma M, Ghosh R, Rao SK, Sharma RN, Jha AK. Opportunities for Chickpea Production in Rainfed Rice Fallows of India. Baseline Survey Report 2012.

Pichad SP, Wagh HJ. Marketing of chickpea in Amravati district. International Journal of Commerce and Business Management 2014;7(2):256-259.

Rajalaxmi A, Revathi E. Status of Agricultural Technologies Adoption and Sustainable Intensification in Chickpea Crop in Rain-fed region: A study in Telangana and Andhra Pradesh in India (No. 2219-2019-4906) 2019.

Sahoo SP, Singh R. Trend and seasonality in prices and arrivals of Bengal gram. Indian Journal of Economics and Development 2017;5(7):1-5.

Tewodros, T. (2014). Analysis of chickpea value Chain and determinants of market options choice in selected districts of southern Ethiopia. Journal of Agricultural Science, 6, 1–15

Vanraj, S. B. 2008. An economic analysis of production and marketing of groundnut in Raigarh district of Chhattisgarh State. M.Sc. Thesis, Indira Gandhi Krishi Vishwavidyalaya, Raipur, Chhattisgarh. pp 50-56.

Vinayak SS, Reddy BS. Technological interventions for optimum use of resources under pulses production in Karnataka. Indian Journal of Economics and Development 2015;3(11):1-8.

UNCTAD (United Nation Conference on Trade and Development). (2015). Trading in to sustainable development: Trade, market access, and the sustainable development goals.

Worku, C., Mengistu, M., & Bezie, S. (2023). Market chain analysis of chickpea in Northwest Ethiopia. Legume Science, e191. Pp-1-9.

Yadav S, Rai DP, Tripathi UK. Technological gap in different practices of among chickpea growers in Satna district of Madhya Pradesh, India. Journal of Pharmacognosy and Phytochemistry 2020;9(2):1809- 1813

Patel A, Sharma S, Verma A, Patel YS. Marketing pattern and constraints of banana production in Besmear district of Chhattisgarh, India. International Journal of Current Microbiology and Applied Sciences. 2020;9(6):1951-60.