



## Research Article

# PRODUCTION AND MARKETING CONSTRAINTS FACED BY COTTON GINNERIES IN SAURASHTRA REGION

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**Abstract:** Cotton crop supplies the basic raw material for the textile industry. It earns precious foreign exchange for the country from the export of raw cotton and lint. As the ginning industry plays a key role in development of farm sector and textile industry, the present study was undertaken to study constraints faced by the ginners. Total fifty gin units were surveyed for primary data in the year 2016-17. The results revealed that the major constraints faced by the gin owners are price fluctuation of raw cotton, lint and cotton seeds, shortage of raw materials in quantity and quality and lack of payment security in their order.

**Keywords:** Cotton ginning, garret's ranking, constraint analysis

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## Introduction

Cotton is a natural vegetable fibre assumes great economic importance as a raw material for textile industries. Though dominant position has been reduced by synthetic fibres, cotton is still a principal source of vegetable fibre for the world's textile industry. Cotton's widespread use is largely caused with its fibres are spun into yarn. Cotton's strength, absorbency and ability to be washed and dyed also make it adaptable to a large variety of textile products. Cotton from time immemorial has held the highest place amongst the family of fibres-natural or manmade. Cotton is also known as the King of Fibres and will continue to hold this place for centuries to come. Fabric made of cotton fibre is the best suited to skin comfort under Indian climatic conditions. Continuous improvements have been emerging in the textile spinning and weaving machinery sector. The development of high-speed automatic looms requiring high quality yarn is going to revolutionize the weaving industry. New weaving techniques necessitate special spinning techniques for the production of high-quality yarns and such high quality yarns can be spun only from contamination-free lint of the best quality that is obtained by proper ginning [1].

## Materials and Methods

In the world, India is the second largest cotton exporting and largest cotton producing country. In India, after Maharashtra with the production of 95 lakh bales, Gujarat is the second largest cotton producing state. In Gujarat, Saurashtra occupies the largest area under cotton cultivation. Among the districts of Gujarat, Surendranagar ranks first in the cotton production of the state (22%) followed by Rajkot (16.6%), Bhavnagar (15.8%), Vadodara (7.7%) and Amreli (7.2%). Therefore, the study was confined to Saurashtra region considering the amount of ginned cotton produced i.e., 271.15 lakh bales during the year 2016-17 [2-5]. A sample of 50 functioning gin units were selected from the four districts of Saurashtra region viz., Junagadh, Rajkot, Bhavnagar and Surendranagar purposively considering number of gins available, convenience in data collection and availability of secondary data about the gins. The primary data was collected with the help of the pre-tested schedule through personal interview of cotton ginners. The details about distribution of samples are given in [Table-1].

Table-1 Distribution of selected cotton ginning units

SN	District	Taluka	No. of units
1	Junagadh	Manavadar	15
2	Rajkot	Jasdan	20
3	Bhavnagar	Botad	10
4	Surendranagar	Surendranagar	5
Total			50

The Garret's ranking technique is used to analyze the problems perceived by cotton ginners of Gujarat state. To identify the constraints of cotton ginners, a questionnaire is designed through pre-tested schedule covering the important aspects of cotton ginning. Garrett's ranking technique gives the change of orders of constraints into numerical scores. The major advantage of this technique as compared to simple frequency distribution is that here constraints are arranged based on their importance from the point of view of respondents.

Garrett's formula for converting ranks into percent is given by,

$$\text{Percent position} = 100 * (R_{ij} - 0.5) / N_j$$

Where,

$R_{ij}$  = Rank given for  $i^{\text{th}}$  factor (constraint) by  $j^{\text{th}}$  individual

$N_j$  = Number of factors (constraints) ranked by  $j^{\text{th}}$  individual

The relative position of each rank obtained from above formula is converted into scores by referring to the table given by Garrett (transmutation of orders of merit into units of amount or scores) for each factor scores of all individuals have been added and then divided by the total number of respondents for the specific factor (constraint) attributes.

## Results and Discussion

The constraints faced by the gineries in the present scenario is based on the different situations, geographical location, availability of resources was assessed by scoring and ranked by Garrett ranking and the results are presented in [Table-2] and [Fig-2]. A perusal of [Table-2] clearly revealed that price fluctuation of raw cotton was the major constraint with a mean score of 73.04.



Fig-1 Map of Gujarat state indicating Saurashtra region

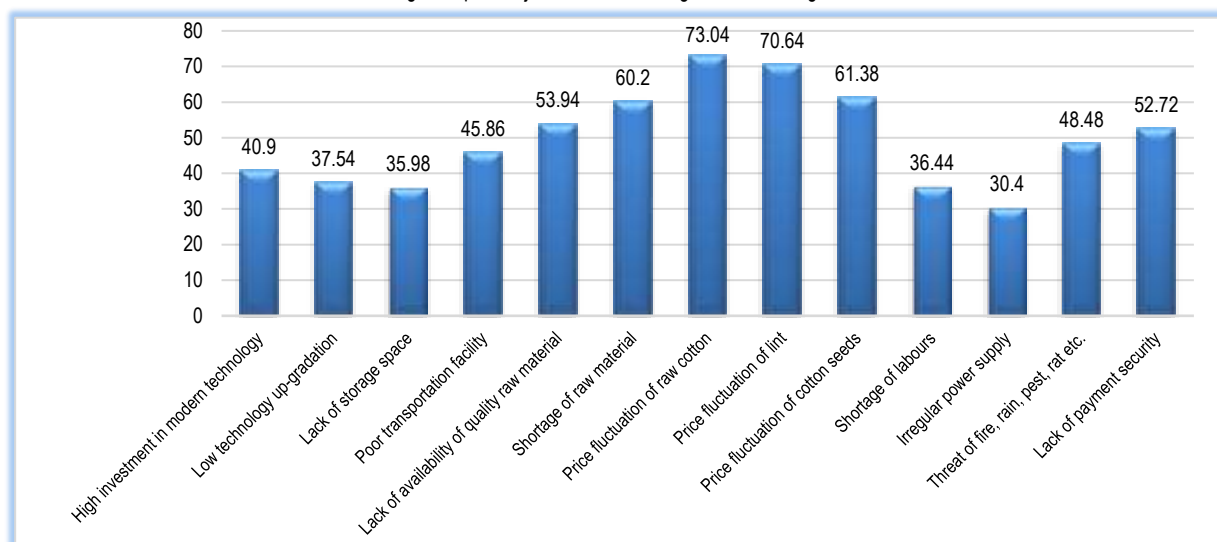


Fig-2 Production and marketing constraints of gineries in Saurashtra region

The second major constraint was price fluctuation of lint produced by the gineries with mean score of 70.64, followed by price fluctuation of cotton seeds (61.38), shortage of raw material (60.20), lack of availability of quality raw material (53.94), lack of payment security (52.72), threat of fire, rain, pest, rat etc. (48.48), poor transportation facility (45.86), high investment in modern technology (40.90), low technology up-gradation (37.54), shortage of labours (36.44), lack of storage space (35.98) and irregular power supply (30.40). Opinion of sample gineries regarding the constraints faced while production and marketing of ginned cotton revealed that high fluctuation in prices of raw cotton which is the major raw material for ginning and price fluctuation of lint found to be the most important and prime consideration of ginners because it leads to increase in cost and highly affects the profitability of the ginners. Apart from this constraint like price fluctuation of cotton seeds, shortage of raw material, lack of availability of quality raw material found to be another important constraint faced by cotton ginners. Lack of payment security leads to affect credit period given by ginners to the cotton producers which are the major suppliers of raw cotton to the gineries. As cotton is the agricultural commodity it is highly affected by insects and pests like rat etc. can damage the raw cotton in the storage area in the gin. Besides this fire and rain is the most important unwelcomed events that can destroy the quality and

usefulness of the seed cotton as wet cotton cannot be used for ginning. When the cotton is ginned it needs to timely supply to the buyers and that required an efficient transportation but the units were facing the problem of poor transportation which sometimes cause the huge loss to the unit owners. So, it can be improved through proper coordination between time of production and the availability of transport vehicles. As the ginning units were highly modernized to improve its efficiency level, it requires high investment to cope up with modernization trend. But the industry is seasonal; the production only takes place during 3-6 months in a year so some small and medium size units cannot afford such a huge investment for technology up-gradation. And another problem faced by this industry is low technology up-gradation and it is off-course because of high investment need. Accordingly, technological levels are benchmarked in terms of specified machinery for each sector of the textile industry. As this industry is heavily mechanized but some of the operation have to be done manually like handling of bales from the pressing unit to the storage area, packing of bales into packing clothes, labelling etc. still needs a labour workforce to maintain the smooth flow of all the other operations in the unit. But the in this sector labours are not working permanent they are highly migrating from one place to another place so sometimes it creates the problem of shortage in ginning season.

As it is seasonal business, production period is hardly of 3-6 months annually, so it requires the enough storage space to store the raw cotton as well as ginned bales to maintain the flow of demand and supply of the final output. Because of highly automatization of this sector, makes this industry rely on the electricity. So, regularity of power supply is very much important to run the unit and timely production. But as per opinions of the respondent's irregularity of the power supply is not the considerable problem. In nutshell, the major constraints faced by the gin owners are price fluctuation of raw cotton, lint and cotton seeds, shortage of raw materials in quantity and quality and lack of payment security in their order.

Table-2 Constraints faced by the ginners in production and marketing of ginned cotton

SN	Particulars	Total score	Garrett's score	Rank
1	High investment in modern technology	2045	40.90	9
2	Low technology up-gradation	1877	37.54	10
3	Lack of storage space	1799	35.98	12
4	Poor transportation facility	2293	45.86	8
5	Lack of availability of quality raw material	2697	53.94	5
6	Shortage of raw material	3010	60.20	4
7	Price fluctuation of raw cotton	3652	73.04	1
8	Price fluctuation of lint	3532	70.64	2
9	Price fluctuation of cotton seeds	3069	61.38	3
10	Shortage of labours	1822	36.44	11
11	Irregular power supply	1520	30.40	13
12	Threat of fire, rain, pest, rat etc.	2424	48.48	7
13	Lack of payment security	2636	52.72	6

### Conclusion

The major constraints faced by the gin owners are price fluctuation of raw cotton, lint and cotton seeds, shortage of raw materials in quantity and quality and lack of payment security in their order.

### Suggestions

#### For Ginners

As fully automatization is profitable, semi-automized ginners should adopt the modern ginning technology.

The increase in working days of gins, proper maintenance of gins and judicious use of electricity, increase in recovery will maximize the profit of gins.

#### For policy maker

The price stability of raw cotton is needed through effective implementation of minimum support price policy. The export price risk can be minimized through subsidizing the inputs for ginning and formulating export friendly policy by government.

**Application of research:** The study of problems regarding production and marketing of ginned cotton will be useful to policy makers of gin industries for its better development.

**Research Category:** Agri-Business Management

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manuscript. Note-All authors agreed that- Written informed consent was obtained from all participants prior to publish / enrolment

**Study area / Sample Collection:** Saurashtra region, primary data collection by personal interview

**Cultivar / Variety name:** Cotton

**Conflict of Interest:** None declared

**Ethical approval:** This article does not contain any studies with human participants or animals performed by any of the authors.

Ethical Committee Approval Number: Nil

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