



ISSN (E): 2277- 7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2022; SP-11(3): 1699-1703
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www.thepharmajournal.com

Received: 16-01-2022

Accepted: 19-02-2022

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Socio-economic status of cotton farmers in Bhadradi Kothagudem district of Telangana

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Abstract

Cotton (*Gossypium* spp.), also known as the "white gold" or "king of fibres," is inextricably linked to human civilization. It has a significant impact on India's economy. In the years 2019-2020, an investigation was conducted in the Bhadradi Kothagudem area of Telangana. The research identified the socioeconomic characteristics of the cotton growers. Having analyzed the findings based on the information collected, it is important, to sum up the most growers of cotton (38.33 percent) Was in the middle age (36 to 58), the Increased percentage of these (43.33 percent) have been trained up to middle-level. The increased percentage (62.40 percent) had a small landholding size (1 to 2 hectares). The higher percentage of cotton growers (43.33%) possessed high knowledge of cotton production practices and had a medium level of farming experience (69.16%). The largest number of respondents belongs to joint families (50 percent), while 33.33 percent of growers fall just under the level of low annual earnings (50,001 to 1,00,000/-). It may be concluded that only 37.50 percent of cotton growers were solely engaged in agriculture as their primary occupation.

Keywords: Cotton production, agriculture, Indian economy

Introduction

Cotton is the principal commercial crop in India, influencing the country's economy as it provides remunerative income and employment to most of the people. India has the highest share globally, about 8 million hectares (36%) in terms of area under cultivation. India is the Earliest domesticated nation in the world and manufacturer of cotton fabrics. Cotton is popularly known as 'The King of Fibers' or 'The White Gold.' In the agro-based industrial sector, it still has a dominant position. It's an internationally and in India an important commercial crop. It is a primary raw material in the textile industry. Cotton, cotton yarn, cotton fabrics, and garments have substantial demand in the global market. Cotton accounts for almost 44% of the world's fiber and 10% of the entire world edible oil production. India next to China's second-largest exporter and producer of cotton. India's production, however, is well below that of other cotton-growing countries. The USA and Africa are the top seed cotton exporters. India has overtaken China as the world's second largest producer of cotton and first in terms of total area under crop production. Cotton sowing, temporal conflicts in preceding crop harvesting, and interactions due to residual effects on successive crops all affect cotton management in complex farming systems (Byerlee *et al.*, 1986) [3]. According to Iqbal *et al.* (2001) [6], timely availability of inputs like seeds, fertilizers, and pesticides can boost crop output. According to Batterham (2000) [2], cotton supply is still insufficient to meet demand. Bt variety generally resulted in a per hectare increase in yields, value of output and reduction of pesticide costs which outweighed the increase in seed costs to give a substantial increase in gross margins (Ismael *et al.*, 2001) [11]. Costs incurred in cotton cultivation have a major role in deciding the profitability of cotton cultivation. Furthermore, it affects the livelihoods of more than 6 million cotton farmers, who are mostly small and marginal. There is a growing discontentment among the Indian cotton growers because profitability has declined over the years. Bhadradi Kothagudem district of Telangana is one of the Telangana's main cotton contributors. Cotton is India's main fibre crop. Around 90% of total cotton in the world is *Gossypium hirsutum*. It supplies the raw material (fibre of cotton) to the textile cotton Industry-Gujarat's largest cotton producer, preceded by Maharashtra. Around 80 percent of the overall irrigated area for cotton is in Punjab, Haryana, Gujarat, and Rajasthan. Gujarat, Andhra Pradesh, and Telangana are the leading producers of cotton in India. Approximately 86% of farmers agreed that the government should pay farmers for the cost of practicing soil

conservation technology and 80% of farmers agreed that soil conservation and controlling erosion were both important and essential. (Noorivandi, A.N 2009)^[8]

In 2015-16, cotton crop production in Telangana was 37.33 lakh bales (1 bale contains 170 kg) compared to 35.83 lakh bales in 2014-15, showing a rise of 4.19 percent. The rise in production is primarily due to an increase in the region during the period 2015- 16. The cotton crop yield in 2015-16 was 358 Kg/ha compared to 360 Kg/ha in 2014-15, indicating a slight reduction of 0.56 percent compared to the prior year. Bhadradi Kothagudem district of Telangana state is one of the first districts along with Nalgonda and Adilabad districts in Telangana in respect of area (15869.7 hectare) and production (470580 hectares) of cotton. Bhadradi Kothagudem comes under the central Telangana zone and consists of mostly black cotton soils and red sandy soils with an average rainfall of 800-1150mm which is well suited to grow cotton, maize, rice, mango, Achilles, etc.

Materials and Methods

Two villages from each taluk were selected based on the highest number of cotton farmers and maximum area under cotton. Twenty cotton farmers from each village were post stratified into small, medium and large farmers proportionately making a total sample of 120. T Bhadradi Kothagudem district of Telangana state was randomly selected for research because most of the area under food crops in this state is decreasing in both absolute and relative terms. Cropping pattern is declining in both absolute and relative terms, and crop patterns are shifting to non-food crops (very deep black cotton soils) in the district, which is favorable for growing cotton. The main reason for choosing this crop is that it is one of the major crop from which farmers can generate cash income to feed themselves. Experiences from developed and developing countries indicate that farmers' access to good quality information has benefited them in terms of increased agricultural production and reduction in the cost of production (Goyal, 2010; Olajide, 2011)^[5, 10]. Cotton grows well in arid/semi-arid climates rotates well with food crops. The industry for using cotton is well established-the demand is not decreasing. Hence, the study on "An economic analysis of cotton production in Bhadradi Kothagudem district of Telangana" was taken up to analyze the facts regarding the cotton production and arrive at a fruitful conclusion to scale up the area, production, and productivity of cotton crops in the state, this will certainly increase the income of the farming community, in general, and also raise the national exchanges, in particular.

Selection of the field for study

Both primary and secondary data were used for this study. The study was conducted in district Bhadradi Kothagudem, Telangana State, as the study is related to the production of cotton because the cotton crop is one of the major crops of the Kharif season in the district. So, Bhadradi Kothagudem district was one of the largest cotton cultivating district in Telangana along with diversified cotton cultivation. There was a random selection of Bhadradi Kothagudem for the

study.

Selection of the respondents

The next move was to select respondents from a complete list of farmers from the villages chosen together with their size of holdings were obtained with the aid of specialists in the subject matter. All the selected district divisions, along with the status of cotton cultivating area and production, will be prepared. Out of these divisions, one division having a more substantial area under cotton and diversified cultivation has selected. Furthermore, all the blocks / mandals selected under the division has been listed, and from among them, two blocks / mandals has selected with the most significant area under cotton cultivation. One village or more from each block had chosen randomly, keeping in view the availability of a sufficient number of respondents. List of all farmers in the villages chosen according to the size group had prepared. Using probability proportional to size sampling, 60 farmers are randomly assigned from every block, and therefore, 120 responders would be the maximum sample size.

Schedules

The schedules were designed to collect all of the relevant information pertaining to the investigation's objectives. First of all, tentative schedules were prepared, which were tested with some sample farms. They were finally adopted for the enquiry when they were considered suitable for a compilation of the relevant information on different objectives. Schedules were built together from the information given below.

1. Farmers name with his family members, age, education, and occupation, etc.
2. Size of holdings, inventory resources, income/expenditure of the selected farmers.
3. Cropping pattern and Specific cost components of production.
4. Human labour.
5. Machine labour / Bullock labour.
6. Seed, fertilizers, chemicals, and pesticide prices.
7. Cost of irrigation.
8. Yield and value of output etc.
9. Different constraints faced by the cotton growers.
10. Tabulation and evaluation

The raw data collected was summarized and analyzed in such a way that the end product, which was given in the tabular form, became pertinent to the study's objectives. The data was first transferred village wise on different sheets. The corresponding master tables were designed benefit to different analysis of the objectives. The entire information was arranged in a particular manner to provide a base for further analysis, thus, facilitating the interpretation of the result.

1.1 Study of socio-economic status of selected farmers

The distribution of age of respondents may indicate the periods or extent of periods of life during which agricultural activities/ works are carried out by them. Table 1 showed that a higher percentage of respondents, i.e., 38.33 percent, were middle-aged participants, followed by a 36.66 percent young age group and a 25.00 percent old age group.

Table 1: Cotton growers' distribution according to their age

S. No.	Categories	Number of respondents	Percentage
1.	Young (18 to 35 Years)	44	36.66
2.	Middle (36 - 58 years)	46	38.33
3.	Old (59 to 66 years)	30	25.00
	Total	120	100

Hence, a higher proportion of respondents can be inferred have been found to fall among the total respondents in the middle age group. These results were more or less similar to the results of Bandgar *et al.* (2002)^[1], Chauhan (2003)^[4] and Kumar (1996)^[7].

1.2 Distribution of cotton growers according to the level of education

Education is measured as the number of years a respondent

has obtained in the formal education, and significantly may impact the adopting of the discipline of cotton production. Table 2 indicates that as much as 43.33 percent of respondents to middle school education followed by 30 percent an alphabet and 26.66 percent reported at and above high school. Therefore, it may be inferred as the comprehensive maximum number of respondents have a middle level school education.

Table 2: Distribution of cotton growers according to their education level

S. No.	Categories	Number of respondents	Percentage
1.	Illiterate	36	30.00
2.	Up to middle	52	43.33
3.	Higher secondary and above	32	26.66
	Total	120	100

1.3 Distribution of cotton farmers according to their family type

The family category explains how family members together live and eat under a single roof. It is available in one house periphery it may be joint (more than 1-2 generations) or in

nuclear form (one or two generations). The study table. 3 reveals that the highest number of respondents were members of joint families (55%), followed by individual families (45%). The largest number can therefore have inferred as highest number of respondents came to the joint family.

Table 3: Distribution of cotton farmers according to their family type

S. No.	Categories	Number of respondents	Percentage
1.	Nuclear	54	45.00
2.	Joint	66	55.00
	Total	120	100

1.4 Distribution of cotton farmers by their family size

The family size of the respondents facilitates contributes to the workplace, which results in family jobs and affects the quality and nature of the job. Table 4 showed that the medium

family size (48.33 per cent) seemed to be the highest number of respondents, followed by 31.66 percent belonged to small groups, while 20.00 percent belonged to the large family sizes.

Table 4: Distribution of cotton farmers by their family size

S. No.	Categories	Number of respondents	Percentage
1.	Small (1-4)	38	31.66
2.	Medium (4-8)	58	48.33
3.	Large (>8)	24	20.00
	Total	120	100

1.5 Distribution of respondents according to their area under cultivation

Table 5 revealed that 31.2 percent of respondents were found to cultivate on less than 1 ha of land. However, 62.4 and 38.4 percent of the respondents were observed to cultivate crop on

up to 1 to 2 hectares and 2 to 4 hectares of their lands, respectively. While only 12.00 percent of the respondents belonged to large farm size groups, i.e., they are cultivating 10 hectares and above.

Table 5: Distribution of respondents according to their area under cultivation (n=120)

S. No.	Category	Number	Per cent
1.	Marginal (<1ha)	26	31.2
2.	Small(1-2ha)	52	62.4
3.	Medium(2-4ha)	32	38.4
4.	Large(>4ha)	10	12
	Total	120	100

1.6 Distribution of respondents based on their farming experience

Table 6: Distribution of respondents based on their farming experience (n =120)

S. No.	Category	Number	Per cent
1.	Up to 5 years (little)	16	13.33
2.	From 6 to 23 years (medium)	83	69.16
3.	24 and above (more)	21	17.51
	Total	120	100

It was revealed from table 6 that about 69.16 percent of respondents had 6 to 23 years of experience of farming. 13.33 percent of the respondents had experiences of farming for up to 5 years. As much as 17.51 percent of the respondents recorded to have experiences of farming up to 24 years and above.

Farmers distribution according to their occupation

From table 7 it was reported that 37.50 percent of total sample cotton growers were dependent solely on agriculture. About 27.5 percent of sample growers were found to depend on

daily wage-earner along with agricultural works. About 11.67 percent were found to earn their livelihood from agriculture along with shop keeping, followed by 9.17 percent earns income from self-employment, 6.66 percent of cotton growers followed dairy farming and only 3.33 percent were found to do service along with agriculture, respectively, and 4.17 percent of respondents were engaged in caste occupation. Therefore, it can be inferred that only 37.50 percent of cotton growers were engaged as their primary occupation solely in agriculture.

Table 7: Farmers distribution according to their occupation

S. No.	Categories	Frequency	Percentage
1.	Solely farming	45	37.50
2.	Agriculture + Daily wage work	33	27.5
3.	Agriculture + Caste occupation	5	4.17
4.	Agriculture + Shop keeping	14	11.67
5.	Agriculture + Dairy	8	6.66
6.	Agriculture + Self employed	11	9.17
7.	Agriculture + Service	4	3.33
	Total	120	100

Farmers' distribution according to their annual income

Table 8 showed that 33.33% of the total cotton growers had annual revenues of Rs. 50,001 to 1,00,000/-, 29.16% had annual revenues of Rs.1,00,001 to 1,50,000/- and 30% had annual revenues of Rs.1,50,001 to 2,50,000/-, 4.16% had annual revenues of Rs. 25,001 to 50,000/- and 3.33% had annual revenues of Rs.2,50,00/-.

Table 8: Farmers' distribution according to their annual income

S. No.	Categories	Frequency	Percentage
1.	Up to Rs.25,000/-	4	3.33
2.	Rs.25,001 to 50,000/-	5	4.16
3.	Rs.50,001 to 1,00,000/-	40	33.33
4.	Rs.1,00,001 to 1,50,000/-	35	29.16
5.	Rs.1,50,001 to 2,50,000/-	36	30
	Total	120	100.00

Conclusion

The research identified the socioeconomic characteristics of the cotton growers. Having analyzed the findings based on the information collected, it is important, to sum up the most growers of cotton (38.33 percent) Was in the middle age (36 to 58), the Increased percentage of these (43.33 percent) have been trained up to middle-level. The increased percentage (62.40 percent) had a small landholding size (1 to 2 hectares). The higher percentage of cotton growers (43.33%) possessed high knowledge of cotton production practices and had a medium level of farming experience (69.16%). The largest number of respondents belongs to joint families (50 percent), while 33.33 percent of growers fall just under the level of low annual earnings (50,001 to 1,00,000/-). It may be concluded that only 37.50 percent of cotton growers were solely engaged

in agriculture as their primary occupation. Despite their economic limitations, farmers have spent more on pesticides to protect their crops, owing to the farmers' reluctance to crop loss. It was recommended that appropriate inputs delivery network need to be put in place by government and agro-service agencies, adequate and intensive research and extension service delivery program should pursue a consistent and systematic campaign for cotton production while the government should institute an enabling marketing policy through product marketing corporation which will serve as a clearinghouse for cotton marketing. Odedokun et al. (2015) Pesticide use declined as the size of such land holding grew in this study. The decision of whether or not to spend money on pesticides should be based on financial threshold of pest infestation. Cotton farmers are unaware of chemical residues that are harmful. As a result, pesticide toxicity and its long-term impacts will be addressed through farmer trainings and meetings.

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