Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7, 467-484
2025
Publisher: Learning Gate
DOI: 10.55214/25768484.v9i7.8594

Assessment of farmers perception on socio-economic status after NABARD refinance – An empirical study with reference to select districts of Andhra Pradesh

Kalpana Boddu[1], B. Mohan Venkata Ram[2*]
[1,2]Department of Commerce and Management Studies, Andhra University, India; kalpana.santhi@gmail.com (K.B.) bmohanvram@gmail.com (B.M.V.R.).

Abstract: Agriculture is the backbone of India's economy, ensuring food security, employment, and overall economic development. It supports the livelihoods of a significant portion of the population and is vital to India's socio-economic structure. Recognising its importance, the Government of India has implemented various initiatives and significantly increased budget allocations to strengthen this essential sector. Agriculture serves as the primary source of employment in rural areas, engaging a substantial portion of the rural workforce. According to the Food and Agriculture Organization (FAO), over 55% of the population in many developing countries is employed in the agricultural sector. This industry not only provides jobs for farmers but also for individuals involved in various stages of the agricultural value chain, including processing, transportation, and retail. The objective of the study is to gauge the perceptions of farmers towards their socio-economic status after NABARD refinance. Responses from beneficiaries were gathered, coded, and entered into SPSS 25 for tabulation. The collected data underwent analysis using multiple reliable and validated tools and procedures. Advanced statistical tools such as Chi-square, t-test, and Analysis of Variance (ANOVA) were utilized. Simple descriptive statistics were employed to summarize the characteristics of respondents and the frequency of NABARD beneficiaries. The current study expects to find a strong interrelation between RRBS and NBFCS/MFIS, while other agencies show independent or negligible correlations, reflecting NABARD's varied refinancing strategies.

Keywords: *Agriculture, Andhra Pradesh, Assessment, Farmers, NABARD, Perceptions.*

1. Introduction

India is a key contributor to the global agricultural economy, with farming providing income for over half of its populace (55%). The nation is home to the highest number of cattle globally, with a dominant presence of buffaloes, and leads in cultivated land for wheat, rice, and cotton. Furthermore, India is the top global supplier of milk, pulses, and spices, and the second-largest producer of fruits, vegetables, tea, aquaculture products, sugarcane, and staple crops such as wheat and rice.

Agriculture plays a crucial role in India's expanding economy. Approximately 54.6% of the workforce was engaged in agriculture and related activities, contributing 17.8% to the country's gross value added (GVA). In the fiscal year 2021-22, India achieved total agriculture exports of $50.2 billion, marking a 20% increase from $41.3 billion in 2020-21. Additionally, the Indian agriculture sector grew by 3.5% in FY23.

Conventional farming methods yield comparatively less improvement in efficiency and agricultural yields, resulting in lower productivity. Due to this concern, the government initiated the fourth wave of revolution in the agrarian sector to introduce technological advancements in these activities to improve yields and promote the population's involvement in this sector.

History: Received: 9 May 2025; Revised: 25 June 2025; Accepted: 28 June 2025; Published: 4 July 2025
* Correspondence: bmohanvram@gmail.com

Agriculture 4.0 represents a significantly advanced form of precision farming techniques, with the potential to transform traditional farming methods. Precision farming emphasises a holistic approach to maintaining soil and field health, aiming to enhance both the quality and quantity of crop yields while minimising environmental impact.

1.1. Agricultural Credit in India

Agricultural credit refers to the funds made available to develop farm productivity. The Agricultural Finance Corporation defines agricultural credit as the amount of money a farmer needs to effectively combine productive factors such as land, labour, inputs, machinery, livestock, and managerial skills. This combination should align with the land's capabilities to ensure the farm generates the planned income level. Banks offer credit to farmers in the form of short-term loans for financing crop production programs, as well as medium-term and long-term loans for capital investments in agriculture and related activities. These activities include land development, land purchase, minor irrigation, farm mechanisation, dairy development, poultry, animal husbandry, fisheries, plantation, and horticulture. Additionally, loans are available for the storage, processing, and marketing of agricultural produce.

The Government of India introduced the Kisan Credit Card (KCC) to help farmers meet their short-term working capital needs quickly and without hassle. This initiative has improved the flow of working capital to the agriculture and allied sectors. In 2018-19, the KCC scheme was expanded to include the working capital requirements of fisheries and animal husbandry, and the limit for collateral-free loans was increased to ₹1.6 lakh. As of March 31, 2024, 1.24 lakh KCC accounts had been issued for fisheries, while 44.40 lakh accounts were issued for animal husbandry activities.

1.2. Credit to Agricultural Development

Credit and agricultural development are closely linked, especially in economies where agriculture is a key driver of growth and food security. Credit serves as a vital tool that enables farmers to access the capital needed for production and expansion, playing an essential role in the modernisation and growth of the agricultural sector.

Firstly, credit is crucial for farmers as it provides the necessary funds for investing in essential inputs such as seeds, fertilisers, and irrigation equipment. Without access to credit, many farmers, particularly smallholders, struggle to make these investments, which limits their productivity. Moreover, credit facilitates the adoption of modern technologies, leading to more efficient farming practices and higher yields.

There are different types of agricultural credit, depending on the purpose and repayment period. Short-term credit is often used to purchase seasonal inputs like seeds and labour, with repayment occurring after the harvest. Medium-term credit is intended for items like livestock or small machinery, which typically have a lifespan of more than one year. In contrast, long-term credit is used for substantial investments such as purchasing land or constructing irrigation systems, with repayment spanning a longer period.

Credit for agriculture comes from various sources. Formal institutions like banks, agricultural development banks, and cooperatives provide structured credit, often requiring collateral. Informal sources, such as moneylenders or community networks, are more accessible in rural areas but may charge higher interest rates. Microfinance institutions (MFIs) play a crucial role in providing small loans, particularly to smallholder farmers who lack access to traditional banking services. Additionally, many governments offer subsidised loan programs to support farmers. However, significant challenges exist in providing credit to the agricultural sector. It is often viewed as high-risk due to its dependence on weather, market volatility, and other unpredictable factors. Many small farmers lack collateral, making it difficult for them to secure loans from formal institutions. Furthermore, rural areas frequently have limited access to formal banking services, and even when credit is available, high interest rates can deter farmers from borrowing.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

1.3. Related Works

Prusty and Chaudhari [1] A study aimed to analyse the refinance provided by NABARD in the farm and non-farm sectors. The study revealed that NABARD's lending in both industries has contributed to a decrease in urban and rural poverty during the studied period. The study also concluded that the performance of banks could be improved by offering education and leadership skill programs, effective management, increased participation from banks other than commercial banks, lower interest rates and proper evaluation of various schemes.

Subbarao [2] in his speech titled "Agricultural Credit: Accomplishments and Challenges", delivered at NABARD in Mumbai, they were noted that there has been a remarkable increase in the ratio of agricultural credit to agricultural GDP over the past 40 years. The credit intensity has grown from 12% in the early 1970s to 67% by 2010-11. To support farmers, commercial banks must develop innovative ways to reach out to them, RRBs must leverage their comparative advantage, and cooperatives must improve their governance structures. NABARD, as the leading public institution in agricultural credit, has a crucial role in this regard.

Devi and Govt [3] according to them, in their article titled "The Role of Credit Cooperatives in the Agricultural Development of Andhra Pradesh, India", credit cooperatives play a crucial role in the agricultural development of Andhra Pradesh. The beneficiaries of these cooperatives benefit from improved technology, resulting in higher production, increased net returns, and subsidiary incomes. However, there is still a need to educate farmers about the profitability and superiority of improved technology through extensive credit services. Overall, the role of Credit Cooperatives in the socio-economic development of the beneficiaries is imposing and demonstrated.

Kishore [4] has provided a scholarly analysis of Agricultural Credit in India. He argues that introducing high-yielding seeds, machinery and pesticides in agriculture has led to its commercialization. However, the benefits of this commercialization have gone to the intermediaries rather than the producers, resulting in a significant difference between the credit facilities provided by institutional and non-institutional sources. Marginal farmers are often left in debt due to low income and ever-increasing unproductive loans. As a solution, Kishore suggests a more holistic approach to integrated rural credit that involves proper channelization of the cooperative sector and commercial banks throughout the country.

Jumrani and Agarwal [5] in their article, have conducted a study on the current state of formal credit delivery for agriculture in India. The study shows that there have been significant changes in the system since the 1990s. The credit facilities have expanded their outreach, reaching more people than before. I found that the indirect credit offered to agriculture has grown faster than direct credit. The Reserve Bank of India and NABARD have implemented various measures to increase the indirect flow of credit to agriculture. I also looked into how inclusive the agricultural credit system is and found that the difference in outstanding credit amounts between small and large landholders has widened.

Syed Ibrahim [6] wrote another article which focused on the role of Indian RRBs in priority sector lending. In this article, he attempted to analyse the lending patterns of RRBs to the priority sector and the impact of such lending on rural people. According to his findings, there is a massive gap between the demand and supply of credit at the priority level. Mr. Ibrahim suggested improvements in the administration and management of RRBs to enable better credit disbursement for the priority sector. Although he found that the distribution of short-term credit to crops during his study period was encouraging and satisfactory, he also suggested that the gap between short-term crop loans and term loans for agricultural and allied activities needs to be minimized.

Syed Ali [7] conducted a study on agricultural finance in Kanyakumari district. They calculated the borrowings of farmers from both institutional and non-institutional sources. They found that small farmers had a lower coefficient of variation (0.173) than marginal, medium and large farmers. This indicates that small farmers are more consistent in borrowing. The study also found that friends and relatives, fellow farmers who had availed bank credit, and bank officials (constituting 31 per cent) were the leading motivational sources for borrowing. The media was the second most popular source of

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

motivation (31 per cent). The authors also pointed out that farmers who are introduced through bank officials are more regular in their payments.

Ahangar, et al. [8] conducted a study of India's institutional credit system for agriculture. The study found that there has been a significant increase in the amount of institutional credit provided to agriculture in India by various institutions such as commercial banks, cooperative banks, and regional rural banks. However, these institutions need to reduce the number of outstanding loans and advances, as the unrecovered loans and advances may cause a higher percentage of NPAs, leading to their bankruptcy. To ensure transparency in institutional credit disbursement and credit recovery, the government has to play its part. The National Bank should take steps to channel credit and facilitate its disbursement.

Arora [9] studied the agricultural policies in India in his article. Agriculture has been the backbone of the Indian economy for ages and therefore requires the Indian Government's attention to creating good guidelines for the agriculture sector from the first five-year plan. After the Green Revolution, there was remarkable growth in agricultural production, making India self-sufficient in food grains, vegetables, and fruit production. The institutional credit mechanism developed over the last six decades has played a significant role. Establishing NABARD has been a vital step in India's agriculture credit policy. Arora strongly recommends that the government implement the following policy framework issues:

- Legalizing the leasing of agricultural infrastructure.
- Skill development.
- Accurate forecasting of monsoon mechanisms.
- Mechanization of small farms.
- Appointing a regulatory authority in agriculture.

Maan and Singh [10] The paper aimed to study the role of NABARD and RBI in the growth of agriculture. The study measured the growth and pattern of the regional distribution of the flow of funds of SCBS and RRBS from 1990 to 2007. The results showed that the flow of funds had increased from 1.8 per cent from 1990 to 2000 to 19.1 per cent from 2000 to 2007. The study emphasised that NABARD and RBI had played a vital role in fulfilling the rural credit needs and in making the position of State Cooperative Banks and Rural Development Banks strong. The study also highlighted that NABARD had executed 42 projects through the exterior flow of funds, of which 38 were funded by the World Bank and its associates i.e., IDA and IBRD. The study concluded that there were overall structural reforms in rural fund flow along with the deregulation of interest rates of StCBs and RRBs, lending rates of SCBs for funds more than Rs. 2 lakhs; RRB's recapitalization; new accounting rules, and more refinance from NABARD.

Patra and Agasty [11] conducted a study the role of cooperatives, agriculture, and rural development in policymaking in India. Their research showed that cooperatives are the most trusted institutions in rural India, so the government should give them special attention. These cooperatives, known as PACS, provide short- and medium-term credit to agriculture and other allied activities at the rural level. The study concludes that there should be accountability, transparency, and proper monitoring of the credit inflows and outflows of the cooperatives. NABARD plays a significant role in refinancing the cooperatives and monitoring credit utilization by PACS, DCCBs, and RRBs.

Ramakumar [12] in his article titled "Bank Credit to Agriculture in India: Trends in the 1990s and 2000s," pointed out that there is little evidence to support the claim that small and marginal farmers were the primary beneficiaries of the increased agricultural credit in the 2000s. Instead, it was found that the large agri-business groups and corporate firms that the government favoured in all economic governance branches were the primary beneficiaries of the agricultural credit revival. These groups were involved in agriculture solely for profit-making purposes.

Roy [13] conducted a study to evaluate various policies and programs implemented by NABARD & RRBS for rural development based on secondary sources of data and information. The study found that the Government of India's initiatives for rural housing are commendable. The study also concluded that

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

programs such as the Farmers' Club, Rural Infrastructure Development Fund, Kisan Credit Cards, and SHG-Bank Linkage Programme have positively impacted the development of the economy. Introducing the Kisan Credit Cards scheme is a bold step taken by the Indian Government to alleviate farmers' issues, making it easier for them to access credit. Effective implementation of these programs can lead to overall development in rural areas, thereby improving the quality of life of rural people. The government must ensure strict vigilance in the proper implementation of these programs.

Khan [14] In his speech on the 32nd establishment day of NABARD, he critically analysed the issues and challenges in rural finance. He examined the rural banking sector in India since independence and presented a detailed view of the present structure of rural finance in India. Khan mentioned that providing rural finance is risky due to several hurdles in recovering loans and advances for agricultural purposes. He concludes that agriculture is riskier than industry and services, leading to a perception that rural people are not bankable. However, this perception cannot be neglected, and there must be a mechanism for hassle-free rural finance and its recovery too. The rural finance facilities need to be increased both quantitatively and qualitatively.

Thejeswini, et al. [15] wrote an article discussing the need for innovation in India's design and delivery of agricultural credit. Agriculture is considered a risky business in India, so providing credit to farmers is essential. Unfortunately, most financial institutions have not significantly improved the agricultural credit delivery system. In their article, the authors examine various programs that have been introduced, such as microfinance, group farming, joint liability farming, Kisan credit card, farmers club, and SHG-Bank linkage program. They found that these small innovations in credit disbursement have increased access to agricultural credit and have benefited several marginal and small landholder farmers throughout the country. Short- and medium-term credit demand is higher than long-term credit, making these small innovations critical for farmers' livelihood.

Godara, et al. [16] in their research paper, they critically examined agricultural credit in India. The article revealed insufficient credit and a poor credit delivery mechanism in India. Several states, such as Bihar, Orissa, Madhya Pradesh, Chhattisgarh, and some North East states, must provide adequate credit for agricultural activities. These states face issues such as misuse of credit, credit recovery, and other problems related to agricultural credit. Lack of information, proper counselling, and guidance about credit availability, utilization, and repayment are prevalent among the rural population. The paper also highlights that 83% of small, 78% of medium, and 87% of large farmers depend on non-institutional credit. This situation is alarming in most parts of the country.

Chaudhari [17] in his article, he compares the farm and non-farm sectors to study the emerging dimensions of agriculture. Over the past few decades, NABARD has played a crucial role in providing refinance facilities for agriculture and rural development initiatives. While there have been more shifts in providing refinance for farm activities than non-farm activities, it is observed that farm credit influences the productivity of the agriculture sector. Non-farm credit, especially to rural artisans and allied activity entrepreneurs, provides employment and income generation opportunities at the local level. The study concludes that the Government of India, through NABARD, is implementing an excellent agricultural credit policy to strengthen the farmers across the country.

Rajamani [18] in his editorial titled "Rural Development Budget: Critical Appraisal," revealed that the budget proposed the creation of an Agriculture Infrastructure Fund worth Rs 100 crores. The primary goal of this fund is to encourage research and development in critical areas of farming. This move is necessary to make agriculture more competitive and incentivise private and public investment. The budget also proposed an allocation of Rs 50,000 crores for the Short Term Cooperative Rural Credit (STCRC) Fund during 2014-15. Additionally, a long-term rural credit fund is set to be established in the National Bank for Agriculture and Rural Development (NARARD) with an initial investment of Rs 5000 crores. The long-term rural credit fund will provide long-term refinancing support to farmers.

Beg [19] conducted a study on the role of Regional Rural Banks (RRBs) in achieving financial inclusion in India. This project aims to investigate whether RRBs in the region have made any progress

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

in providing better banking services to the rural population, thus contributing to India's financial inclusion efforts.

Rao and Rao [20] According to the findings, the bank has a reasonable growth rate in advances and deposits and is also expanding its reach to rural areas. India is an agricultural economy, with more rural than urban residents, and requires financial assistance and rural-friendly policies to develop its rural areas. Rural and agriculturally reliant poor people have greatly benefited from RRBs in different fields. The bank's thrust areas have shown steady improvement. Overall, Andhra Pragathi Gramina Bank's performance was successful and appreciable.

Soni and Kapre [21] According to him Regional Rural Banks are crucial in providing credit to small, marginal farmers and the socio-economically weaker sections of the population to develop agriculture, trade, and industry in rural areas. However, their commercial viability has been questioned due to their limited business flexibility, smaller loan sizes, and high risk in loan advances. Rural banks must remove the need for more transparency in their operations, which leads to an unequal relationship between bankers and customers. Banking staff should interact more with their customers to overcome this issue. Banks should also open branches where customers cannot access banking facilities. In this competitive era, RRBs must provide speedy, qualitative, and secure banking services to retain existing customers and attract potential customers.

Santhi and Ganesan [22] According to them, the agriculture industry requires more term bank loans to thrive. The authors argue that non-agricultural activities also indirectly support rural areas. They suggest that Regional Rural Banks (RRBs) should increase their lending to this sector, which could benefit remote bank organizations and regulators in developing appropriate debt frameworks. This conclusion is particularly significant because RRBs are vital to India's rural finance system.

Matkar and Jadhao [23] studied the current state and issues related to agricultural credit in India. Their study found that farmers relied heavily on private moneylenders for agricultural credit, which hindered the growth of institutional credit facilities in the country. The study also revealed that Cooperative banks could have performed better in this aspect. In conclusion, the study suggests that commercial banks and Regional Rural Banks should adopt a broader perspective towards agricultural credit to promote the development of small and marginal farmers.

Mishra [24] A study by examined the primary lending activities of NABARD. The study revealed that the target for loan disbursement to the priority sector was set at Rs. 700,000 crores in 2013-14 and was achieved at 103% of the target. The study recommended that NABARD increase the loan disbursement and create an appropriate credit structure to support the rural economy.

Razi [25] In his article titled "Continued Rural Agenda", he reported that the National Bank for Agriculture and Rural Development (NABARD) had announced a Rural Infrastructure Development Fund (RIDF) with a corpus of Rs. 25000 crores. Additionally, there are plans to allocate Rs. 15000 crores to the Long-Term Rural Credit Fund, Rs. 45000 crores to the Short-Term Cooperative Rural Credit Refinance Fund, and Rs. 15000 crores to the Short-Term RRB Refinance Fund to revive the credit line of agriculture in the Rural Development Budget for 2015-16.

Goyal [26] A study found that NABARD is committed to the all-around development of rural India. The study revealed that the financial assistance provided by NABARD and its disbursement have been increasing every year. The study concluded that NABARD has been providing comprehensive support to rural India and has demonstrated its commitment to "growth with social justice". In essence, NABARD is an institution that provides refinance and oversees the credit flow for agricultural and rural development while also providing guidance and supervision.

Kumar [27] In his article "Inclusive Agricultural Development," emphasized the importance of agricultural credit as a critical factor in agricultural production and growth. Therefore, to empower farmers and meet the increasing demand for food production due to population growth and industry requirements, easy access to credit is essential. The budget for agricultural credit provision has been constantly increasing, from Rs. 375000 crores in 2010-11 to Rs. 850000 in 2015-16.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

Chidambaram [28] article "Commercialisation of Agriculture," emphasized that agriculture and its related activities provide employment opportunities to a large population residing in rural India. While India is self-sufficient in food production, ensuring food security for its ever-growing population requires promoting agricultural activities. Despite this, many agriculturists are tempted by the high prices offered for their land, leading them to sell it to real estate developers. This trend has resulted in a decrease in the area under cultivation. To prevent the loss of this vital sector to greedy land developers, it is crucial to promote and support agriculture in India.

Thyaga Raju [29] in his article, "Financing of Agricultural Sector by National Bank for Agriculture & Rural Development (NABARD) - Analysis," noted that as the private sector increasingly supports developments in agriculture, NABARD has invited select corporate houses to collaborate with them in specific programs like Agri-clinics, Agri-business centers, contract farming, farmer clubs, and more, for the benefit of farmers. To further these initiatives, the Corporate Relations Cell (CRC) - constituted by NABARD at their HO in Mumbai - collaborates with Public Sector Enterprises to implement their Corporate Social Responsibility programs.

Malyadri [30] According to his article titled "Rural Infrastructure - The Growth Engine," cooperative and regional rural banks that receive funds from NABARD at concessional rates for lending to rural activities will have access to additional resources. This will ultimately result in the improvement of agricultural production and productivity in the long run. Investing in rural infrastructure can lead to higher productivity in farming and non-farming sectors, create more employment and income opportunities, and increase the availability of wage goods. These investments can also reduce poverty and foster improved income distribution.

Srinivasan and Katkar [31] In his study "Technology and Policy Interaction: The Green Revolution", observed that cooperatives were tasked with strengthening the foundation for easy access to credit for farmers. To facilitate the provision of credit, district cooperative banks played a leading role. The village cooperatives were responsible for consolidating the credit demand and forwarding it to the district cooperative banks. The district banks then applied for appropriate credit from the Reserve Bank of India through the State Cooperative Bank. The approved credit was then distributed through the cooperative structure to the farmers.

Das [32] According to him, the prevalence of informal finance in rural areas raises questions about the effectiveness of various government measures to reach underserved populations in India. Between 1961 and 2002, Andhra Pradesh had the highest share of non-institutional finance, indicating a positive correlation between informal finance dominance and the success of microfinance programs. Das highlights the need for further examination of the role of informal finance in the Indian financial system.

Bhattacharya and Dutta [33] found that although each Regional Rural Bank (RRB) is unique, they follow a similar creation process, reorganisation design, and guidelines. The paper evaluated the impacts of various factors on the efficiency of RRBs. It concluded that capital and stability are more crucial than payments, borrowing, or the parent banks' net profits. This is primarily due to the country's dependence on parent banks for its financial and commercial activities, resulting in a high percentage of non-performing assets, poor loan and advance recovery, and inadequate integration of the nation's economic systems. Whenever a dispute of commercial values arose between sponsor banks and RRBs, RRBs struggled to perform effectively.

Kaur [34] in his scholarly article, has studied the structure and working of NABARD. He has critically examined the working of NABARD for direct finance and refinance for agricultural and rural development. The National Bank through its dedicated programmes. Provides credit facilities to various banks across the country. The credit facilities are provided for both the farm and nonfarm sectors. The paper also attempts to shed light on the different roles performed by NABARD.

Muneendra and Lakshmi [35] the study conducted by them, aimed to analyse the impact of the NABARD refinancing scheme on the beneficiaries of Chittoor District in Andhra Pradesh. The analysis showed that the financial position of borrowers who received funds from NABARD improved significantly. Furthermore, the scheme led to an increase in the quantum of credit to various agencies

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

and access to credit for ultimate borrowers. The study also revealed that small businesses had a better loan repayment rate than other occupations. Additionally, allied activities were found to have the highest income as compared to other occupations.

1.4. Statement of the Problem

The success of rural development in India largely relies on accessible institutional credit for agriculture and allied activities. Despite reforms and specialized institutions, rural credit delivery faces significant challenges, particularly for Regional Rural Banks (RRBs), which struggle to meet the growing demand for timely credit.

To bolster the rural credit system, NABARD provides refinance support to RRBs, aimed at improving liquidity and enabling expanded credit to priority sectors. However, the effectiveness of these operations, especially in regions with high credit demand like the Krishna district of Andhra Pradesh, remains uncertain. The impact of NABARD's refinance on credit flow, rural livelihoods, and RRB performance has not been sufficiently evaluated, and there is a lack of insights from beneficiaries regarding their perceptions of NABARD-supported RRBs.

This study seeks to fill these gaps by analysing NABARD's refinance operations over ten years in the Krishna district, examining trends, effectiveness, and regional impact, with the goal of informing policy and improving rural credit delivery mechanisms.

1.5. Purpose of the Study

To gauge the beneficiaries' perspective on the impact of NABARD Refinance on their socio-economic status in Krishna and NTR districts of Andhra Pradesh.

2. Research Design and Methodology

2.1. Data Collection Methods

2.1.1. Primary Data

Primary data was collected through a structured survey among the sample beneficiaries engaged in agriculture, small businesses, and allied activities in the combined Krishna district. Data was collected using a structured questionnaire through personal interviews with respondents. Necessary care was taken to maintain confidentiality as required. The respondents were provided with a comfortable and pressure-free environment to encourage honest responses. They were also given sufficient time and assistance to complete the questionnaire accurately.

2.1.2. Secondary Data

To acquire the secondary data, the researcher visited the offices of the State Level Bankers Committee (SLBC), the District Level Bankers Committee (DLBC), the Local Municipalities, the District Collectors, the Commercial Bank, the Krishna District Cooperative Central Bank Ltd, and Regional Rural Bank. The sources of secondary data are the following:

- Directorate of Economics and Statistics.
- Publications from the Reserve Bank of India (RBI).
- NABARD's Annual Reports.
- Various publications from NABARD.
- Economic Survey (Government of India and Andhra Pradesh).
- Publications from Commercial Banks, Regional Rural Banks, and Cooperative Banks.
- Published sources such as articles, journals, and books related to the topic.
- Research papers published in reputed journals.
- Websites of relevant financial and government institutions.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

2.1.3. Sampling Design

A stratified random sampling technique was employed for the sampling process. Out of the total universe of 93,561 units that availed loans—including small farmers, artisans, and business owners—a sample size of 636 respondents was determined using the standard sample size formula for proportions, applying a 95% confidence level, a 3.55% margin of error, and an assumed population proportion of 0.30, with finite population correction. This calculated sample was then proportionally allocated across all four revenue divisions, ensuring adequate representation from three key categories: agriculture, small business, and allied activities.

2.1.4. Statistical Tools Used

Statistical calculations such as percentages, arithmetic mean, standard deviation, covariance, correlation, factor analysis, ranking, Chi-square test, ANOVA, t-test, and regression analysis etc., were conducted as part of the analysis.

Table 1.
Demographic and Socio-economic profile of the beneficiaries.

Variables		Number of sample respondents	Percentage
Gender	Male	321	50.4
	Female	315	49.6
	Total	636	100.0
Age (in years)	Up to 25	65	10.2
	26 – 35	123	19.5
	36 – 45	245	38.5
	46 – 55	81	12.7
	Above 55	122	19.2
	Total	636	100.0
Education	Illiterate	108	17.0
	Primary	80	12.6
	Secondary	75	11.8
	Inter/Polytechnic	117	18.4
	Degree	163	25.6
	PG	93	14.6
	Total	636	100.0
Occupation	Agriculture	312	49.0
	Small business	151	23.7
	Artisans/allied activity	173	27.3
	Total	636	100.0
Annual Income (Rs.)	up to 1 lakh	181	28.4
	1 – 2 lakhs	313	49.3
	2 – 3 lakhs	32	5.0
	3 – 4 lakhs	42	6.6
	4 – 5 lakhs	44	6.9
	above 5 lakhs	24	3.8
	Total	636	100.0
Social Background	FC	155	24.4
	BC	246	38.6
	SC	212	33.4
	ST	23	3.6
	Total	636	100.0
Size of the Household (Number)	1-2	98	15.4
	3-4	271	42.7
	5-6	202	31.7
	7-8	65	10.2
	Total	636	100.0

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

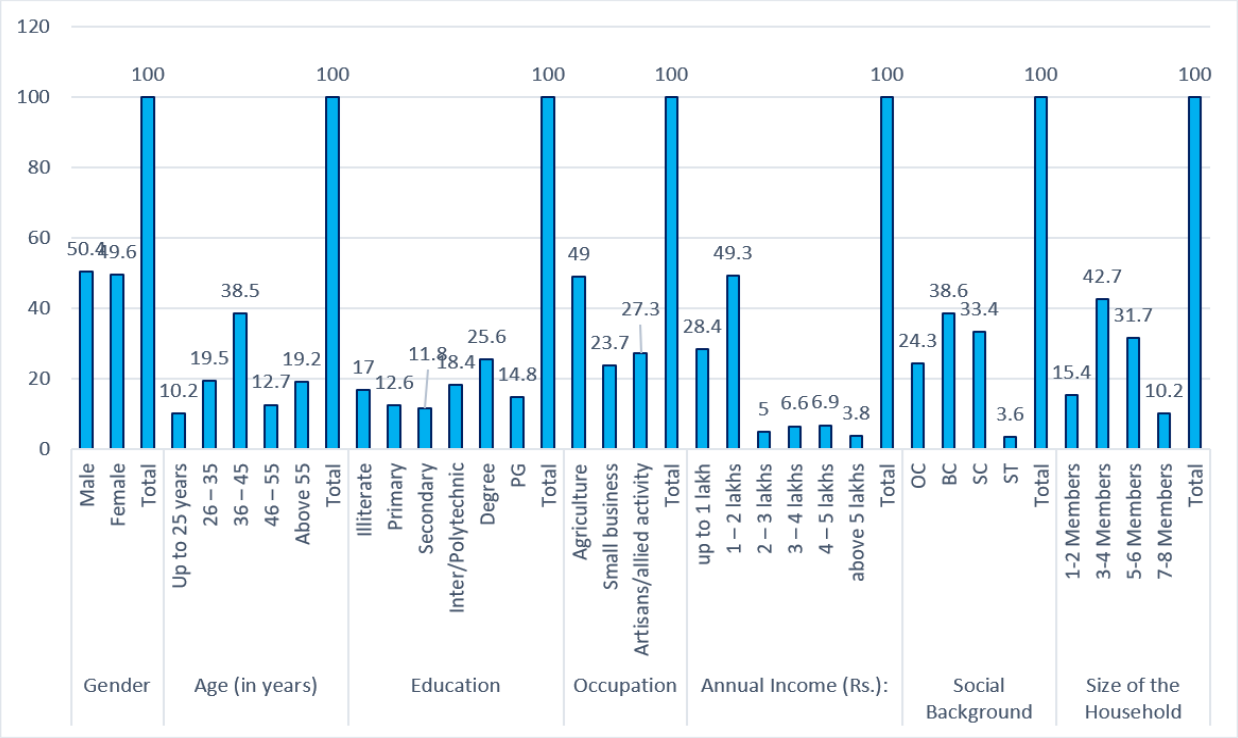

Figure 1.
Beneficiaries demographic profile.

3. Results and Discussion

Figure 1 shows the demographic profile of beneficiaries shows a nearly equal gender distribution, with 50.4% male and 49.6% female. In terms of age, 19.5% fall in the 26–35 years group, and 19.2% in the 46–55 years category. Educationally, 17% have primary education, 12.1% have an intermediate/polytechnic qualification, and 18.4% are postgraduates.

Occupationally, 49% are engaged in agriculture, while 23.7% work in artisan/allied activities. Income-wise, 49.3% earn up to ₹1 lakh, with a smaller percentage in higher brackets. Socially, 38.6% belong to Backward Classes (BC), while only 3.6% are from Scheduled Tribes (ST). Household size varies, with 42.7% in 1–2 member homes and 31.7% in 5–6 member households.

Table 2 presents a crosstab and Chi-square analysis of borrowings under the NABARD scheme, highlighting significant associations between demographic factors and institutional preferences. Gender is crucial in banking choices ($\chi^2 = 28.783$, $p = 0.000$). Males primarily borrow from RRBs (147 users) and SCBs (131 users), whereas females are more evenly distributed, with a slight preference for CBs. This suggests that men rely more on rural banking, while women have better access to cooperative banks. Education level significantly affects borrowing patterns ($\chi^2 = 84.346$, $p = 0.000$). Illiterate respondents prefer SCBs (50 users), followed by CBs (32) and RRBs (26), reflecting varying financial access based on education.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

Table 2.
Institution-wise borrowings under the NABARD scheme.

Variables		Institution			Total	Pearson Chi-Square	
		SCBs	CBS	RRBs		df	P Value
Gender	Male	131	43	147	321	2	0.000
	Female	106	98	111	315		
Total		237	141	258	636		
Education	Illiterate	50	32	26	108	10	0.000
	Primary	24	8	48	80		
	Secondary	33	9	33	75		
	Inter/Polytechnic	56	22	39	117		
	Degree	24	49	90	163		
	PG	50	21	22	93		
Total		237	141	258	636		
Occupation	Agriculture	129	41	142	312	4	0.000
	Small business	58	41	52	151		
	Allied activity	50	59	64	173		
Total		237	141	258	636		
Annual Income (Rs.)	up to 1 lakh	63	45	73	181	10	0.038
	1 – 2 lakhs	110	71	132	313		
	2 – 3 lakhs	20	3	9	32		
	3 – 4 lakhs	19	6	17	42		
	4 – 5 lakhs	21	8	15	44		
	above 5 lakhs	4	8	12	24		
Total		237	141	258	636		

Table 3.
Purpose-wise borrowings under the NABARD scheme.

Variables		Purpose			Total	Pearson Chi-Square	
		Agriculture	Small Business	Allied Activities		df	P Value
Gender	Male	198	58	65	321	2	0.000
	Female	141	89	85	315		
Total		339	147	150	636		
Age (in years)	Up to 25 years	37	20	8	65	8	0.000
	26 – 35	70	32	21	123		
	36 – 45	114	78	53	245		
	46 – 55	52	9	20	81		
	Above 55	66	8	48	122		
Total		339	147	151	636		
Occupation	Agriculture	202	63	47	312	4	0.000
	Small business	70	60	21	151		
	Allied activity	67	24	82	173		
Total		339	147	150	636		
Annual Income (Rs.)	up to 1 lakh	99	25	57	181	10	0.000
	1 – 2 lakhs	174	67	72	313		
	2 – 3 lakhs	15	14	3	32		
	3 – 4 lakhs	19	18	5	42		
	4 – 5 lakhs	20	15	9	44		
	above 5 lakhs	12	8	4	24		
Total		339	147	150	636		

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

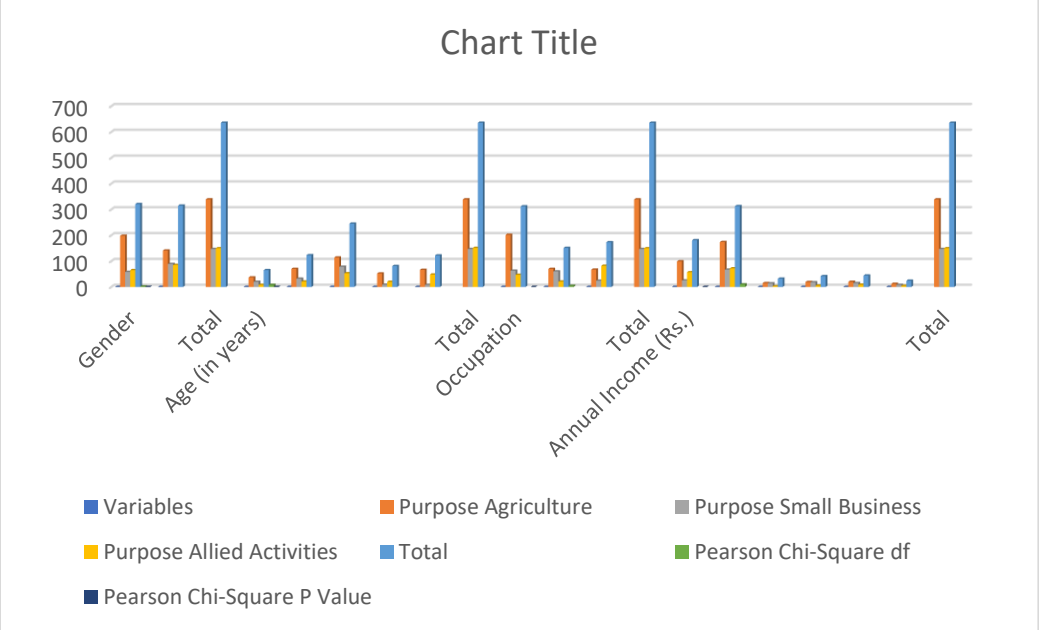

Figure 2.
Purpose-wise borrowings under the NABARD scheme.

Age is also crucial ($\chi^2 = 53.076$, $p = 0.000$). Respondents aged 36-45 are the most active borrowers in agriculture (114), small business (78), and allied activities (53). Older respondents (55+) borrow more for agriculture (66) and allied activities (48), while younger borrowers (≤25 years) have lower borrowing activity.

Occupation has the strongest association with borrowing purpose ($\chi^2 = 99.0$, $df = 4$, $p = 0.000$). Farmers (202) primarily borrow for agriculture, while small business owners (60) and allied activities (82) borrow for their respective sectors. This highlights distinct borrowing patterns aligned with occupation.

Income also significantly influences borrowing ($\chi^2 = 35.841$, $df = 10$, $p < 0.001$). Lower-income groups (≤2 lakhs) borrow mainly for agriculture, whereas higher-income borrowers (>2 lakhs) focus on small businesses and allied activities. This emphasizes the need for tailored financial products based on income levels.

In Table 4, the chi-square test results indicate a significant relationship between age and the receipt of subsidies. The age groups most likely to benefit are those between 26 and 35 years (74 recipients) and those between 36 and 45 years (160 recipients). Additionally, older respondents aged 46 and above also show an increased likelihood of receiving subsidies, confirming a strong association ($\chi^2 = 24.924$, $df = 4$, $p = 0.000$).

Occupation is another key factor, as farmers (214 recipients) receive more subsidies compared to small business owners (80 recipients) and artisans or workers in allied activities (121 recipients). The strong statistical association found ($\chi^2 = 12.953$, $p = 0.002$) emphasizes NABARD's focus on agriculture.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

Table 4.
Details of subsidy received under the NABARD scheme.

Variables		Whether you received the Subsidy		Total	Pearson Chi-Square	
		Yes	No		df	P Value
Age (in years)	Up to 25	28	37	65	4	0.000
	26 – 35	74	49	123		
	36 – 45	160	85	245		
	46 – 55	61	20	81		
	Above 55	92	30	122		
Total		415	221	636		
Occupation	Agriculture	214	98	312	2	0.002
	Small business	80	71	151		
	Allied activity	121	52	173		
Total		415	221	636		
Annual Income (Rs.)	up to 1 lakh	97	84	181	5	0.000
	1 – 2 lakhs	249	64	313		
	2 – 3 lakhs	14	18	32		
	3 – 4 lakhs	24	18	42		
	4 – 5 lakhs	19	25	44		
	above 5 lakhs	12	12	24		
Total		415	221	636		
Social Background	OC	78	77	155	3	0.000
	BC	170	76	246		
	SC	147	65	212		
	ST	20	3	23		
Total		415	221	636		

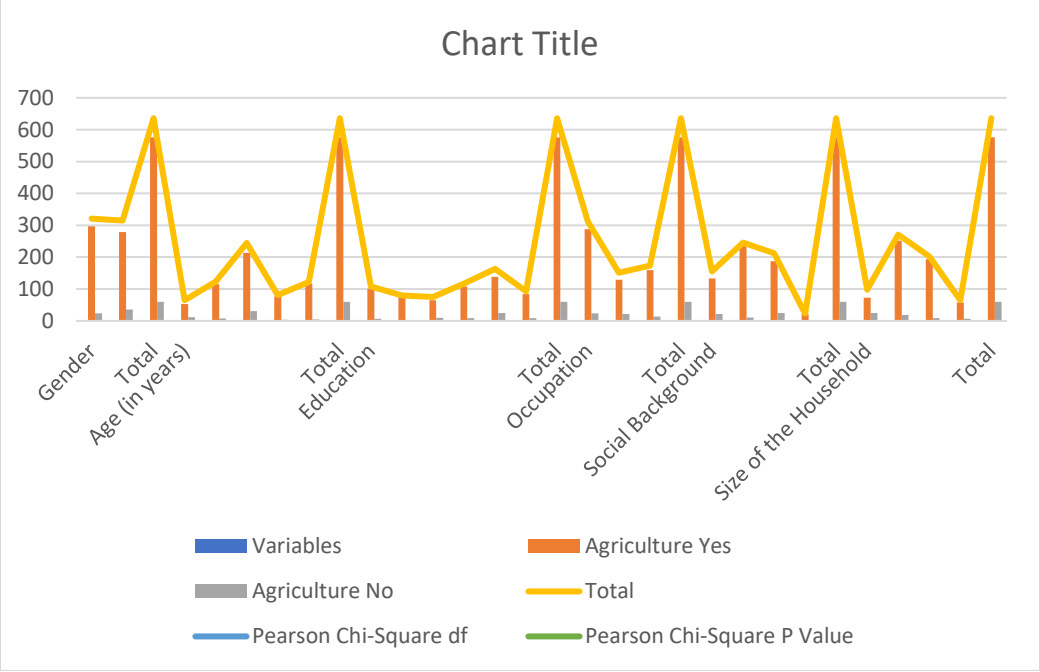

Figure 3.
Details of subsidy received under the NABARD scheme.

Income significantly affects the receipt of subsidies, with low-income groups (earning ≤2 lakhs) receiving the most assistance, 97 recipients in one category and 249 in another. In contrast, individuals

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

with higher incomes typically receive fewer subsidies. The observed association ($\chi^2 = 57.757$, p = 0.000) confirms a clear pattern of income-based financial assistance.

Social background is also an important factor, as Backward Castes (BC - 170 recipients) and Scheduled Castes (SC - 147 recipients) receive more subsidies than Other Castes (OC - 78 recipients) and Scheduled Tribes (ST - 20 recipients). This demonstrates targeted support for marginalized groups, as indicated by the significant association ($\chi^2 = 22.922$, df = 3, p = 0.000).

Table 5.
Employment Generation in Agriculture through NABARD Refinance.

Variables		Agriculture		Total	Pearson Chi-Square	
		Yes	No		df	P Value
Gender	Male	297	24	321	1	0.070
	Female	279	36	315		
Total		576	60	636		
Age (in years)	Up to 25 years	53	12	65	4	0.004
	26 – 35	115	8	123		
	36 – 45	214	31	245		
	46 – 55	77	4	81		
	Above 55	117	5	122		
Total		576	60	636		
Education	Illiterate	101	7	108	5	0.003
	Primary	80	0	80		
	Secondary	65	10	75		
	Inter/Polytechnic	108	9	117		
	Degree	138	25	163		
	PG	84	9	93		
Total		576	60	636		
Occupation	Agriculture	288	24	312	2	0.047
	Small business	129	22	151		
	Artisans/allied activity	159	14	173		
Total		576	60	636		
Social Background	OC	133	22	155	3	0.005
	BC	235	11	246		
	SC	187	25	212		
	ST	21	2	23		
Total		576	60	636		
Size of the Household	1-2 Members	73	25	98	3	0.000
	3-4 Members	252	19	271		
	5-6 Members	193	9	202		
	7-8 Members	58	7	65		
Total		576	60	636		

Age significantly impacts employment ($\chi^2 = 15.614$, p = 0.004), with the 36-45 age group reporting the highest employment levels (214). In contrast, younger respondents (aged 25 years and below) showed lower employment levels (53). Education also influences employment generation ($\chi^2 = 17.740$, p = 0.003). Those with higher education levels (Inter/Polytechnic - 92.3%, Degree - 84.7%, PG - 89.4%) demonstrate strong employment rates. Interestingly, even individuals with lower education levels (Primary - 100%, Illiterate - 93.5%) report high participation in employment. Occupation shows a borderline significance ($\chi^2 = 5.810$, p = 0.055), suggesting a potential association between employment generation and the type of occupation (agriculture, small business, artisans). Further studies are needed for conclusive evidence. Social background is significantly associated with employment ($\chi^2 = 12.942$, p = 0.005), with the Backward Classes (BC) (235) and Scheduled Castes (SC) (187) groups reporting higher employment levels compared to Other Castes (OC) (133) and Scheduled Tribes (ST) (21). Household size has the strongest impact on employment ($\chi^2 = 36.511$, p = 0.000). Larger households, specifically

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

those with 3-4 members (252) and 5-6 members (193), report higher levels of employment generation, indicating that family size influences workforce participation.

Table 6.
Employment Generation in Allied Activities through NABARD Refinance.

Variables		Allied Activities		Total	Pearson Chi-Square	
		Yes	No		df	P Value
Gender	Male	102	219	321	1	0.416
	Female	110	205	315		
Total		212	424	636		
Age (in years)	Up to 25 years	20	45	65	4	0.062
	26 – 35	41	82	123		
	36 – 45	69	176	245		
	46 – 55	29	52	81		
	Above 55	53	69	122		
Total		212	424	636		
Education	Illiterate	44	64	108	5	0.001
	Primary	20	60	80		
	Secondary	21	54	75		
	Inter/Polytechnic	43	74	117		
	Degree	40	123	163		
	PG	44	49	93		
Total		212	424	636		
Occupation	Agriculture	96	216	312	2	0.410
	Small business	53	98	151		
	Artisans/allied activity	63	110	173		
Total		212	424	636		
Social Background	OC	47	108	155	3	0.062
	BC	71	175	246		
	SC	85	127	212		
	ST	9	14	23		
Total		212	424	636		
Size of the Household	1-2 Members	41	57	98	3	0.062
	3-4 Members	80	191	271		
	5-6 Members	64	138	202		
	7-8 Members	27	38	65		
Total		212	424	636		

Table 6 presents a cross tabulation and Chi-Square analysis investigating the relationship between gender and employment generated after NABARD refinancing in allied activities. Among the respondents, 102 males and 110 females reported that employment was generated, while 205 individuals indicated that no employment was generated, resulting in a total of 315 respondents. The Pearson Chi-Square test ($\chi^2 = 0.660$, df = 1, p = 0.416) shows no significant association between gender and employment generation in allied activities following NABARD refinancing. Age trends suggest variation but do not reach statistical significance ($\chi^2 = 8.982$, p = 0.062). Employment is lowest for those ≤25 years (20) and highest for 36-45 years (69), but non-employment remains high across all groups. Education significantly influences employment generation ($\chi^2 = 20.110$, p = 0.001). Degree (40) and PG (44) holders report higher employment, while illiterate and primary-educated individuals show lower employment levels.

Association between occupation and employment generated after NABARD refinance in allied activities ($\chi^2(2) = 1.782$, p = .410). The data shows that among those in agriculture, 30.8% (96 out of 312) reported generating employment. In comparison, 35.1% (53 out of 151) of small business owners and 36.2% (63 out of 173) of artisans/allied activity workers reported the same.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

The association between social background and employment generated after NABARD refinance in allied activities, showed a borderline significant relationship (χ^2 = 7.339, df = 3, p = 0.062). This suggests that there may be some association between social background (OC, BC, SC, and ST) and the likelihood of generating employment through NABARD refinance in allied activities. However, it does not reach conventional levels of statistical significance (typically $p < 0.05$). Household size does not significantly influence employment outcomes (χ^2 = 3.490, p = 0.063), though larger households (3-6 members) report higher employment than smaller ones (1-2 or 7-8 members).

Table 7.
Analysis of Credit Details before and after NABARD Assistance.

Before NABARD Assistance							
Variables		**Mean**	**N**	**Std. Deviation**	**'t'**	**df**	**Sig. (2-tailed)**
Pair 1	Institutional Sources	1.35	636	0.722			
	Non-Institutional Sources	1.43	636	0.652	-2.089	636	0.037
After NABARD Assistance							
Variables		Mean	N	Std. Deviation	't'	df	Sig. (2-tailed
Pair 1	Institutional Sources	1.27	636	0.675			
	Non-Institutional Sources	1.43	636	0.652	-4.275	636	0.000

In Table 7, the Paired Samples Test analysis compares the means of credit from Institutional and Non-Institutional Sources before and after NABARD (National Bank for Agriculture and Rural Development) assistance. Before NABARD assistance, the mean credit from Institutional Sources was 1.35, while that from Non-Institutional Sources was 1.43, with a sample size of 636. The t-value was -2.089, with 636 degrees of freedom and a significance level of 0.037, indicating a statistically significant difference.

After NABARD assistance, the mean credit from Institutional Sources decreased to 1.27, while the mean credit from Non-Institutional Sources remained 1.43. The t-value for this comparison was -4.275, with 636 degrees of freedom and a significance level of 0.000, indicating a highly significant difference.

4. Recommendations

1. Revise Unit Costs and Enhance Loan Size: Many farmers reported that the sanctioned loan amounts were inadequate. NABARD should regularly update unit cost estimates in line with inflation and current input prices.
2. Implement Timely and Seasonal Disbursement Mechanisms: NABARD must enforce disbursement timelines to ensure that implementing banks release agricultural loans in accordance with sowing and harvesting cycles.
3. Support Integrated and Climate-Resilient Farming: Introduce refinancing schemes aimed at mixed farming, organic practices, and rain fed agriculture, especially in climate-vulnerable areas.
4. Simplify scheme procedures and promote farmer literacy: Reduce procedural complexity by creating visual and multilingual guides for farmers, and conduct district-wide financial literacy campaigns in collaboration with NGOs.
5. Monitor Credit Utilisation and Impact: NABARD should implement geo-tagging and field monitoring tools to assess how effectively refinance reaches its intended purpose at the beneficiary level.

5. Conclusion

The study on NABARD's refinancing facilities for Regional Rural Banks (RRBs) in the Krishna and NTR districts emphasizes the essential role of refinancing in promoting rural credit and economic development. The analysis indicates that demographic factors such as age, education, occupation, and income significantly affect beneficiaries' perceptions of loan adequacy and their preferences for financial institutions. Although NABARD refinancing has contributed to financial inclusion and economic

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594

growth, challenges persist regarding sufficient loan amounts, accessibility, and the efficient use of funds. To enhance the effectiveness of NABARD's refinancing support in rural areas, it is crucial to address these issues through policy improvements and targeted interventions.

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Copyright:

References

[1] T. Prusty and A. K. Chaudhari, "Role of NABARD in poverty alleviation: An empirical study of Uttar Pradesh," *Zenith International Journal of Multidisciplinary Research*, vol. 1, no. 3, pp. 34–48, 2011.

[2] D. Subbarao, *Agricultural credit — accomplishments and challenges. Speech delivered at the Thirty-Year Anniversary Celebration of NABARD*. Mumbai, India: Reserve Bank of India, 2012.

[3] R. U. Devi and S. Govt, "The role of credit co-operatives in the agricultural development of Andhra Pradesh, India," *International Journal of Cooperative Studies*, vol. 1, no. 2, pp. 55-64, 2012.

[4] N. Kishore, "Agriculture credit in India: An integrated rural credit approach," *International Journal of Scientific and Research Publications*, vol. 2, no. 3, pp. 1-5, 2012.

[5] J. Jumrani and S. Agarwal, "Outreach and inclusiveness of formal agricultural credit system: Some reflections," *Agricultural Economics Research Review*, vol. 25, pp. 445-460, 2012.

[6] M. Syed Ibrahim, "Role of Indian regional rural banks (RRBs) in the priority sector lending- an analysis," *International Management Journal*, vol. 2, no. 1-2, pp. 25-32, 2016.

[7] F. H. Syed Ali, "Agricultural finance in Kanyakumari district," Doctoral Dissertation, Manonmaniam Sundaranar University, India, 2013.

[8] G. B. Ahangar, A. H. Ganie, and M. U. J. Podder, "A study of institutional credit to agriculture sector in India," *International Journal of Current Research and Academic Review*, vol. 1, no. 4, pp. 72–80, 2013.

[9] V. Arora, "Agricultural policies in India: retrospect and prospect §," *Agricultural Economics Research Review*, vol. 26, no. 2, pp. 135-157, 2013.

[10] V. K. Maan and A. Singh, "Role of NABARD and RBI in agricultural sector growth," *International Journal of Emerging Research in Management & Technology*, vol. 2, no. 3, pp. 39–46, 2013.

[11] R. N. Patra and M. P. Agasty, "Cooperatives, agriculture and rural development: Role, issues and policy implications," *International Organization of Scientific Research (IOSR) Journal of Humanities and Social Sciences*, vol. 13, no. 2, pp. 14-25, 2013.

[12] R. Ramakumar, "Bank credit to agriculture in India: Trends in the 1990s and 2000s," *The Marxist*, vol. 29, no. 3, pp. 1-11, 2013.

[13] S. K. Roy, "Rural development in India: What roles do NABARD and RRBs play," *Journal of Business Management and Social Sciences Research*, vol. 3, no. 9, pp. 2319-5614, 2014.

[14] H. R. Khan, *Rural finance – Issues and challenges [Speech]*. India: BIS Central Bankers' Speeches, 2014.

[15] R. Thejeswini, V. Kiresur, N. Preeti, M. Teggi, and G. Trilokanatha, "Agricultural credit in India–Innovations in design and delivery of products and services," *Agricultural Economics Research Review*, vol. 27, pp. 75-83, 2014.

[16] R. L. Godara, P. Singh, and S. Singla, "Agriculture credit in India: An analytical study," *International Journal of Latest Trends in Engineering and Technology*, vol. 3, no. 3, pp. 326-335, 2014.

[17] A. K. Chaudhari, "Emerging dimensions of Indian economy through agriculture: A comparative study between farm and non-farm sector," *International Journal of Research and Development in Technology and Management Science*, vol. 21, no. 5, pp. 208–219, 2014.

[18] R. Rajamani, "Agricultural credit in India: Issues and concerns," *Indian Journal of Agricultural Economics*, vol. 62, no. 1, pp. 19–35, 2007.

[19] M. R. Beg, "The role of regional rural banks in financial inclusion: An empirical study in India," *PARIPEX – Indian Journal of Research*, vol. 3, no. 1, pp. 6–7, 2014.

[20] B. V. Rao and G. S. Rao, "Performance of regional rural banks in India a study on Andhra Pradesh Grameena Vikas Bank in Andhra Pradesh," *International Journal of Advance Research in Computer Science and Management Studies*, vol. 2, no. 4, pp. 1–9, 2014.

[21] A. K. Soni and A. Kapre, "Performance evaluation of regional rural banks in India," *National Monthly Refereed Journal of Research In*, vol. 1, no. 2, pp. 132-144, 2012.
[22] M. N. Santhi and T. Ganesan, "The role of regional rural banks for rural development in India," *Indian Journal of Applied Research*, vol. 5, no. 3, pp. 229-231, 2015.
[23] S. Matkar and A. K. Jadhao, "Agricultural credit in India: status and problems," *Research Front*, vol. 3, no. 2, pp. 125-132, 2015.
[24] V. Mishra, "A study of role played by NABARD in the priority sector lending," *Global Journal of Research Analysis*, vol. 4, no. 8, pp. 335–336, 2015.
[25] S. Razi, "Continued rural agenda," *Kurukshetra*, vol. 63, no. 6, pp. 7–10, 2015.
[26] P. K. Goyal, "The role of NABARD in agriculture and rural development: An overview," *International Research Journal of Commerce Arts and Science*, vol. 6, no. 10, pp. 53-58, 2015.
[27] A. Kumar, "Inclusive agricultural development," *Kurukshetra*, vol. 63, no. 6, pp. 30–32, 2015.
[28] M. Chidambaram, "Commercialisation of agriculture," *Kurukshetra*, vol. 63, no. 3, pp. 1-7, 2015.
[29] N. Thyaga Raju, "Financing of agricultural sector by National Bank for Agriculture & Rural Development (NABARD): Analysis," *Asia Pacific Journal of Research*, vol. 1, no. 25, pp. 143–148, 2015.
[30] P. Malyadri, "Rural infrastructure – the growth engine," *Kurukshetra*, vol. 63, no. 6, pp. 37–39, 2015.
[31] T. N. Srinivasan and P. Katkar, "Technology and policy interaction: The green revolution," *Yojana*, vol. 59, pp. 37–40, 2015.
[32] T. Das, "Informal finance-a case study of North East India," *Journal of Rural Development*, pp. 17-30, 2015.
[33] M. Bhattacharya and P. Dutta, "Restructuring strategies of regional rural banks (RRBs) of West Bengal: An empirical study," *Business Spectrum*, vol. 6, no. 1, pp. 1-14, 2016.
[34] T. Kaur, "Role of NABARD in rural development," *SOPANII*, vol. 1, no. 1, pp. 45–59, 2016.
[35] K. Muneendra and C. S. Lakshmi, "Impact of NABARD's refinance operations on the beneficiaries in Chittoor District of Andhra Pradesh State, India," *IOSR Journal of Economics and Finance*, vol. 7, no. 4, pp. 49-57, 2016.

Edelweiss Applied Science and Technology
ISSN: 2576-8484
Vol. 9, No. 7: 467-484, 2025
DOI: 10.55214/25768484.v9i7.8594