

## **Marketing of Clusterbean (Guar) (*Cyamopsis tetragonoloba*) in Churu District of Rajasthan**

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### **Abstract**

*The present study was conducted in Churu district of Rajasthan state which has major area and production under guar cultivation. To study marketable surplus, marketed surplus, marketing cost and price spread in different marketing channels of guar and, to study constraints in production and marketing of guar in Churu district. Sujangarh tehsil in Churu district and two villages from Sujangarh tehsils were selected on the basis of highest area under guar. A sample of 50 farmers was drawn by probability proportional to area under guar. The farmers were divided into small, medium and large with the help of cumulative total method. The marketable surplus had a tendency to increase with increase in farm size. Due to immediate cash need, guar was not stored and there was no difference in marketed and marketable surplus. The market analysis of guar revealed that channel II was more remunerative because farmer's share in consumer rupee was highest (91.71%). Net share of wholesaler was higher in channel II (1.94%). Net share of commission agent was 1.80% only in channel third. The net share of retailer was highest (2.89%) in channel II. Relative share of miller was 8.34% in channel I. Price spread was highest in channel I (20.33%) followed by channel III (10.53%) and channel II (8.26%). The major constraints in production of guar were shortage of hired human labour for sowing and harvesting, poor quality of seed and uneven rainfall. The major constraints in marketing of guar were lack of storage facilities, high cost of transportation, high price fluctuation and high cost of labour, malpractices by middleman, lack of market intelligence and delay in cash payment.*

*key words: marketable surplus, marketed surplus, marketing cost and price spread*

### **Introduction**

India is the largest producer of guar and contributes 80 percent of total guar production in the world. Guar crop is cultivated mainly during *kharif* season. Guar crop has experienced a remarkable journey from a traditional crop grown on marginal lands mainly for food, animal feed and fodder to a crop with various industrial usages ranging from food, cosmetics, printing, pharma textile etc. The unique binding, thickening and emulsifying property of guar gum powder obtained from guar seed has made it a much sought after product in the international market. The United States of America is the largest importer of guar and its derivatives from India. Guar has also witnessed price volatility and uncertainty owing to limited area of production, increasing demand, speculation, lack of reliable market information system etc. The analysis of historical data and of relative share of different states in the total production and area shows that Rajasthan is the leading producer but suffers from high fluctuation in production. On the other hand, Haryana has significant contribution in terms of production based on high productivity. This has been achieved by using high yielding short duration varieties by farmers and assured irrigation. Guar seed is used for animal feed, extracting guar split, powder and guar gum. There are number of guar processing units in Jodhpur, Bikaner, Ganganagar,

Alwar and Jaipur districts of Rajasthan state, Bhiwani and Sirsa districts of Haryana state and Ahmadabad districts of Gujarat state. These units can be grouped into guar split manufacturers and guar gum processors. Though the involvement of processing and high demand in international market have made the marketing and distribution of guar crop very complex, Agriculture Produce Marketing Committee (APMC) markets have an important role to play in the supply chain. The APMC market (also called *Mandis*) provides a platform for aggregation and operation for various players operating at the wholesale level like traders, stockiest, etc. The trade in these markets is facilitated by commission agents and the traders have to pay prescribed market fee on the value of transaction. Mandi fee for guar in Rajasthan is charged at the rate of 1.60 percent of value, while in Haryana it is 1.0 percent, in Gujarat it is 0.50 percent and in Punjab there is no market fee charged on guar trade. These markets have peak arrivals of guar seed in the month of November and December.

The expansion of uses of guar to new areas like extraction of natural and shale gas has transformed guar in recent years into an important export crop. India is the largest producer of guar gum and its derivatives. Guar gum is largely an export oriented commodity with about 75-80% of total output being exported from the

country. India was the leading exporter of mucilage's and thickeners in the world with a share of more than 73% in value terms during 2011. The surge in demand in the international market and the consequent strong surge in prices has created an interest for the guar crop amongst all the stake holders involved in the marketing and distribution. Thus, keeping in the above view of about the of guar, the present study was undertaken to study the marketing of clusterbean (*Cyamopsis tetragonoloba*) in Churu district of Rajasthan.

**Methodology**

*Selection of District*

Churu district of Western Rajasthan is one of major producing district of guar and therefore, this district was selected purposively.

*Selection of Tehsil*

On the basis of highest area and production under guar, Sujangarh tehsil of Churu district was selected for the study.

*Selection of Market*

The nearest organized agriculture grain market is in Sujangarh, therefore to study marketing channels, marketing cost and price spread Sujangarh agriculture Mandi of Churu district was selected purposively.

*Selection of villages*

Two villages were selected on the basis of highest area and production under Guar crop in Sujangarh tehsil.

*Classification of farmers:*

Lists of 50 farmers were selected on the basis of probability proportions to number of farmers in different size of holding. The cumulative total method was used in the categorization of farmers in different size of groups small, medium and large. Farmers from top of the list representing 1/3 of total cultivated area were categorized as small farmers. Farmers representing next 1/3 of the area from the middle of the list were categorized medium farmers and the rest were large farmers.

The classification of farmers in different size holdings is given in the table below:

Category of Farmers	Size of land holding (ha)	Average area under Guar (ha)
Small	<5	3.87
Medium	5-8	7.09
Large	>8	12.41

*Selection of Traders and Wholesalers*

Two village traders from each village and two wholesalers from regulated market of Sujangarh were selected on the basis of their responsiveness.

**Results and Discussion**

*Marketing channels, Cost and Margins were analyzed in simple tabular form*

*(a) Marketing Channels*

The information were collected from farmers,

village traders, wholesalers, retailers and market traders regarding disposal pattern to identify the marketing channels prevailing in the guar trade.

*(b) Costs and Margins*

The following formulae were be used

I. Producers price (PP)

$$PP=SP-CP$$

Where,

SP=Producers selling price

CP=Cost incurred by the producer in marketing

II. Producer's share in consumer rupee (PS)

$$PS = \frac{PP}{PC} \times 100$$

Where,

PP=Producer price

PC= Price paid by consumer

III. Total cost of marketing (TMC)

$$TMC=CP+CM$$

Where,

CP=Cost incurred by producer in marketing of produce

CM= Cost incurred by the middleman

IV. Absolute margin (AM)

$$AM=SM-(BM+CM)$$

Where,

SM= Selling price of middle man

BM= Buying price of middle man

CM= Cost incurred by middleman

V. Price Spread = Per cent share of consumer price – Per cent share of producer price

Marketable surplus, marketed surplus, marketing channels, marketing costs and price spread

*Marketing channels*

The following major marketing channels were used by the farmers in marketing of guar in the study area.

Channel-I: Producer → Wholesaler → Miller → Retailer → Consumer

Channel-II: Producer → Wholesaler → Retailer → Consumer

Channel-III : Producer → Commission agent → Wholesaler → Retailer → Consumer

*Marketable and marketed surplus*

The analysis of marketable surplus of guar per farm (Table 1) indicates that on small farm, the marketable surplus was 13.90 quintals. In case of medium and large farm, it was 31.75 quintals and 63.07 quintals, respectively. The marketable surplus showed a tendency to increase with increase in farm size. Due to cash needs in the post-harvest period, the farmers did not stock guar for sale therefore; there was no difference in marketable and marketed surplus of guar.

The marketing costs in channel-I (Table 2) indicates that the cost incurred by producer was Rs. 55/quintal of guar which was 0.865 of consumer rupee. Cost incurred by wholesaler was Rs.81.70/quintal of

Table 1: Marketable surplus and marketed surplus of guar in Churu district of Rajasthan

Category	Marketable surplus (qt.)			Marketed Surplus
	Production	Home Consumption	Marketable Surplus	
Small	14.03	0.13	13.90	13.90
Medium	31.90	0.15	31.75	31.75
Large	63.29	0.22	63.07	63.07
Overall Av.	36.41	0.17	36.24	36.64

Table 2: Marketing cost and price spread in marketing of guar through Channel I

Particulars	Rs./qt.	% share in consumer rupee
Net price received by producer	5045	79.64
Cost incurred by producer		
Loading Cost	3	0.04
Unloading cost	2	0.03
Transportation	20	0.31
Gunny Bags	30	0.47
Total cost	55	0.86
Sale price of producer/ Purchase price of Wholesaler	5100	80.51
Cost incurred by wholesaler		
Mandi tax @ 1.6 percent	81.60	1.28
Weighing @ 0.10/qt.	0.10	0.001
Total Cost	81.70	1.28
Net margin of wholesaler	102	1.61
Sale price of wholesaler/ Purchase price of miller	5283.7	83.41
Cost incurred by miller		
Sale tax @ 1 percent	52.83	0.83
Loading cost	3	0.04
Unloading cost	2	0.03
Transportation	20	0.31
Storage cost	8	0.12
Processing cost	250	3.94
Total cost	335.83	5.30
Net margin of miller	528.37	8.34
Sale price of miller/ purchase price of retailer	6147.90	97.05
Cost incurred by retailer		
Loading cost	3	0.047
Unloading cost	2	0.03
Transportation	20	0.31
Storage cost	8	0.12
Total Cost	33	0.52
Net margin of retailer	153.69	2.42
Sale price of retailer/ Purchase price of consumer	6334.59	100.00

guar which was 1.28% of consumer rupee. Cost incurred by miller was Rs. 335.83/quintal of guar which was 5.30% of consumer rupee. Processing of guar in primary stage by miller was done by removing the guar husk and grain (endosperm) and miller sales the husk to the retailer for the feeding animals and grain (endosperm) sold to the manufactures for further processing and

manufacturing of guar products such as guar gum. Cost incurred by retailer was Rs. 33.00/quintal of guar which was 0.52% of consumer rupee. The farmer share in the consumer rupee was 79.64% in channel-I.

Table 3: Marketing cost in marketing of guar through Channel II

Particulars	Rs./qt.	% share in consumer rupee
Net price received by producer	5070	91.71
Cost incurred by producer		
Loading Cost	3	0.05
Unloading cost	2	0.03
Transportation	20	0.36
Gunny Bags	30	0.54
Total cost	55	0.99
Sale price of producer/ Purchase price of Wholesaler	5125	92.71
Cost incurred by wholesaler		
Mandi tax @ 1.6 percent	82	1.48
Sale tax @ 1 percent	51.25	0.92
Weighing @ 0.10/qt.	0.1	0.001
Total Cost	133.25	2.41
Net margin of wholesaler	102.5	1.85
Sale price of wholesaler/ Purchase price of miller	5360.85	96.97
Cost incurred by retailer		
Loading cost	3	0.05
Unloading cost	2	0.03
Transportation	20	0.36
Storage cost	8	0.14
Total cost	33	0.59
Net margin of retailer	134.021	2.42
Sale price of retailer/ Purchase price of consumer	5527.87	100.00

The Table 3 indicates that the cost incurred by producer was Rs. 55 per quintal of guar which was 0.99% of consumer rupee. Cost incurred by wholesaler was Rs.133.35per quintal of guar which was 2.41% of consumer rupee. Cost incurred by retailer was Rs.33 per quintal of guar which was 0.59% of consumer rupee. The farmer share was 91.71% in consumer rupee in channel II

#### Marketing cost in marketing of guar through channel-III

The marketing costs in channel-III (Table 4) indicate that the total cost incurred by producer was Rs. 55/quintal of guar which was 0.96% of consumer rupee. Cost incurred by commission agent was Rs.82.5/quintal of guar which was 1.44% of consumer rupee. Cost incurred by wholesaler was Rs.79.18/quintal of guar which was 1.38% of consumer rupee. Cost incurred by retailer was Rs.38/quintal of guar which was 0.66% of consumer rupee. The farmer share in consumer rupee was 89.43% in consumer rupee.

#### Relative share of different intermediaries in marketing of guar through different channels

Relative share of producer in consumer rupee:

The analysis of relative share of producer per

Table 4: Marketing cost in marketing of guar through channel II

Particulars	Rs./qt.	% share in consumer rupee
Net price received by producer	5095	89.43
Cost incurred by producer		
Loading Cost	3	0.05
Unloading cost	2	0.03
Transportation	20	0.35
Gunny Bags	30	0.52
Total cost	55	0.96
Producer Sale price/commission agent's purchase price	5150	90.39
Mandi tax @ 1.6 percent	82.4	1.44
Weighing @ 0.10/qt.	0.10	0.001
Total Cost	82.50	1.44
Net margin of CA	103	1.80
Commission agent's sale price/wholesaler purchase price	5335.5	93.64
Loading Cost	3	0.05
Unloading cost	2	0.03
Transportation	20	0.35
Sale tax @ 1 percent	54.18	0.95
Total cost	79.18	1.38
Net margin of wholesaler	106.71	1.87
Wholesaler sale price/retailer purchase price		
Loading cost	3	0.05
Unloading cost	2	0.03
Transportation	25	0.43
Storage cost	8	0.14
Total cost	38	0.66
Net margin of retailer	138.03	2.42
Sale price of retailer/ Purchase price of consumer	5697.42	100.00

Table 5: Relative share and marketing cost of Producer in consumer rupee in different channels (Rs./qt.)

Channels	Price paid by consumer	Sale price of producer	Marketing cost	Net share
I.	6334.59	5100	55	5045 (79.64%)
II.	5527.87	5125	55	5070 (91.71%)
III.	5697.42	5150	55	5095 (89.43%)

quintal of guar (Table 5) reveals that the channel II was the most remunerative channel for the producers because it ensured highest share of producer in consumer rupee. It was 91.71 per cent in channel II followed by 90.74 per cent in channel III and 79.64 per cent in channel-I.

*Relative share of wholesaler in consumer rupee*

The analysis of Table 6 reveals that the net share of wholesaler was highest (1.94%) in channel II followed by channel III (1.90%) and channel I (1.61%).

*Relative share of commission agent in consumer rupee*

The analysis of Table 7 reveals that commission agent had only 1.80 per cent share in consumer rupee.

*Relative share of miller in consumer rupee*

The analysis of Table 8 reveals that miller had 8.34 per cent share in consumer rupee.

*Relative share of retailer in consumer rupee*

The analysis of Table 9 reveals that the net share of retailer was highest (2.89%) in channel II followed by channel I (2.43%) and channel III (2.42%).

Table 6: Relative share and marketing cost of wholesaler in consumer rupee in different channels(Rs./qt.)

Channels	Consumer purchase price	Wholesaler purchase price	Sale price of wholesaler	Gross margin	Marketing Cost	Net share
I	6334.59	5100	5283.70	183.70	81.70	102(1.61%)
II	5527.87	5125	5360.85	241.08	13.35	107.73(1.94%)
III	5697.42	5335.5	5521.39	185.89	79.18	106.71(1.90%)

Table 7 : Relative share and marketing cost of commission agent(Rs./qt.)

Channels	Price paid by consumer	Purchase price of commission agent	Sale price of commission agent	Gross margin	Marketing Cost	Net share
III	5697.42	5150	5335.5	185.5	82.5	103(1.80%)

\*Figures in parenthesis show the percentages to the total

Table 8: Relative share and marketing cost of miller in consumer rupee(Rs./qt.)

Channels	Price paid by consumer	Purchase price of miller	Sale price of miller	Gross margin	Marketing Cost	Net share
I	6334.59	5283.7	6147.9	864.2	335.83	528.37(8.34%)

\*Figures in parenthesis show the percentages to the total

Table 9: Relative share and marketing cost of Retailer in consumer rupee in different channels

Channels	Consumer purchase price	Retailer purchase price	Gross margin	Marketing Cost	Net share
I	6334.59	6147.9	186.69	33	153.69(2.43%)
II	5527.87	5334.7	193.17	33	160.17(2.89%)
III	5697.42	5521.39	176.03	38	138.03(2.42%)

\*Figures in parenthesis show the percentages to the total

Table 10: Price spread in marketing of guar in Channel-I

S.No.	Particular	Rs./qt.	% share in consumer rupee
1.	Producers net price	5045	79.64
2.	Cost incurred by		
a)	Producer	55	0.86
b)	Wholesaler	81.7	1.28
c)	Miller	335.83	5.3
d)	Retailer	33	0.52
	Total Cost	505.53	7.96
3.	Margin of		
a)	Wholesaler	102	1.61
b)	Miller	528.37	8.34
c)	Retailer	153.69	2.42
	Total margin	784.06	12.40
4.	Sale price of retailer/purchase price of consumer	6334.6	100

#### Price spread in different marketing channels

##### Price spread in marketing of guar in channel I

The perusal of Table 10 reveals that producer share in consumer rupee was 79.64% and price spread was as high as 20.36%, out of which, 7.96% was accounted for by marketing cost and 12.37% was accounted for by margin.

##### Price spread in marketing of guar in channel II

The analysis of price spread in channel II (Table 11) indicates that the producer's share in consumer rupee was 91.71% and price spread was 8.29 per cent, out of which, 3.99% was accounted for by marketing cost and 4.30% was accounted for by margin.

Table 11: Price spread in marketing of guar in Channel-II

S.No.	Particular	Rs./qt.	% share in consumer rupee
1.	Producers net price	5070	91.71
2.	Cost incurred by		
a)	Producer	55	0.99
b)	Wholesaler	133.4	2.41
c)	Retailer	33	0.59
	Total Cost	221.4	3.99
3.	Margin of		
a)	Wholesaler	1021.5	1.85
b)	Retailer	134	2.42
	Total margin	236.5	4.30
4.	Sale price of retailer/purchase price of consumer	5527.87	100

##### Price spread in marketing of guar in channel III

The analysis of price spread in channel III (Table 12) indicates that producer share in consumer rupee was 89.43 per cent and the price spread was 10.57 per cent, out of which, 4.46 per cent was accounted for by marketing cost and 6.11 per cent was accounted for by margin.

Table 12: Price spread in marketing of guar in Channel-III

S.No.	Particular	Rs./qt.	% share in consumer rupee
1.	Producers net price	5095	89.43
2.	Cost incurred by		
a)	Producer	55	0.96
b)	Commission agent	82.5	1.44
c)	Wholesaler	79.18	1.38
d)	Retailer	38	0.66
	Total Cost	254.68	4.46
3.	Margin of		
a)	Commission agent	103	1.8
b)	Wholesaler	106.7	1.87
c)	Retailer	138	2.42
	Total margin	347.7	6.11
4.	Sale price of retailer/purchase price of consumer	5697.42	100.00

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