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Credit utilization pattern of cotton growers in Yavatmal district

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Abstract

The present study was undertaken during the agricultural year 2025–26 to examine the credit requirements and utilization pattern, debt burden and factors influencing credit utilization among cotton growers in Yavatmal district. A multistage random sampling technique was adopted, and 120 cotton growers were selected from Yavatmal, Darwha and Kalamb tehsils. Primary data were collected through personal interviews using a pre-tested questionnaire. Tabular analysis and multiple regression analysis technique were employed for analysis. The overall credit requirement for cotton cultivation was Rs. 65,350 per hectare, with picking, plant protection, and manure and fertilizers constituting the major components. Overall, 80.60 per cent of borrowed credit was utilized for productive purposes, while 19.40 per cent was utilized for unproductive purposes. The debt burden was highest among small farmers at Rs. 19,510 per hectare (25.28%) and lowest among large farmers at Rs. 9,607 per hectare (16.93%), with an overall debt burden of Rs. 15,345 per hectare (21.80%). Regression analysis revealed that education and landholding had positive and significant effects on credit utilization at the 1 per cent level, whereas age, family size, annual income, consumption expenditure and cropping intensity were non-significant. The study suggests strengthening timely and affordable institutional credit, improving financial literacy, and reducing farmers' dependence on high-cost informal credit sources.

Keywords: Agricultural credit, cotton growers, credit utilization, debt burden, institutional credit, regression analysis

Introduction

Agricultural development depends on land, labour, water, technology and capital. Among these, agricultural credit is an important input for purchasing improved seeds, fertilizers, pesticides, machinery and other production inputs. Small and marginal farmers account for about 86 per cent of total holdings, but have a share of less than 10 per cent in total investment, with marginal farmers accounting for only 1.9 per cent, whereas medium and large farmers account for 25.8 and 47.3 per cent, respectively (MoA&FW, 2015, 2018, 2019). The ground-level credit flow to agriculture increased at an annual rate of 12.98 per cent during 2014–15 to 2024–25, while loans to small and marginal farmers increased from Rs. 3.46 lakh crore in FY 2015 to Rs. 14.39 lakh crore in 2024 (Economic Survey, 2025). The expansion of agricultural credit has been supported by institutional agencies and schemes such as cooperative credit institutions, commercial banks, Regional Rural Banks and the Kisan Credit Card (KCC). The Union agriculture budget increased from Rs. 21,933.50 crore in 2013–14 to Rs. 1,27,290 crores in 2025–26. Under PM-KISAN, Rs. 22,000 crore was reported for disbursement to 9.8 crore farmers, while the KCC credit limit was increased from Rs. 3 lakhs to Rs. 5 lakhs (PIB, Delhi). These developments highlight the growing importance of agricultural credit in supporting farm production and

investment.

Agricultural credit should be utilized for productive purposes such as seeds, fertilizers, pesticides, labour, irrigation and machinery. However, farmers may also utilize a part of borrowed funds for household consumption, education, healthcare, social functions and repayment of previous debts. Such diversion can reduce the productive impact of credit and increase the burden of indebtedness (Ray and Das, 2023) [7]. Therefore, studying the credit utilization pattern is essential for assessing the effectiveness of agricultural finance. Cotton is one of the major fibre and cash crops of India. India ranks first globally in area under cotton cultivation, with 114.84 lakh hectares, accounting for about 38 per cent of the global cotton area of 304.08 lakh hectares. India produced 297.24 lakh bales of cotton during 2024–25 and is the second-largest producer after China. The mission for cotton productivity aims to increase production to 498 lakh bales by 2031 (PIB, 2026). Major cotton-growing states include Gujarat, Maharashtra, Telangana, Punjab, Karnataka and Madhya Pradesh (Economic Survey 2025–26). Yavatmal is one of the major cotton-growing districts and is popularly associated with the cotton economy of Maharashtra. The district has deep black soils suitable for cotton cultivation and supports cotton-related activities such as ginning, pressing and marketing.

The present study was undertaken to examine the credit requirements and utilization pattern, debt burden and factors influencing credit utilization among cotton growers in Yavatmal district.

Methodology

Yavatmal district was selected purposively on the basis of availability of cotton growers. A multistage random sampling technique was adopted for selection of the sample during the agricultural year 2025–26. Three tehsils, namely Yavatmal, Darwha and Kalamb, were selected randomly. From each selected tehsil, two villages were covered and 20 cotton growers were selected from each village, resulting in a total sample of 120 farmers.

Primary data were collected through personal interviews using a pre-tested questionnaire/schedule. Information on credit requirements and utilization, debt burden, borrowing sources and repayment was collected for 2025–26. Multiple regression analysis was used to examine the factors influencing credit utilization, with age, education, family size, landholding, annual income, consumption expenditure and cropping intensity as explanatory variables.

Results and Discussion

The table 1 indicates that the overall credit requirement for cotton cultivation was Rs. 65,350 per hectare, with the highest expenditure incurred on picking (26.58%), followed by plant protection (18.81%) and manure and fertilizers (15.67%). Among the farm-size categories, the total credit requirement was highest for small farmers (Rs. 69,747/ha), followed by medium farmers (Rs. 64,517/ha) and large farmers (Rs. 57,265/ha). Picking constituted the largest component of credit requirement across all three farm-size categories, accounting for 27.19 per cent among small, 27.44 per cent among medium, and 26.58 per cent among large farmers. Plant protection was the second major component, accounting for 18.67, 18.50 and 18.81 per cent among small, medium and large farmers, respectively. Manure and fertilizers accounted for 15.29 per cent among small, 15.30 per cent among medium and 15.67 per cent among large farmers. Overall, the findings indicate that harvesting, plant protection and nutrient management constituted the major areas of credit requirement in cotton cultivation.

The table 2 indicates that the overall productive credit expenditure on cotton cultivation was Rs. 57,856 per hectare, with picking accounting for the largest share (30.60%), followed by plant protection (18.25%) and manure and fertilizers (15.33%). Productive credit expenditure was highest among small farmers at Rs. 60,380 per hectare, followed by medium farmers at Rs. 56,987 and large farmers at Rs. 53,997 per hectare. Picking constituted the major expenditure item across all farm-size categories, accounting for 29.93 per cent among small, 27.79 per cent among medium and 32.29 per cent among large farmers. Plant protection was the second major component, with its share ranging from 17.12 per cent among small farmers to 19.74 per cent among medium farmers. Manure and fertilizers accounted for 14.89 per cent, 15.03 per cent and 17.04 per cent among small, medium and large farmers, respectively.

Overall, the findings indicate that picking, plant protection, and manure and fertilizers were the major components of productive credit expenditure in cotton cultivation.

The table 3 reveals that the overall average credit borrowed was Rs. 70,869 per hectare, of which Rs. 57,118 per hectare (80.60%) was utilized for productive purposes and Rs. 13,751 per hectare (19.40%) for unproductive purposes. Small farmers borrowed the highest amount of Rs. 79,312 per hectare and had the lowest productive utilization at 74.21 per cent, while large farmers borrowed the lowest amount of Rs. 58,073 per hectare and recorded the highest productive utilization at 92.90 per cent. Medium farmers borrowed Rs. 67,906 per hectare, of which 83.61 per cent was utilized productively and 16.39 per cent unproductively. The share of unproductive utilization declined considerably from 25.79 per cent among small farmers to 7.10 per cent among large farmers. Thus, the findings indicate that productive utilization of borrowed credit increased with farm size, whereas dependence on credit for unproductive purposes was comparatively higher among small farmers.

The table 4 shows that the overall average amount of loan borrowed was Rs. 70,869 per hectare, with farmers taking an average of 8.21 months to repay the loan. The average amount repaid was Rs. 57,001 per hectare, accounting for 80.44 per cent of the amount borrowed, while the average interest charges were Rs. 1,477 per hectare. Small farmers borrowed the highest amount of Rs. 79,313 per hectare and recorded the highest debt burden of Rs. 19,510 per hectare (25.28%), whereas large farmers borrowed the lowest amount of Rs. 58,073 per hectare and had the lowest debt burden of Rs. 9,607 per hectare (16.93%). The repayment period also declined with farm size, from 8.75 months among small farmers to 7.57 months among large farmers, while the proportion of the amount repaid increased from 78.50 to 84.65 per cent. Thus, the findings indicate that small farmers faced comparatively greater debt burden and longer repayment periods, whereas large farmers showed better repayment performance and lower financial burden. The higher debt burden among small farmers suggests that they were relatively more dependent on borrowed funds. Marginal and small farmers incurred more outstanding debt from non-institutional sources than other farmers (Jakhar *et al.* 2022) [3].

The table 5 shows that multiple regression model explained 72 per cent of the variation in the dependent variable, with an R^2 value of 0.72, indicating a reasonably good fit. Education and landholding had positive and statistically significant effects on credit utilization at the 1 per cent level. The coefficient of education was 0.2318 and that of landholding was 0.7261. The positive coefficient also suggests that land holding was an important determinant of the dependent variable in the study area. An increase in the educational level of farmers was associated with an increase in the dependent variable. Similar study was reported by Rawat *et al.* (2019) [6]. Age, family size, annual income, consumption expenditure and cropping intensity were statistically non-significant. Thus, education and landholding emerged as the major factors influencing the credit utilization pattern of cotton growers.

Table 1: Land holding wise credit requirement for cotton cultivation

Sr. No.	Particulars	Amount in Rs./ha			Overall
		Small	Medium	Large	
1	Land Preparation	3968 (5.69)	4139 (6.42)	3729 (6.51)	3988 (6.10)
2	Seeds	6211 (8.91)	4802 (7.44)	4190 (7.32)	5284 (8.09)
3	Sowing	3684 (5.28)	3688 (5.72)	3557 (6.21)	3661 (5.60)
4	Manure and Fertilizers	11252 (16.13)	9866 (15.29)	8760 (15.30)	10242 (15.67)
5	Application of Manures and Fertilizers	4028 (5.78)	3853 (5.97)	3107 (5.43)	3784 (5.79)
6	Intercultural Operations	6994 (10.03)	6693 (10.37)	6328 (11.05)	6751 (10.33)
7	Plant Protection	13286 (19.05)	12044 (18.67)	10592 (18.50)	12294 (18.81)
8	Picking	17957 (25.75)	17544 (27.19)	15710 (27.44)	17368 (26.58)
9	Transportation	2366 (3.39)	1888 (2.93)	1290 (2.25)	1976 (3.02)
	Total	69747 (100)	64517 (100)	57265 (100)	65350 (100)

(Figures in the parentheses indicate percentage to the total)

Table 2: Land holding wise credit expenditure in cotton cultivation

Sr. No.	Particulars	Amount in Rs./ha			Overall
		Small	Medium	Large	
1	Land Preparation	3662 (6.07)	3559 (6.25)	3070 (5.69)	3509 (6.07)
2	Seeds	4850 (8.03)	3692 (6.48)	3702 (6.86)	4186 (7.24)
3	Sowing	3555 (5.89)	3378 (5.93)	3410 (6.32)	3459 (5.98)
4	Manure and Fertilizers	8993 (14.89)	8563 (15.03)	9201 (17.04)	8868 (15.33)
5	Application of manures and fertilizers	3538 (5.86)	3355 (5.89)	2864 (5.30)	3338 (5.77)
6	Intercultural Operations	4871 (8.07)	4995 (8.77)	6021 (11.15)	5139 (8.88)
7	Plant Protection	10339 (17.12)	11250 (19.74)	9653 (17.88)	10557 (18.25)
8	Picking	19498 (32.29)	17057 (29.93)	15007 (27.79)	17701 (30.60)
9	Transportation	1074 (1.78)	1135 (1.99)	1067 (1.98)	1096 (1.89)
10	Total	60380 (100)	56987 (100)	53997 (100)	57856 (100)

(Figures in the parentheses indicate percentage to the total)

Table 3: Purpose-wise utilization of credit of selected farmers

Sr.no.	Particulars	Amount in Rs./ha			Overall
		Small	Medium	Large	
1	Productive Utilization	58858 (74.21)	56772 (83.61)	53949 (92.90)	57118 (80.60)
2	Unproductive Utilization	20454 (25.79)	11133 (16.39)	4124 (7.10)	13751 (19.40)
3	Total Credit Borrowed	79312 (100.00)	67906 (100.00)	58073 (100.00)	70869 (100.00)

(Figures in the parentheses indicate percentage to the total)

Table 4: Debt burden on selected farmer during study period (2025-26)

Sr. no.	Particulars	Average amount of loan borrowed (Rs./ha)	Time taken to repay (months)	Amount repaid (Rs./ha)	Interest charges (Rs./ha)	Debt burden (Rs/ha)	Percent of debt burden (%)
1	Small	79313 (100.00)	8.75	62258 (78.50)	2230	19510	25.28
2	Medium	67905 (100.00)	8.04	55091 (81.13)	1687	14501	21.60
3	Large	58073 (100.00)	7.57	49160 (84.65)	695	9607	16.93
4	Overall	70869 (100.00)	8.21	57001 (80.44)	1477	15345	21.80

(Figures in the parentheses indicate percentage to the total)

Table 5: Factors influencing credit utilization

Particulars	Coefficient	Standard error
Intercept	-0.2143	
Age	0.0435	0.1102
Education	0.2318*	0.0667
Family size	-0.0467	0.0559
Land holding	0.7261*	0.0589
Annual Income	-0.0877	0.1547
Consumption Expenditure	0.0608	0.1561
Cropping intensity	-0.0470	0.0844
R ²	0.72	

Conclusion

The majority of agricultural credit was utilized for productive purposes, accounting for 80.60 per cent of total borrowed credit. Productive utilization increased with farm size, while unproductive utilization declined substantially from small to large farmers. Picking, plant protection, and manure and fertilizers constituted the major components of both credit requirement and productive credit expenditure, highlighting their importance in cotton cultivation.

Debt burden was inversely related to farm size. Small farmers experienced the highest debt burden of Rs. 19,510 per hectare (25.28%), whereas large farmers experienced the lowest burden of Rs. 9,607 per hectare (16.93%). The overall debt burden was Rs. 15,345 per hectare, equivalent to 21.80 per cent. The higher burden among small farmers was associated with higher borrowing per hectare, higher interest charges and comparatively lower repayment performance.

The regression analysis established that education and landholding had a positive and statistically significant influence on credit utilization at the 1 per cent level, whereas age, family size, annual income, consumption expenditure and cropping intensity did not have statistically significant effects.

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