ISSN Print: 2664-844X
ISSN Online: 2664-8458
NAAS Rating (2026): 4.97
IJAFS 2026; 8(8): 732-735
www.agriculturaljournals.com
Received: 04-06-2026
Accepted: 06-07-2026

Kshitija Vinodrao Kadam
Master of Business Administration in Agri-Business Management, School of Agri-Business Management, Nagpur, Maharashtra, India

Dr. Sangita Warade
Professor (CAS), School of Agri-Business Management, Nagpur, Maharashtra, India

Dr. NV Shende
Associate Dean (Instruction) & Head, Department of Agricultural Economics and Statistics, Dr. Panjabrao Deshmukh Krishi Vidyapeeth (Dr. PDKV), Akola, Maharashtra, India

Dr. PR Kadu
Director, School of Agri-Business Management, Nagpur, Maharashtra, India

Corresponding Author:
Kshitija Vinodrao Kadam
Master of Business Administration in Agri-Business Management, School of Agri-Business Management, Nagpur, Maharashtra, India

Socio-economic profile and determinants of credit borrowing among cotton growers in Amravati district

Kshitija Vinodrao Kadam, Sangita Warade, NV Shende and PR Kadu

DOI: https://www.doi.org/10.33545/2664844X.2026.v8.i8i.1834

Abstract
The present study was undertaken to examine the socio-economic characteristics and factors influencing loan borrowing among selected cotton farmers in Amravati district of Maharashtra. Primary data were collected from 90 cotton farmers during the agricultural year 2024-25 through personal interviews. The socio-economic characteristics were analysed using tabular and percentage analysis, while multiple regression analysis was used to identify the factors influencing loan borrowing. The results revealed that the majority of farmers belonged to the medium landholding group and had moderate family income. The regression analysis showed that annual Income had a positive and significant influence on loan borrowing, whereas rate of interest and purpose of loan had a negative and significant influence. The model explained 84 per cent of the variation in loan borrowing, with an R-square value of 0.84. The study suggests that timely and affordable institutional credit should be made available to cotton farmers to meet their agricultural financial requirements.

Keywords: Cotton farmers, Agricultural credit, loan borrowing, socio-economic characteristics, regression analysis, Amravati

1. Introduction
Agriculture plays an important role in the economic development and livelihood of rural households in India. Cotton is one of the major commercial crops cultivated in Maharashtra and provides an important source of income to farming households. However, cotton cultivation requires substantial expenditure on land preparation, seed, fertilizers, plant protection, labour and other farm operations. Due to the high cost of cultivation and seasonal nature of agricultural income, farmers often depend on borrowed funds to meet their production and household requirements.

Agricultural credit plays an important role in supporting farmers by providing timely financial resources for purchasing agricultural inputs and carrying out farm operations. The availability and accessibility of credit may differ among farmers depending upon their socio-economic and farm characteristics. Factors such as age, education, family size, landholding and annual income may influence farmers' borrowing behaviour and their access to credit.

Amravati district is one of the important cotton-growing regions of Maharashtra. Understanding the socio-economic characteristics of cotton farmers and the factors influencing their credit borrowing behaviour is therefore important for improving the effectiveness of agricultural credit services. Hence, the present study was undertaken to examine the socio-economic profile and determinants of credit borrowing among cotton growers in Amravati district of Maharashtra.

2. The study was undertaken with the following objectives
2.1 To examine the socio-economic profile of selected cotton growers in the study area.
2.2 To identify the major factors influencing credit borrowing among cotton growers.

3. Materials and Methods
The study was conducted in Amravati district of Maharashtra during the agricultural year 2024-25. Primary data were collected from 90 selected cotton farmers through personal interviews using a structured interview schedule. A multistage sampling method was namely Amravati, Tiwasa and Chandur Bazar, and nine villages of the district.

The collected data were analysed using frequency, percentage, averages and multiple regression analysis. Frequency and percentage analysis were used to study the socio-economic characteristics of the selected farmers. Multiple regression analysis was used to identify the factors influencing the amount of loan borrowed by the farmers. Age, family size, annual income, total net cultivated area, rate of interest and purpose of loan were considered as explanatory variables, while the amount of loan borrowed was taken as the dependent variable. Regression model:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + e$$

Where,

Y = Amount of loan borrowed by the farmer (Rs)
a = Intercept
b_1 to b_6 = Regression coefficients of the respective independent variables
x_1 = Age of the farmer (Year)
x_2 = Number of family members
x_3 = Annual income of the farmer (Rs)
x_4 = Total net cultivated area (ha)
x_5 = Rate of interest (%)
x_6 = Purpose of the loan (scores)

4. Results and Discussion

4.1 Socio-economic characteristics of selected cotton farmers

Table 1: Age distribution of selected cotton farmers

S.N.	Age group (years)	Farmers category			
		Small	Medium	Large	Overall
1	Up to 30	00.00	13.33	00.00	11.11
2	31 to 60	25 (96.15)	28 (93.33)	33 (97.06)	86 (95.56)
3	Above 60	1 (3.85)	1 (3.33)	1 (2.94)	3 (3.33)
4	Total	26 (100.00)	30 (100.00)	34 (100.00)	90 (100.00)

The age-wise distribution shows that the majority of the selected cotton farmers (95.56%) belonged to the 31-60 years age group. The proportion was highest among large farmers (97.06%), followed by small farmers (96.15%) and medium farmers (93.33%). Only 1.11 per cent of the farmers were below 30 years of age, while 3.33 per cent were above 60 years. Thus, most of the selected cotton farmers were in the 31-60 years age group.

Table 2: Educational status of selected cotton farmers

S.N.	Particulars	Size group			
		Small	Medium	Large	Total
1	Illiterate	3 (11.54)	4 (13.33)	5 (14.71)	12 (13.33)
2	Primary school (1 to 4 Std)	1 (3.85)	1 (3.33)	2 (5.88)	4 (4.44)
3	Middle school (5 to 7 Std)	4 (15.38)	5 (16.67)	5 (14.71)	14 (15.56)
4	High school (8 to 10 Std)	7 (26.92)	8 (26.67)	8 (23.53)	23 (25.56)
5	Higher secondary (11 to 12 Std)	9 (34.62)	10 (33.33)	11 (32.35)	30 (33.33)
6	Graduate and Above	2 (7.69)	2 (6.67)	3 (8.82)	7 (7.78)
7	Total	26 (100.00)	30 (100.00)	34 (100.00)	90 (100.00)

The educational status of the selected cotton farmers indicates that the largest proportion of farmers (33.33%) had higher secondary education, followed by high school education (25.56%). About 15.56 per cent of the farmers had middle school education, while 13.33 per cent were illiterate. Only 7.78 per cent of the farmers were graduates and above, whereas 4.44 per cent had primary-level education. Thus, the majority of the selected cotton farmers had education up to higher secondary or high school level.

Table 3: Gender-wise distribution of selected farmers

S.N.	Gender	Farmers category			
		Small	Medium	Large	Overall
1	Male	22 (95.65)	33 (97.06)	33 (100.00)	88 (97.78)
2	Female	1 (4.35)	1 (2.94)	0 (0.00)	2 (2.22)
3	Total	23 (100.00)	34 (100.00)	33 (100.00)	90 (100.00)

The gender-wise distribution shows that male farmers were predominant among the selected respondents, accounting for 95.56 per cent of the total farmers, while female farmers accounted for 4.44 per cent. Among small farmers, 95.65 per cent were male and 4.35 per cent were female. In the medium farmer group, male farmers constituted 97.06 per cent and female farmers 2.94 per cent. Among large farmers, 93.94 per cent were male and 6.06 per cent were female. Thus, cotton farming in the study area was predominantly carried out by male farmers.

Table 4: Family size of selected farmers

S.N.	Particulars	Farmers category			
		Small	Medium	Large	Overall
1	Up to 3 members	5 (21.74)	8 (23.53)	7 (21.21)	20 (22.22)
2	3 to 6 members	15 (65.22)	23 (67.65)	22 (66.67)	60 (66.67)
3	Above 6 members	3 (13.04)	3 (8.82)	4 (12.12)	10 (11.11)
4	Total	23 (100.00)	34 (100.00)	33 (100.00)	90 (100.00)

The family size distribution shows that the majority of the selected farmers (66.67%) had 3 to 6 members in their families. This group accounted for 65.22 per cent of small farmers, 67.65 per cent of medium farmers and 66.67 per cent of large farmers. About 22.22 per cent of the farmers had up to 3 family members, while 11.11 per cent had more than 6 members. Thus, most of the selected cotton farmers belonged to the medium-sized family group of 3 to 6 members.

Table 5: Land holding size of selected farmers

S. N.	Size of land holding (ha)	Farmers Selected	Average size of holding (ha)
1	Small (up to 2 Ha)	26 (28.89)	1.05
2	Medium (2.01to4.00)	30 (33.33)	2.69
3	Large (4.01and above)	34 (37.78)	5.80
4	Total	90 (100.00)	3.40

The landholding size of the selected cotton farmers indicates that 37.78 per cent of the farmers belonged to the large farmer category, followed by medium farmers (33.33%) and small farmers (28.89%). The average landholding was 1.05 ha for small farmers, 2.69 ha for medium farmers and 5.80 ha for large farmers. The overall average landholding of the selected farmers was 3.40 ha. Thus, the majority of the selected cotton farmers belonged to the large landholding category.

Table 6: Family income of selected farmers (annual income)

S. N.	Category	Farmers category			
		Small	Medium	Large	Total
1	Income group (Below 50,000)	11 (42.31)	12 (40.00)	14 (41.18)	37 (41.11)
2	Income group (50,000 to 2 lakh)	12 (46.15)	14 (46.67)	17 (50.00)	43 (47.78)
3	Income group (above 2 lakh)	4 (11.54)	3 (10.00)	3 (8.82)	9 (10.00)
4	Total	0 (0.00)	1 (3.33)	0 (0.00)	1 (1.11)
5	Average income (Rs)	26 (10.00)	30 (100.00)	34 (100.00)	90 (100.00)

The annual family income distribution of the selected cotton farmers shows that the largest proportion of farmers (47.78%) belonged to the income group of ₹50,000 to ₹2 lakh. This was followed by 41.11 per cent of farmers having an annual income below ₹50,000, while 11.11 per cent of farmers belonged to the income group above ₹2 lakh. Among the different farmer categories, the highest proportion of large farmers (50.00%) was in the ₹50,000 to ₹2 lakh income group. Overall, the findings indicate that most of the selected cotton farmers had an annual family income between ₹50,000 and ₹2 lakh.

4.2 Factors influencing loan borrowing among cotton farmers

Table 7: Factors influencing loan borrowing among selected cotton farmers

S.N.	Particulars	Coefficient
1	Intercept	0.07
2	Age (X1)	1.31
3	Family Members (X2)	-0.29
4	Annual Income (X3)	0.56***
5	Total Net Area(Ha) (X4)	0.00
6	Rate of Intrest (X5)	-0.03**
7	Purpose of Loan (X6)	-0.49***
8	R Square	0.84
8	Multiple R	0.91

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

The regression analysis indicates that the model had a Multiple R value of 0.91 and an R-square value of 0.84, showing that 84 per cent of the variation in loan borrowing was explained by the variables included in the model.

Among the explanatory variables, annual income was positive and significant at the 1 per cent level, indicating that higher-income farmers were more likely to borrow loans. The rate of interest was negative and significant at the 5 per cent level, suggesting that higher interest rates discouraged farmers from borrowing. The purpose of loan was also negative and significant at the 1 per cent level, indicating its significant influence on loan borrowing. Age, family members and total net cultivated area were found to be non-significant. Overall, annual income, rate of interest and purpose of loan were the significant factors influencing loan borrowing among the selected cotton farmers.

5. Conclusion

The study was conducted to examine the socio-economic profile of selected cotton growers and to identify the factors influencing loan borrowing among cotton farmers in Amravati district. The study was based on primary data

collected from 90 selected cotton farmers from three talukas of the district. The findings revealed that the majority of farmers belonged to the 31-60 years age group and had education up to higher secondary level. Most of the farmers had family sizes of 3 to 6 members, while a relatively higher proportion belonged to the large landholding category. The majority of farmers had an annual family income between ₹50,000 and ₹2 lakh.

The regression analysis showed that the model had good explanatory power, with an R-square value of 0.84. Annual income had a positive and significant influence on loan borrowing, whereas rate of interest and purpose of loan had a negative and significant influence. Age, family members and total net cultivated area were found to be non-significant. Thus, the findings suggest that the economic position of farmers and the cost and purpose of credit play an important role in influencing loan borrowing decisions among cotton farmers.

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