



## Credit Acquisition, Utilization and Possession of Soil Health Card by *Bt* Cotton Tenant Farmers in Guntur District of Andhra Pradesh

**Kantheti Vysali\*, P Rambabu<sup>1</sup> and B Mukunda Rao<sup>2</sup>**

Department of Agricultural Extension,

Agricultural College, Orissa University of Agriculture and Technology, Bhubaneswar - 751 003, Odisha, India

<sup>1</sup>Director of Extension, <sup>2</sup>Professor (Polytechnics), O/o Dean of Agriculture,  
ANGRAU, Administrative Office, Lam, Guntur, Andhra Pradesh, India

**\*Corresponding author:** Ph. D. Scholar, Department of Agricultural Extension, Agricultural College, Orissa University of Agriculture and Technology, Bhubaneswar - 751 003, Odisha

**e-mail:** vysalikantheti@gmail.com

**Contact:** +91- 9390395243

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### ABSTRACT

The study was conducted in Andhra Pradesh state during 2017-18. A total of 120 *Bt* cotton tenant farmers were selected randomly for the study. Data was collected with interview schedule. 16.67 per cent of the *Bt* cotton tenant farmers had not borrowed credit from any source. The majority of the *Bt* cotton tenant farmers borrowed credit from Money Lenders, followed by neighbours/relatives/friends, Regional Rural Banks/Commercial Banks. It could be observed from that 45.00 per cent of the *Bt* cotton tenant farmers used their credit for *Bt* cotton cultivation purpose and more than half of the *Bt* cotton tenant farmers (55.00%) used their credit for non-agricultural purposes. It could be inferred that 62.50 per cent of the farmers have possessed soil health card, whereas, 37.50 per cent had not possessed soil health card. Constraints perceived by the *Bt* cotton tenant farmers in adopting soil health card recommendations were complex to understand the soil health card recommendations, followed by Less benefit by adoption, peers do not follow, inadequate follow-up by extension personnel, late distribution of soil health cards. Suggestions given by the *Bt* cotton tenant farmers in using soil health card recommendations were creating awareness among farmers, regular follow-up by extension personnel, organization of trainings, demonstrations, quick distribution of soil health cards.

**Key words:** Credit acquisition, Credit utilization, Soil health card, *Bt* cotton, Tenant farmers

Tenant farmers are those who cultivate crops by taking land on lease. Tenant farming is an agricultural production system in which land owners contribute their land and often takes care of operating capital and management; while tenant farmers contribute their labour along with at times varying amounts of capital and management. In Andhra Pradesh cotton was cultivated in an area of 4.49 lakh hectares with a production of 13.10 lakh bales and productivity of 791 kg/ha in 2016-17 (Anonymous

2016). The use of *Bt* cotton is a positive environmental protection because it makes possible the reduction of the insecticides load on the environment and reduced usage of such chemicals by farmers. *Bt* cotton is genetically engineered cotton, which contains a gene taken from a soil bacterium (*Bacillus thuringiensis*) to produce toxins in the plants.

Tenant farmers are resource poor. So there is a need to study the source of credit acquisition and its utilization. So

that government can provide awareness about sources of credit acquisition and its utilization. Tenant farmers are applying high amount of fertilizers which leads to the damage of soil health and increased cost of cultivation. Therefore, this study helps to know whether the tenant farmers are adopting the soil health card recommendations or not. The investigation was also carried out to find out the constraints faced by *Bt* cotton tenant farmers and suggestions by *Bt* cotton tenant farmers in soil health card usage so that its adoption by the farmers could be increased which leads to balanced fertilizer usage thereby protecting the soil. With this background, the present study has been made to know the credit acquisition and utilization, constraints and suggestions given by *Bt* cotton tenant farmers.

## MATERIALS AND METHODS

The investigation was carried out during the year 2017 in Guntur district of Andhra Pradesh by using ex-post facto research design to achieve the objectives of the study as the variables already occurred. According to Kerlinger (1983), the ex-post-facto research design is a systematical empirical enquiry in which the scientist does not have any direct control of independent variables and was not manipulable. The state of Andhra Pradesh was selected to get well acquainted with the regional language which would help to build a good rapport and also facilitates in depth study through personal observation. Guntur district was selected as it has the highest area under cotton cultivation. Out of 57 mandals in Guntur district, three mandals were selected randomly after listing out the total number of mandals where tenant farmers were more in the cotton growing area. Three mandals, namely Prathipadu, Veldurthi, Karempudi were selected. After listing out the number of villages in each selected mandals, four villages were selected from each

selected mandal randomly where tenant farmers were more with the cotton growing area. Ten *Bt* cotton tenant farmers were selected from each village by simple random sampling procedure. Thus, making a total of 120 farmers. The data from the respondent farmers were collected with the help of schedules and interviews. The data collected was analyzed and suitable interpretations were drawn. The statistical techniques like frequency, percentage were used to analyze the data. Accordingly the respondents were classified into various groups. A sample of 120 *Bt* cotton tenant farmers were selected from 12 selected villages. The data was collected through well structured interview schedule, which was coded, tabulated and analysed in spss and presented in tables to make findings meaningful and easily understandable.

## RESULTS AND DISCUSSION

### *Credit acquisition and utilization*

It is evident from the (Table 1) that 16.67 per cent of the *Bt* cotton tenant farmers had not borrowed credit from any source. The majority (43.33%) of the *Bt* cotton tenant farmers borrowed credit from Money Lenders, followed by neighbours/relatives/friends (27.50%), Regional Rural Banks/Commercial Banks (12.50%). The majority of the *Bt* cotton tenant farmers were depending on private money lenders for borrowing credit because tenant farmers are not eligible for crop loans as they do not have a fixed property such as cultivable land. 27.50 per cent borrowed credit from neighbours/relatives/friends. Private money lenders were giving credit at a high interest rate of 24 to 36 per cent. This makes the tenant farmer get into a debt trap. So, the government should take measures to control the higher interest rates charged by private money lenders. These findings were in agreement with the findings of Kiranmayi (2013).

Table 1 Distribution of *Bt* cotton tenant farmers according to their credit acquisition

Category	<i>Bt</i> cotton tenant farmers (n=120)	
	Frequency	Percentage
Non-borrowers	20	16.67
Regional Rural Banks (RRBs)/Commercial Banks	15	12.50
Neighbours/Relatives/Friends	33	27.50
Money Lenders	52	43.33
Total	120	100.00

Table 2 Distribution of *Bt* cotton tenant farmers according to their credit utilization

Category	<i>Bt</i> cotton tenant farmers (n=120)	
	Frequency	Percentage
For <i>Bt</i> cotton	54	45.00
For non-agricultural purposes	66	55.00
Total	120	100.00

It could be observed from the (Table 2) that 45.00 per cent of the *Bt* cotton tenant farmers used their credit for *Bt* cotton cultivation purpose and more than half of the *Bt* cotton tenant farmers (55.00%) used their credit for non-agricultural purposes. As tenant farmers had low income and had no any other sources of income other than farming, the

majority of the *Bt* cotton tenant farmers used the credit borrowed to meet their daily expenses, children's education, medical purposes and marriages. These findings were in agreement with the findings of Rao (2011).

### *Possession of soil health card (SHC)*

## Utilization and Possession of Soil Health Card by Bt Cotton Tenant Farmers

From the findings furnished in the (Table 3), it could be inferred that 62.50 per cent of the farmers have possessed soil health card, whereas, 37.50 per cent had not possessed soil health card. But it's quite interesting to note that the majority (73.33%) of the *Bt* cotton tenant farmers had non-adopted the soil health card recommendations, followed by 15.00 per cent with partial adoption and 11.67 per cent with full adoption. These observations are in accordance to

Kiranmayi (2013). The possible reason for the majority of the respondents possessing Soil Health Card is that government is encouraging farmers to apply fertilizers according to the soil test based recommendations thereby leading to cost minimization and protection of soil health. But majority of the *Bt* cotton tenant farmers had non-adopted the soil test based recommendations because of the following constraints.

Table 3 Distribution of *Bt* cotton tenant farmers according to their possession of soil health card

Category	<i>Bt</i> cotton tenant farmers (n=120)	
	Frequency	Percentage
Non-possession of SHC	45	37.50
Possession of SHC	75	62.50
Total	120	100.00

### *Constraints as perceived by the Bt cotton tenant farmers in adoption of Soil Health Card (SHC) recommendations*

From the findings furnished in the (Table 4), it could be inferred that constraints perceived by the *Bt* cotton tenant farmers in adopting soil health card recommendations were

complex to understand the soil health card recommendations (75.00%), followed by Less benefit by adoption (70.83%), peers do not follow (68.33), inadequate follow-up by extension personnel (62.50%) and late distribution of soil health cards (58.33%).

Table 4 Constraints in adoption of Soil health card recommendations (n=120)

Constraints*	Frequency	Percentage
Complex to understand the soil health card recommendations.	90	75.00
Less benefit by adoption.	85	70.83
Peers do not follow.	82	68.33
Inadequate follow-up by extension personnel.	75	62.50
Late distribution of soil health cards.	70	58.33

\*Inclusive response format

Table 5 Suggestions given by the *Bt* cotton tenant farmers to enhance the adoption of soil health card recommendations (n=120)

Constraints*	Frequency	Percentage
Creating awareness among farmers	88	73.33
Regular follow-up by extension personnel	85	70.83
Organisation of trainings, demonstrations	80	66.67
Quick distribution of soil health cards	79	65.83

\*Inclusive response format

From the findings furnished in the (Table 5), it could be inferred that suggestions given by the *Bt* cotton tenant farmers in using soil health card recommendations were creating awareness among farmers (73.33%), regular follow-up by extension personnel (70.83%), organization of trainings, demonstrations (66.67%) and quick distribution of soil health cards (65.83%).

Government can provide awareness about sources of credit acquisition and its utilization. Tenant farmers are

applying high amount of fertilizers which leads to the damage of soil health and increased cost of cultivation. So there is a need to adopt Soil health card recommendations, balanced fertilizer usage thereby protecting the soil. Suggestions given by the *Bt* cotton tenant farmers in using soil health card recommendations were creating awareness among farmers, regular follow-up by extension personnel, organization of trainings, demonstrations and quick distribution of soil health cards.

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