



EXPORT POTENTIAL OF GUAR IN INDIA

*Dr. Shaili Vadera**, Assistant Professor,

Amity Business School, Amity University, Lucknow, India.

*Dr. Vinod Singh***, Professor,

Department of Economics, Lucknow University, India.

INTRODUCTION

Guar plant is an annual plant known as *Cyamopsis Tetragonaloba*. Guar gum is a galactomannan, which is ground endosperm of guar beans. India contributes about 80% of total guar and guar gum production in the world. The major processing states of Guar gum are situated in North western states of India. Guar processing provides Korma, Guar splits, churi. Guar Gum is an important ingredient in producing food additive, food thickener, food emulsifier and other guar gum products. 80% of the total output of Guar gum is exported from the country. Due to increasing use of new technology, research and development and the natural gum characteristics, Guar Industry has developed varied applications from food, pharma industry to oil Industry. Pakistan, United States of America, Africa, Sudan, Australia, China and USA contribute 21-25% of the world guar seed production.

Table: 1

Major Guar producing states in India	Districts
Rajasthan	Churu, Bikaner, Jaisalmer, Barmer, Nagaur, Hanuman Garh, Jodhpur, Ganganagar, Jaipur, Sirohi, Dausa, Jhunjhunu and Sikar, Jaipur.
Haryana	Bhiwani, Gurgaon, Mahendragrh and Rewari
Gujarat	Kutch, Banaskantha, Mehsana, Sabarkantha, Vadodara and Ahmedabad
Punjab	Bhatinda

Source: apeda.gov.in

India produces 650,000 lakh tons of guar annually of which about 20% of output of guar is consumed within the country. India's guar seed production ranged between 3-19 lakh tons during 2006-07 to 2013-14. India contributes for more than 75%-80% of the world guar split supply. Total world supply of guar split increased upto 9 lakh tonnes in the year 2003-04. However, the area under guar cultivation has not changed much from last 10 years. Rajasthan produces 430000 tons of guar annually i.e. more than 75% of total guar seed production, followed by Haryana, Gujarat, Punjab, Uttar Pradesh, Madhya Pradesh, Maharashtra, Tamil Nadu, Andhra Pradesh and Karnataka. The yield in Haryana is higher by 207%. If 10% growth in productivity is achieved each year then the total productivity could be doubled by 2020.

Table 2: State wise Production% of Guar in India in 2013-2014

States	Quantity Produced	Percentage Production of Guar 2013-14
Rajasthan	7,50,000	70%
Haryana	2,00,000	16%
Gujarat	1,50,000	12%
Punjab and others	25,000	02%
Total	11,25,000	100%

Source: apeda.gov.in

Guar gum is an export oriented commodity used in mining, petroleum drilling, construction industries, pharmaceuticals, paper industry, water treatment, cosmetics and textile industry. It is used in food processing sector as a thickener and as a mean of preventing ice crystal formation in frozen desserts.

Table-3: Application-wise global consumption of guar derivatives

Type of application	Percentage consumption in Industries
Food grade Bakeries (Bread), Dairy (Ice cream, Cheese etc.), Sauces, Ketchup's, Beverages (Chocolate drinks), Pet Food (Thickener)	20%
Fast Hydrated Gum Oil drilling (as a well stimulant and fraction reducer), Mining, Explosives, Coal Mining (fraction reducer, binding).	70%
Industrial grade Textile printing (Thickening agent for dyes) Paper (increase strength and decrease porosity) Tobacco (binding and Strengthening) Photography (Gelling and Hardening) Cosmetics & medicines (as binder and thickener) Slimming (Reducing weight & laxative)	10%

Apeda.gov.in

Rajasthan Agricultural University and Central Arid Zone Research Institute (CAZRI) Jodhpur, have developed guar seed production technology however farmers are still ignorant of best agronomic practices to enhance

productivity. Major guar producing states of Rajasthan include Hanumangarh and Sri Ganganagar districts. Private industries like Jai Bharat Chemicals, Lotus gums, Guar global limited are also educating farmers regarding awareness about high yield varieties, guar storage facilities, price and marketing decisions.

Table 4: Production of Guar in India from 2000-2015

S.no	Year	Area (000 ha)	Production (000 tons)	Yield (kg/ha)
1	2000-01	3497	659	188
2	2001-02	2903	1090	375
3	2002-03	975	199	204
4	2003-04	2854	1513	530
5	2004-05	2867	903	315
6	2005-06	2956	1059	358
7	2006-07	3344	1169	350
8	2007-08	3472	1789	515
9	2008-09	3863	1936	350
10	2009-10	2996	595	199
11	2010-11	3382	1965	581
12	2011-12	3444	2218	644
13	2012-13	5152	2461	478
14	2013-14	5603	2715	485
15	2014-15	4255	2415	567

Source: apeda.gov.in

The average production of guar in India is between 9 to 11 lakh tonnes and its productivity largely depends on amount of rainfall. The year 2002-03 was marked by a low production of 42,000 tonnes due to severe drought, whereas in 2003-04 the production increased to 17 lakh tonnes because of good rainfall. Out of the total production of around 2.5 lakh tonnes of guar gum in the country, around 35,000 tonnes is consumed in the domestic market and around 2.5 lakh tonnes exported. The yield of guar seed fluctuates highly with rainfall as there is no other source of water for the crop as it is grown in arid regions. The lowest production of guar seed recorded in Rajasthan was 0.29 lakh tonnes in the year 2002-03, followed by highest production recorded at 19.5 lakh tonnes in the year 2011-12.

Table 5: Cost of cultivation and Net Returns INR/ha of Guar

Crop	Productivity (Qt/ha)	Price (Rs/Qt)	Revenue Generated (Rs/ha)	Cost of Cultivation (Rs/ha)	Net Returns (Rs/ha)
Guar	5.97	5000	29850	15000	14850

Source Apeda2014

Guar crop does not require intensive use of insecticide, fertilizers, labour and irrigation and thus results into an economical crop with low cost of cultivation and high scope of commercialization

In 2007 to 2011 the mean price of guar increased from INR 21000/qt to INR2200/qt. However in 2012 the mean price increased to INR 3600/qt at Jaipur Market. Mean spot price of guar seeds between 2013-2015 increased to around INR 7500/qt.

The year 2005-2006 became a remarkable year for the development of Guar Industry. Prior to this shift in demand there were very few units which were processing guar. In Rajasthan alone there were only 55-60 units engaged in guar processing.

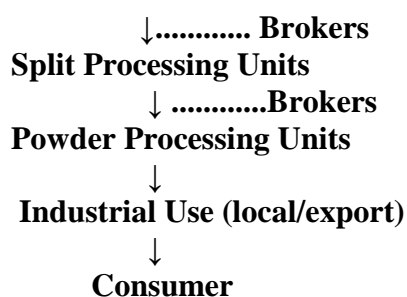
Since 2011, increased demand of FHG resulted in price rise due to which there was quick establishment of around 13,500 processing units in Rajasthan. Today there are more than 650 Guar gum manufacturing units in India with processing capacity of around 8-10 lakh tonnes annually of which only around 4.5-5.5 lakh tonnes capacity is utilized.

The Channel for Value Chain for Guar seeds is as follows

Farmer

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Agent (Mandi)/Stockiest



Mandi fees for Guar is fixed by Agricultural Produce Market Committees (APMCs) of the states. In Rajasthan, the chargeable mandi fee is fixed at the rate of 1.60%, while in Haryana it is 1.0%, Gujarat- 0.50% and in Punjab there is no mandi fee for guar. The channel for selling the guar seed is through commission agents who charge a prescribed brokerage of 2% as per APMC Act. Market of Guar seeds is majorly defined by the traders due to the fact that the product has a very long storage life, most of the product purchased from the mandi by traders is released in a staggered way as per the demand for coming years. The shelf life of Guar seed is more than 3-4 years. Therefore, traders or stockiest can store guar seeds for more than 6-7 years as it requires the barest minimum maintenance and handling environment.

Exports of Guar from India

Guar gum has emerged as India's top farm export overtaking traditional food crops like rice and cotton. The guar gum exports have shot up nearly 140% with shipments of about \$4.9 billion in 2013. In the previous year, it rose 374% in January alone compared to the same month of 2011. Data from the Agricultural & Processed Food Products Export Development Authority showed its export jumped 13.5 per cent to 238,080 tonnes in the first four months (April-July) of the current financial year. However, the value of export fell 45 per cent to \$533 million in the period over last year. India's guar seed output at 1.9 million tonnes in the crop year 2014-15 (July-June), a decline of 34 per cent from previous year due to decline in prices.

Table 6: Guar Gum Exports

Financial Year	Quantity ('000 tonnes)	Value (\$ million)
2011-12	707	3,445.40
2012-13	407	3918.30
2013-14	604	1,979.70
2013-14*	209	999.4
2014-15	236	534.4

*April-July

Source apeda.gov.in

Due to high fluctuation in production the demand derived mainly depends on demand from industries like oil, textiles, food products, etc. After 2005, there has been a migration of demand from food processing to industrial applications. The food grade gum has been substituted by synthetic gums for achieving price competitiveness in food products. There has been increase in demand of guar from the United States mining/petroleum industry and also the oil fields of Middle East.

Table 7: GUAR GUM EXPORT FROM INDIA TO USA &THE WORLD

YEAR	To USA		To World		Share of USA in total export Valueof Guar Gum from India in (%)
	Quantity (ooo'MT)	Value (Crores)	Quantity (000'MT)	Value (Crores)	
2002-03	49	227	112	486	47
2003-04	45	196	121	508	39
2004-05	54	286	131	689	41
2005-06	75	466	187	1049	44
2006-07	67	441	189	1126	39
2007-08	82	484	211	1126	43
2008-09	97	623	259	1339	47
2009-10	72	468	218	1133	41
2010-11	215	1,777	442	2939	60
2011-12	434	12,446	707	16524	75
2012-13	245	17,282	409	21287	81

Source APEDA

An analysis of exports of Guar Gum from India to USA and the world has been given in the table above from 2002 to 2015. It is well evident that exports have increased sharply in the last five years i.e from 60% in 2010-11 to 81% in 2012-13.

In the year 2012-13, the export of guar split and gum from India to the world was around 3.4 lakh tonnes. In 2012-13 the exports were to the tune of around 4.5 lakh tonnes. The annual growth rate of guar gum industry is estimated at 17.6%. Even if the industry grows with 15% CAGR, the expected size of the market in 2015 will be around 5.4 lakh tonnes. Demand of guar gum has significantly increased in countries like Germany, Latin America and China, who are importing the commodity for the food sector. India's export market of Guar gum and its derivatives are Germany, France, United Kingdom, South Africa, Italy, Japan, Canada, China, Chile, Australia, United States of America, Austria, Brazil, Germany, Italy, Japan, United Kingdom, Ireland, Sweden, Greece, Portugal, Mexico, and Netherlands.

China is expected to import 95,000 tonne of guar gum this year compared to 53,000 tonne in 2013. The industry expects the 2014-15 guar gum exports to be around 5.6 lakh tonne due to the revived demand from the food sector and the growing usage of the commodity in the oil drilling sector. In 2013, the exports reduced to INR 3.35 lakh tonne as there was not much demand from the overseas food industry and many countries had used cheaper alternatives for oil drilling. The demand from the oil and gas sector is growing at the rate of 8-10%. In 2014, the total production of guar seed was estimated to be 3.4 million tonnes (mt), or nearly 34 million bags.

CONCLUSION:

Due to high fluctuation in production the demand derived as well as the price of Guar and its derivatives mainly depends on demand from industries like oil, textiles, food products, etc. Since the crop is mainly grown under rain-fed conditions the total quantum of production is directly related to monsoon. The physical market of the commodity involves fluctuation in stocking and speculation. The commodity is subjected to long storage based on demand and market prices. Processing industry is fragmented and economies of scale for such unit do not operate. There is also lack of value addition of guar and its derivatives. As demand for Guar Gum grows, supply side constraints could resume price pressure on the commodity.

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