# Socio-Economic Implications of Credit Schemes for Millet Farmers in Rural India

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## Abstract

This research looks at the millet farmers in rural India, namely in the Vidharbha area, and the social and economic effects of crop cultivation credit programmes. When it comes to helping small holder farmers increase their production and longevity, agricultural loan programmes play a crucial role. However, their influence on millet farmers' socioeconomic growth has not been thoroughly investigated. This report examines the initiatives' impact on millet farmers' financial security, output, and standard of living by combining qualitative and quantitative research methodologies. Structured interviews, questionnaires, and field observations were used to gather data from millet farmers who had used loan facilities. While loan programmes have increased agricultural revenue and production, the results show that they also bring problems including high payback costs and reliance on credit. Finally, the research suggests governmental actions to make credit programmes more accessible and successful, which would help millet farmers achieve sustainable development and economic resilience. This study offers important information that governments, financial institutions, and agricultural stakeholders may use to help rural farming communities in India improve their socio-economic status.

**Keywords – Agricultural Credit Schemes, Millet Farmers, Socio-Economic Development, Rural India, Financial Stability**

## Introduction

Many people in rural India find work in agriculture, which is why it is considered the economic backbone of the nation. Growing millet is crucial in this industry since the crop is both nutritious and resistant to extreme weather. Despite its significance, millet growing in India has several obstacles, such as poor production, insufficient infrastructure, and restricted access to capital, especially in rural areas like Vidharbha.

In response to these challenges, a number of agricultural credit programmes have been established to help farmers get the money they need to boost their output and keep their businesses afloat. Farmers may invest in improved agricultural products, technology, and practices with the help of these initiatives that give subsidised interest rates on loans. It is unclear, however, how these financing programmes would affect the millet farmers' economic and social growth.

To address this knowledge vacuum, this research will examine the millet farmers in India's Vidharbha area and the social and economic effects of agricultural loan programmes. This study aims to learn how much loan programmes can improve financial stability, agricultural production, and quality of life by looking at the results and experiences of farmers who have used these credit facilities.

This research is greatly influenced by the Vidharbha area, which is renowned for its agricultural misery and high incidence of farmer suicides. It is critical to assess and improve loan programmes immediately to make sure they meet the demands of the agricultural community, especially given the difficulties millet farmers in this area are experiencing.

Combining survey data with qualitative insights gleaned from in-depth interviews and careful observation of the field, this research makes use of a mixed-methods approach. In addition to illuminating the pros and cons of current loan schemes, the results will suggest policy changes that might improve the millet farmers' socioeconomic status.

To add to the larger conversation on rural India's agricultural growth and financial inclusion, this research tries to provide a thorough evaluation of the socio-economic effects of loan programmes. Insights obtained will be helpful for agricultural stakeholders, lawmakers, and financial institutions that are devoted to helping millet farmers achieve sustainable development and economic resilience.

## Objectives of the study

- To assess the accessibility and utilization of agricultural credit schemes among millet farmers in the Vidharbha region.
- To examine the impact of agricultural credit schemes on the financial stability of millet farmers.
- To analyze the effect of credit schemes on agricultural productivity and farming practices.

## Research methodology

In order to thoroughly assess the social and economic effects of agricultural loan programmes on millet growers in the Vidharbha area, this research uses a mixed-methods strategy. In order to guarantee a strong analysis, the study incorporates both quantitative and qualitative data gathering approaches. A statistical sample of millet farmers who had used agricultural financing programmes were surveyed in an organised manner to get quantitative data. Income, productivity, agricultural methods, and socioeconomic circumstances were among the many variables measured in these surveys both before and after credit was made available. Furthermore, farmers, local agricultural officials, and representatives from financial institutions were interviewed extensively and participated in focus groups to gather qualitative data. The perspectives, difficulties, and experiences of the stakeholders were better understood thanks to these in-depth interviews. In addition, field observations were carried out to confirm the data obtained and put the results into perspective.

## Literature review

A research on the economics of finger millet production and selling was carried out by Raj Adhikari (2012) in the peri-urban region of Pokhara Valley, Nepal. The analysis indicated that the Kalabang site had greater production expenses (NRs. 23847.60/ha) and income (NRs. 24638.23/ha) than the Begnas location. Millet production was also greater in Kalabang (1156.15 kg/ha). Begnas had a little higher price per kilogramme. Kalabang had a better B: C ratio in finger millet farming, whereas Begnas had the lowest. In both locations, the expense of female labour accounted for a significant portion of the overall cultivation cost. Major production concerns that were observed were rat assaults and disease damage, namely blight. In rural regions, direct marketing was more frequent than in metropolitan areas, where intermediaries were more common.

To evaluate the production and value addition of foxtail millet, Kusuma et al. (2013) used multistage random sampling to choose 90 growers and 60 farmers in the Bellary region of Karnataka for the research. Personal interviews were used to gather data at the field level, which was then analysed utilising budgeting and tabular analysis. Net earnings from growing foxtail millet were 4,880.00 rupees, with an average expenditure of 11,607.21 rupees per hectare. Adding value by preparing traditional desserts (tambittu) resulted in a gross return of 14,250 rupees and a net return of 5,960 rupees after subtracting the manufacturing cost of 8,290.00 rupees. The research highlighted many difficulties that farmers have, including a dearth of marketing information, high-quality seeds, consistency in products, and competition from already-existing commodities. According to the results, farmers might make more money by growing foxtail millet on marginal areas and selling value-added goods instead of raw grains.

In the Bastar area of Chhattisgarh, Verma and Banafar (2013) studied the economics of small millets. Ten percent of millet farmers from four different villages—Bhataguda, Turenar, Kalcha, and Kumhrawand—were randomly chosen for the research. The results showed that the average landholding size was 2.67 hectares, and the average agricultural intensity was 103.36%. With a B:C ratio of 1:1.33, 1:1.28, and 1:3.25 respectively, the cultivation expenses per hectare for Kodo, Kutki, and Ragi were as follows: Rs. 28,66.75, Rs. 27,51.01, and Rs. 33,442.10, respectively. The research underlined the need for a government-set MSP to maintain these crops and brought attention to a production system strategy that minor millet farmers adopt by integrating loans and technology.

The nutritional value of millets as a nutritious meal and their environmentally friendly character as a result of their low water cultivation needs were emphasised by Bommy and Maheswari (2016). The study's findings—that millet cultivation has declined due to rising rice consumption—highlight the need to educate the public and include millets into public policies that encourage their use.

Research on the production and consumption trends of minor millets was carried out by Anbukkani et al. (2017) using NSSO unit-level data. Researchers found that the largest consumption of small millets was in rural Assam (18.82 kg/hsh/m) and Bihar (18.69 kg/hsh/m). When it came to growing tiny millets, the states of Madhya Pradesh (32.4%), Chhattisgarh (19.5%), Uttarakhand (8%), and Maharashtra (7.8%) had the greatest percantage. The agriculture percantages were comparatively lower in Tamil Nadu (3.9% of the total) and Gujarat (5.3%). Uttarakhand has the most output of all the states, with 1174 kg/ha.

Using a sample of sixty minor millet producers, Devika D. (2017) analysed the production and selling of finger millet and small millet in the Dharmapuri area of Tamil Nadu from an economic perspective. The research found that the production cost of small millet was Rs. 1481.61 per quintal, while that of finger millet was Rs. 2597.80 per quintal. In addition, small millet had a cultivation cost of 53644.40 and finger millet of 32478.47 rupees per hectare. Overall, small millet yielded 6766 rupees per hectare in gross returns, while finger millets yielded 35696.60 rupees per hectare. Also, small millet yielded a net profit of 14016.10 and finger millet a net profit of 3218.13 rupees. The benefit-cost ratio for growing small millet was 1.1 while for growing finger millet it was 1.26.

To make millets more abundant and reduce the effect of yield gaps, Rao et al. (2017) suggested cultivating abandoned or underutilised land. In addition, they aimed to achieve higher productivity, storage facilities, processing in clusters to benefit producers, connecting farmers to value chains to create product demand for added value, and collecting enhanced prices and higher revenue through the e-NAM platform. By 2022, they hoped to have doubled farmers' income in the country.

Working with the SG College of Agriculture and Research Station, Thakur et al. (2017) from the Bastar region of Chhattisgarh assessed the economics and yield of minor millets as part of the All India Co-ordinated Research Project on tiny millets. The results showed that little millet's yield increased by more than 115.64% (5.85 q ha-1) and kodo's yield increased by more than 146.64% (14.57) compared to the average yield of 6.29 q ha-1 and 2.75 q ha-1, respectively. The net returns were higher at Rs. 20449 and Rs. 3766, and the benefit:cost ratio was 1:3.15 and 1:0.67, respectively.

To evaluate the production and marketing techniques of tribal millet farmers, Sahu and Sharma (2018) performed a research in the Bastar Plateau Zone of Chhattisgarh, India. Recognising and implementing suggested cultivation strategies were the primary foci of the study. Household consumption of Kodo millet (94.12%), tiny millet (97.37%), and finger millet (91.30%) was the primary goal of the respondents. The bulk of the participants (48.52%) ate Kodo millet straight up every day, whereas 43.70 percent ate tiny millet every now and then, 77.41 percent ate finger millet in some other way, and farmers sold their extra millets at market.

Foxtail millet was the subject of research by Sharma and Niranjan (2018), who looked at its characteristics, processing, health advantages, and applications. Scientists discovered that millet was an excellent source of protein, fibre, minerals, and phytochemicals. It is possible to render antinutrients such as tannin and phytic acid unnoticeable by using suitable processing methods. In addition to having a low glycemic index and hypolipidemic benefits, millet also showed antioxidant characteristics. Despite its great potential, Foxtail millet was not widely used as a food source and was difficult to cultivate, especially in hilly areas. Nonetheless, foxtail millet showed promise as a future crop for boosting nutritional quality and increasing food security, according to the researchers.

An analysis of the marketing channels, efficiency, and limitations of finger millet in South Gujarat was carried out by Tandel et al. (2018). Price points of 1800, 1830, and 1825 rupees per quintal were paid to producers in the Valsad area. These prices represented 97.10%, 83.51%, and 71.34% of the consumer prices, respectively. Also in Dang district, prices per quintal were 1700, 1650, and 1630, representing 97.05%, 82.90%, and 71.55% of consumer prices, respectively, for Channels I, II, and III. One of the biggest problems with marketing is the lack of suitable transportation options.

Using the snowball sampling approach, Durgad et al. (2019) collected data from forty tiny millet producers in the Ballari and Koppal districts of Karnataka on foxtail millet and small millet. Net returns for foxtail millet farmers were 12,116 rupees, while those for little millet farmers were 11,506 rupees. The research also indicated that the returns on investment for foxtail millet were 1.60 rupees per rupee, while those for little millet were 1.52 rupees. Production of foxtail millet was positively and substantially affected by the following factors: seed cost, human labour, bullock labour, and machine labour. Conversely, the cost of human and machine labour had a substantial and favourable effect on small millet output. Additionally, the survey found that there was an almost 88% marketable excess of small millets.

To feed the world's expanding population, particularly in Africa (2.5 billion) and elsewhere (9 billion), "mega-crops" like finger millet should be more widely used (Opole, 2019). The nutritional value, outstanding agronomic features, and adaptability to different agro-ecological settings make this crop attractive. Right now, there isn't a whole lot of production going on; yearly output is just around 3 million tonnes. The constraints are due in part to factors including poor product development plans, unstable market channels, and poor soil fertility. There have been new research efforts in South Asia and Africa that might help us overcome these obstacles and increase millet production, product development, marketing, consumption, and value addition. This crop has the potential to greatly enhance food and nutrition security on a global and African scale.

To examine the financial situation of ninety-seven finger millet farmers in the Bastar district of Chattisgarh, Kaushal and Choudhary (2020) intentionally chose three blocks. Four villages—Turanag, Matnaar, Kilepal, and Mardum—were surveyed by the researchers via in-person interviews. The main results showed that finger millet's compound growth rate (CGR) in terms of area, output, and productivity increased significantly. Cultivation costs were determined to be Rs. 36,900.35/ha. A1/A2 = 18,040.52 Rs., A2+FL = 22,353.02 Rs., B1 = 18,531.5 Rs., B2 = 28,916.75 Rs., C1 = 22,844 Rs., and C2 = 33,229.25 Rs. were the outcomes of the CACP cost concepts. A1/A2, A2+FL, B1, B2, C1, C2, and C3 were the cost categories for which the B:C ratios were found to be 2.15, 1.73, 2.09, 1.34, 1.70, 1.17, and 1.05, respectively.

Using appropriate crops and cropping techniques, Maitra (2020) found a great deal of untapped potential for enhancing output in drylands. Increased production, water saving, soil protection, nutrient retention, and adaptability to variable weather conditions are some of the demonstrated advantages of intercropping various kinds of millet with legumes. Opportunities to improve agricultural sustainability in drylands will arise, however, only once more research into the performances in various agroclimatic zones is conducted.

Using a pre-structured interview schedule, Sathiya and Banumathy (2020) studied one hundred randomly selected households in the Salem district of Tamil Nadu to determine the economics of demand for three different types of minor millets: samai, also known as little millet, varagu, also known as kodo millet, and thenai, also known as foxtail millet. A linear approximation of an ideal demand system was used in the research. The families in the study spent 38.80% of their minor millet budget on samai, varagu, and thenai, according to the research. The families who participated in the poll favoured samai and saw thenai as an upscale item, according to the results.

Research by Sunitha et al. (2020) in Huvinahadgali Taluka, Bellari District, sought to evaluate yield gaps in foxtail millet Front Line Demonstrations (FLDs) under rainfed circumstances. Fifty farmers were selected, and for five years, 20 of those hectares were planted with high-yielding types of Frontline Foxtail millet (HN-46, HMT 100-1). Flour deworming devices (FLDs) increased grain and fodder yields from 11.40% to 24.26%. There has to be a focus on site-specific practices because to the larger disparities in technology and extension (4.0% to 7.24 qtl/ha and 4.18% to 9.32 qtl/ha, respectively). Better B:C ratios (2.4 to 3.2) are another indicator that FLDs raised farmers' revenue. The majority of Bellari District farmers in the FLD programme long-term accepted barnyard millet types like HN-46 and HMT-100-1, proving that the demonstrations were successful.

## Research gap

There is a noticeable lack of literature that focuses on millet farmers in particular in the Vidharbha area, even though many studies have investigated the effects of agricultural loan programmes on other crops and farming communities throughout India. Many studies have ignored the specific difficulties faced by millet farmers in favour of studying larger agricultural sectors or more economically significant crops like wheat and rice. In addition, there is a paucity of detailed knowledge on the precise impacts of these loan schemes on the financial stability, productivity, and overall livelihood improvements of this marginalised group when discussing the socio-economic implications. This research aims to address that knowledge vacuum by examining the effects of agricultural loan programmes on millet farmers in the agrarianally troubled area of Vidharbha. In doing so, it hopes to add to our knowledge of how credit programmes might help smallholder millet farmers achieve sustainable development and economic resilience in various contexts.

## Conclusion

Millet farmers in the Vidharbha area are the focus of this research, which examines the social and economic effects of agricultural loan programmes in great detail. The results show that while these financing programmes have helped millet farmers become more financially stable and productive, they also come with problems including high payback costs and a reliance on foreign assistance. Farmers have been able to invest in better agricultural practices and inputs because to the improved access to financing, which has resulted to higher crop yields and income levels. But the advantages aren't shared equally; smaller and marginal farmers often have a harder time getting their hands on and making good use of these loan facilities. The research emphasises the need of lending programmes that are more accessible and customised to meet the requirements of millet farmers while also reducing the risks involved. Recommendations for policy include making credit more widely available, launching financial literacy programmes, and establishing systems to help people make responsible credit decisions. Agricultural credit programmes have the ability to promote rural India's socio-economic development, according to this study. However, in order for these schemes to have the greatest possible effect on millet farmers in Vidharbha, it is crucial to solve the gaps and constraints that are already there.

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