

FROM CONSTRAINT TO OPPORTUNITY: STRATEGIES FOR EFFECTIVE AGRICULTURE CREDIT MANAGEMENT

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ABSTRACT

Agriculture as a business activity is at a juncture where it has to pivot to either high-end technology-oriented or natural/organic farming. For this, understanding the credit scenario is imperative to boost economic activity. An Ex-post facto was formulated to elucidate farmers' constraints in credit availing, utilization, and repayment, obtain suggestions, and formulate strategies. In Gujarat state, two districts were conveniently selected from which four blocks and four villages from each, making a sample size of 230. With pre-tested, well-structured interview schedule response was obtained for which statistical analysis as frequency, percentage, and Kendall's coefficient of concordance (W) were put to use, and results were tabulated. Market price fluctuations (Mean score 176.67), low farm profitability (164.00), and inaccessibility of credit information (133.33) were ranked as the top three constraints. The study revealed a moderate agreement (W= 0.291) among farmers regarding these constraints, emphasizing the need for tailored solutions. Farmers' suggestions, such as lowering interest rates (52.17%), increasing loan amounts (42.61%), and offering loans in both cash and kind (31.30%), reflect their desire for more flexible and accessible credit options. Establishing agriculture credit counselling services within banks, promoting sustainable agricultural practices, like Zero Budget Natural Farming, Leveraging fintech solutions, and revitalizing Primary Agriculture Credit Societies (PACS) would make the agricultural credit system more inclusive and efficient, transforming constraints into opportunities for India's farmers.

Keywords: agriculture credit constraints, kendall's coefficient of concordance, suggestions, strategies

INTRODUCTION

Agriculture as a business activity needs investment. In a country like India, where 85 per cent (Mediawire, 2024) of the farmers are small and marginal, with an average monthly income of only Rs. 10,218 (National Sample Survey Office, 2021), they rely on external sources to proceed with agriculture activities. With changing technology and increasing uncertainty, farmers must purchase machinery and diversify their enterprises, respectively, for which capital stands as a hindrance. The existing review of literature have identified the variable accessibility to credit as a crucial constraint for farmers (Pokiya *et al.*, 2024, Ansari, 2023) and depicted its availability would imperatively be seen in farm and farmer improvement (Devi & Shaikh, 2024). Therefore, relying on credit stands evident.

Easily accessible local money lenders were the solution for farmers, but in turn, fell into the debt trap when hit by uncertainties and failed to repay due to their high interest rates. According to the All India Debt & Investment Survey (2021), 40.3% of cultivator households face an incidence of indebtedness. To reduce this reliance on local money lenders

and assist farmers with institutionalized sources of credit at moderate exploitative interest rates, several measures were drafted by the government, such as

- (1) RBI has declared the agriculture sector as primary sector lending. It commands commercial banks, regional rural banks, and small finance banks to allocate 18 percent (40% to priority sector lending) of their net bank credit for agriculture purposes. Among this, 10 percent is reserved for the marginal (up to 1 hectare) and small farmers (1-2 ha) (RBI, 2020).
- (2) As the apex development bank, the National Bank for Agriculture and Rural Development (NABARD) facilitates credit flow for promoting and developing agriculture, small-scale industries, cottage and village industries, handicrafts, and other rural crafts.
- (3) Increasing the number of branches of institutionalized banks and establishing credit sources as a three-tier system of Cooperatives, Regional Rural Banks (RRBs) made credit more accessible.

An overview of agriculture credit development in

India which was presented by Kumar (2021) and published as working paper-I by the NABARD, mentioned that the government's efforts created the Compound Annual Growth Rate (CAGR) of agriculture credit of 19.81 per cent from 1999-2000 to 2019-20.

A positive respire given by the data showing an increase in the share of long-term credit, which creates capital in the agriculture sector, which stood at 22.48 per cent in 2011-12, and has increased to 40.75 per cent in 2019-20, with an increasing rate of change. But the share of short-term credit decreased significantly from 69.71 per cent in 2008-09 to 59.25 per cent in 2019-20. However, the annual target for agriculture credit declared by the government shows a rise yearly with several measures taken in association/consultation with the Department of Financial Services, Reserve Bank of India & NABARD.

Table 1: Annual target for agriculture credit

(₹ in crores)

Year	Fixed	Achieved
2020-21	15,00,000	15,75,398
2021-22	16,50,000	18,63,363.49
2022-23 (recent)	18,50,000	21,55,000 (projected)

Source: Compilation for news reports and government bulletins

Agriculture is at a juncture where it has to pivot to either high-end technology-oriented or towards natural/organic farming. By studying the constraints faced by the farmers, a brief understanding of the agriculture credit scenario could be obtained that would help draft methodologies and policies for the immediate and concurrent address of opted credit issues. Obtaining suggestions from the executing and bottom-of-the-pyramid stakeholders (farmers) would aid in formulating location-specific decisions. Farmers are the primary customers for agriculture credit, and this study reports to the banks in rural areas about the difficulties their customers face. Finally, suitable strategies were formulated with general applicability to address the restraints and prepositions concerning agriculture credit in the study area.

Therefore, this specific study was drafted with the following objectives:

OBJECTIVES

- (1) To examine the challenges faced by the farmers in availing, utilizing, and repaying credit
- (2) To collect and analyze suggestions offered by farmers to overcome the credit constraints they experience

- (3) To formulate strategies aimed at increasing the effective utilization of credit by farmers.

METHODOLOGY

In Gujarat, two districts (Anand and Kheda) were conveniently selected as it falls under the jurisdiction of Anand Agricultural University (researchers college). Since the selected study areas were predominantly in rice farming, the top three blocks with higher acreage in rice were selected to fix the sampling frame. Four villages were included in each taluka (total of 16 villages), and using the formula for sample selection, the sample size was fixed at 230. About 14-15 respondents from each village were randomly contacted with a well-structured interview schedule to elicit responses. Several constraints that could occur for a credit-taking farmer were enlisted after a review of literature and pilot study, and opinion was collected in a three-point continuum: most severe, less severe, not at all severe following a scoring procedure of 3,2,1, respectively. Kendall's coefficient of concordance (W) was executed using IBM SPSS version 26 to elucidate the level of agreement between the respondents concerning the constraint stated under the following hypothesis.

H_0 : There is no agreement among the raters concerned about the constraints in availing, utilizing, and repaying credit.

For suggestions, frequency and percentage were used to tabulate and rank them further.

RESULTS AND DISCUSSION

Constraints faced by the rice farmers in availing, utilizing, and repaying credit

In Table 2, under the credit availing category, inaccessibility of credit information was ranked number one (Vijaya Lakshmi, 2021), two for higher interest rates, and three for fear of inability to pay back. In credit utilization and repayment, the insufficient amount (Meghana *et al.*, 2018) and fluctuations in market prices were ranked one, respectively.

The overall ranks drawn from the mean scores had these constraints on the top five: fluctuations in market prices, low profitability of the farm business, inaccessibility of credit information, high interest rate, and fear of inability to pay back, respectively. This study points out an association of external and environmental factors inhibiting respondents from taking more credit, contrary to the general scenario of supply-side/credit availing constraints. A lower-rank untimely credit disbursement (13) stands in confidence with the previous statement.

Table 2: Constraints faced by the rice farmers in availing, utilizing, and repayment of credit

(n=230)

Constraints	Most Severe (3)	Less Severe (2)	Not an issue (1)	Sum	Mean Score	Rank within category	Overall Rank
Credit availment							
Distance from the institutional source of credit	39	60	131	368	122.67	5	8
High-interest rate	39	77	114	385	128.33	2	4
Lack of awareness of credit sources	40	65	125	375	125.00	4	7
Inaccessibility of credit information	49	72	109	400	133.33	1	3
Lack of collateral security	30	48	152	338	112.67	7	10
Fear of inability to pay back	47	57	126	381	127.00	3	5
A lengthy procedure for loan application	40	47	143	357	119.00	6	9
Credit utilization							
Untimely credit disbursement	20	53	157	323	107.67	3	13
Insufficient amount	43	65	122	381	127.00	1	5
Poor loan monitoring and supervision	08	78	144	324	108.00	2	12
Credit repayment							
Loan diversion to other uses	18	62	150	328	109.33	3	11
Low profitability of the farm business	78	106	46	492	164.00	2	2
Fluctuation in prices of farm output	106	88	36	530	176.67	1	1

The opted response for constraints could be reasoned with the respondent's sole involvement in agriculture without diversifying to allied activities and value addition, fetching them lower incomes, thereby lowering profits and making them severely prone to market risk. Farmers communicated that they only shared limited contact with bank officials during loan processing. Knowing their eligibility for different government schemes (interest subvention schemes, negotiable warehouse receipts, enterprise loans, and SHG loans) could allow them to indulge in secondary agriculture activities over the primary. A lower rank to loan diversion to other uses (11) could also depict the credit behaviour of the study area.

While mean ranks offer a simple way to summarize the rankings provided by multiple raters, Kendall's coefficient of concordance offers a more comprehensive measure of agreement, considering both the rank order and the degree of agreement among raters. As such, Kendall's W is often regarded as superior when assessing the agreement or consistency among multiple raters.

Existing studies (Aarathi Dhakshana & Rajandran,

2018) often highlight the constraints from the supply side (as in banking institutes). This study brings into light the problems of the demand side, as confirmed by the mean ranks of Kendall's coefficient of concordance in Table 3, where the mean ranks were lower for credit repayment over credit availing.

Table 3: Mean ranks of the constraints category obtained while calculating Kendall's coefficient of concordance (n=230)

Constraint category	Mean Rank
Credit availing	2.13
Credit utilization	2.43
Credit repayment	1.43

Kendall's coefficient of concordance (W) analysis was performed to measure the level of agreement between the raters. The hypothesis (H_0) formulated was that there is no agreement among the raters concerned about the constraints faced in availing, utilizing, and repaying credit, and the results are presented in Table 4.

Table 4: Results of Kendall's coefficient of concordance

Parameters	Values
Sample size (n)	230
Kendall's coefficient of concordance (W) value	0.291
Chi-Square	133.641
Degrees of freedom	2
Asymp. Sig.	.000

Table 4 displays the significance of the chi-square value, providing sufficient bounds to reject the null hypothesis and confirm a significant agreement among respondents

Suggestions offered by respondents to overcome the credit constraints

Table 5: Suggestions offered by the respondents to overcome the credit constraints and increase its impact

(n=230)

Sr. No.	Suggestions	Number*	Per cent	Rank
1	Lower interest rate	120	52.17	I
2	Loan waiver at times of adversity	71	30.87	IV
3	Increase the loan amount	98	42.61	II
4	Easy processing of the loan	65	28.26	V
5	Include cash and kind aspects as loan	72	31.30	III
6	Flexibility in repayment	56	24.35	VI
7	Require guidance from organization personnel	53	23.04	VII

*Multiple responses

Table 5 mentions that having to lower the interest rates (Amanullah *et al.*, 2020), increase the loan amount, and include cash and kind aspects as loans were the top three suggestions offered by the respondents to overcome the credit constraints and increase its impact. These results somewhat support the findings of Denkyirah (2016).

The government efforts to reduce the crop loan led to the active involvement of farmers with banking institutions. Under provisions of interest subventions scheme from central and state governments' farmers can avail crop loan at zero interest up to Rs. 3,00,000. Yet reduction in lower rates as major suggestion as the additional amount above three lakhs was charged with regular interest rates by banks. Also the interest rate for livestock and machinery (medium-term loans) were considered high by the farmers thereby declaring cut down on interest rates and encourage value added activities.

The interest rate (Vijayalakshmi, 2021) and insufficient credit amount were not the top three problems stated but occupied significantly fourth and fifth ranks in Table 2; in line with that, farmers might have suggested reducing the interest rate further and increasing the loan amount, thereby, individual's investment towards agriculture could increase which might bring out better results could be the probable reason for such observed response. Opting for cash and kind aspects as loans strengthened respondents'

about the constraints faced. However, the W value ranges from 0 to 1, with 1 being the highest agreement; the value obtained in the study was 0.291, suggesting only a moderate level of agreement (Moslem *et al.*, 2019).

It's essential to recognize that while Kendall's W indicates agreement, suggesting some degree of consensus within the sample group, it doesn't account for the variability within the rankings. Even though there's a moderate agreement overall, individual rankings may vary widely within each category. This variability should be taken into account when interpreting and applying the results.

effort to reduce the diversion of loans for non-agriculture purposes.

It has come to the notice during research that farmers of the study area follow a rotation system with credit where they make sure to repay on time to get the benefits of zero interest offered with the assistance of central and state government but lack efficient usage of credit for agriculture. Farmers having difficulty repaying the entire amount suggested reducing the repayment amount to only the interest rate instead of the principal amount.

Also, large farmers take loans to keep the farmland safe from litigations rather than for value-adding activity. Therefore, most respondents expressed satisfaction with the current credit system and did not offer suggestions. Even the received responses at the farmer level were focused on decreasing friction, yet fuel was required to boost agricultural productivity with credit.

Suitable strategies to increase effective utilization and impact of credit

Before delving into drafting the improvement measures, let's acknowledge the success of the agricultural credit. There was a time when the inaccessibility of institutional credit was a major problem. However, interviews with respondents showed that farmers have handsome access

and choice of source (commercial bank or cooperative) at the block and village levels. The prudent utilization of the agriculture credit slammed the comments of the diversion of agriculture loans. Respondents seldom expressed satisfaction with the agriculture credit system and had no suggestions.

However, there is always room for improvement, and enhancing credit impact requires formulating measures addressing all the stakeholders to maximize the benefits of credit and minimize the risks as follows.

Agriculture credit counselling and consultancy services

Credit is purely offered based on trust, and a banking institute, for its own survival, demands few documents to support its trust in the loanee. The farm population with lesser academic and formalized background confessed the heavy documentation process as a hindrance. They also mentioned that delays in repayment often happen due to the inability to provide information about the due date.

The documentation and loan processing burden in lending institutions typically falls on a single staff member. Given the volume of farmers seeking loans, this approach leaves little time for exploring available schemes and assisting with paperwork. Establishing dedicated agriculture credit counseling booths within banks can address these challenges. Such booths would provide personalized guidance to farmers, empowering them to navigate the banking system effectively.

Through these counseling sessions, farmers can gain insights into responsible credit usage, budgeting techniques, and a clearer understanding of their financial position. They can also receive assistance in developing repayment plans and managing debt effectively. Ultimately, this initiative can enhance farmers' ability to leverage credit productively, improving agricultural productivity and financial stability.

Promotion of alternative agriculture practices

A significant portion of agricultural loans is allocated towards input purchases, yet many farmers still find these amounts insufficient. The PM Kisan Scheme, providing Rs.6000 annually, aims to address farmers' capital needs. However, escalating input costs have made agriculture increasingly capital-intensive, particularly in the absence of favorable market prices, leading farmers into cycles of debt.

In response to these challenges, shifting focus towards sustainable agricultural practices that require minimal inputs is imperative. Zero Budget Natural Farming (ZBNF) is a promising concept at hand. Additionally, embracing organic farming techniques, employing biocontrols, and implementing soil moisture conservation measures with

incentives can foster credit innovation and value contribution with assurance of credit productivity.

By encouraging such practices and investing in their adoption, agricultural credit institutions can play a pivotal role in supporting farmers in achieving economic viability and environmental sustainability.

Fintech for agriculture credit

Farm loans issued with due consideration to production, processing, and marketing aspects were found to be mostly allocated to production. Thereby, there is an absence of farmers' participation in value addition and processing activities. Secondly, instead of location-specific beneficial farm practices, farmers relied on their own experiences and informal contacts. This practice often leads to non-adoption of practices that are the need of the hour (Integrated Pest and Nutrient Management). Regulation of farm activities with monetary rewards while holding transparency, inclusivity, and direct benefit transfer can be done by the eRUPI system.

eRUPI, a digital payment solution developed by the National Payments Corporation of India (NPCI), is designed to deliver cashless, contactless payment solutions through QR codes or SMS strings. It functions as a prepaid e-voucher, which can be redeemed at specific service providers without requiring a credit or debit card, a mobile app, or internet banking.

Government and financial institutions identify eligible farmers who are to receive agricultural credit. eRUPI vouchers are generated for the identified beneficiaries. These vouchers are specific to the intended use, such as purchasing agricultural inputs. The generated eRUPI vouchers are sent to the farmers via SMS or QR code on their registered mobile numbers. Farmers redeem these vouchers at authorized retailers or service providers for agricultural inputs. Each voucher is tracked to ensure it is utilized for the intended purpose. This data helps monitor the credit disbursement's effectiveness and identify areas for improvement.

Reviving PACS

Primary Agriculture Credit Societies (PACS) are grassroots-level cooperative credit institutions in India that provide financial services to the rural population, especially farmers. They offer loans for agricultural purposes, including purchasing seeds, fertilizers, pesticides, and equipment. Additionally, PACS often acts as a procurement agency for agricultural produce and supplies essential inputs to members at reasonable rates.

Despite their potential, PACS was completely underutilized as a source of agricultural credit (in the study

area). However, farmers expressed interest in obtaining loans both in cash and in kind. The Government of India (GOI) has initiated efforts to digitize PACS, and its operations can be further strengthened by liaising with agricultural extension officials. PACS can be revitalized to serve as a financial hub and a centre for technology dissemination in rural areas.

CONCLUSION

The analysis highlights that despite increased access to credit, farmers face substantial challenges in availing, utilizing, and repaying loans. The most severe constraints include market price fluctuations, low farm profitability, and inaccessibility of credit information. The study reveals a moderate agreement among farmers regarding these constraints, emphasizing the need for tailored solutions. Farmers' suggestions, such as lowering interest rates, increasing loan amounts, and offering loans in both cash and kind, reflect their desire for more flexible and accessible credit options. Additionally, the findings indicate that while credit utilization is improved, many farmers lack sufficient guidance on maximizing its benefits.

To address these issues, the study proposes several strategies. Establishing agriculture credit counseling services within banks can provide personalized support to farmers, helping them navigate the credit process and manage their finances effectively. Promoting sustainable agricultural practices, like Zero Budget Natural Farming, can reduce dependency on high-cost inputs and enhance credit productivity. Leveraging fintech solutions, such as eRUPI, can streamline credit disbursement and ensure funds are used for their intended purposes. Finally, revitalizing Primary Agriculture Credit Societies (PACS) can enhance disseminating grassroots financial services and technology.

By implementing these strategies, the agricultural credit system can become more inclusive and efficient, transforming constraints into opportunities for India's farmers.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest related to the research presented in this article

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