

## A Study on Financing of Agriculture by Selected Banks of Odisha

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### ABSTRACT

Agricultural finance represents a crucial facet of the annual distribution of loans and advances by commercial banks to the agricultural sector. This study delves into the intricate landscape of commercial banks' involvement in agricultural credit, seeking to identify the beneficiaries and assess the far-reaching impact on both bank finances and the farmers availing these loans. Through a comprehensive examination, this research illuminates the patterns governing financial allocations by commercial banks to the agricultural sector. Despite the evident importance of agricultural credit, this study unveils a hesitancy within the banking system, particularly in extending financial support to small and marginal farmers. The study not only examines the financial dimensions but also unravels into the attitudes of bankers and co-operative banks, contributing a holistic view of the agricultural credit landscape. This research draws upon both primary and secondary sources to provide a nuanced understanding of the challenges and opportunities within agricultural finance. By shedding light on the intricate interplay of factors shaping the sector, the study aims to inform policymakers, financial institutions, and stakeholders about the current state of agricultural finance.

**Keywords:** Agriculture finance, commercial banks, farmers' perception, bankers' attitude, co-operative banks, ANOVA, chi-square test.

### 1. INTRODUCTION

Agriculture remains the backbone of India's economy, sustaining 80 percent of the rural population and engaging 72 percent of the workforce (Narayanan, S. 2015). The economic development of India is intricately linked to agricultural processes and progress (Sidhu & Gill, 2006), and technological advancements in agriculture hinge on the availability of capital (Idoko & Ikani, 2013). The agriculture also includes animal husbandry, fisheries, and horticulture into farm production activities. This integration is seen as a strategic approach to augment the income of marginal and small-scale farmers and address the broader goal of inclusive growth. Capital, identified as a critical factor in agricultural development, plays a pivotal role in determining the quantity and quality of agricultural production. The study emphasises the vital role of timely and accessible credit in accelerating agricultural development (Akoijam, 2013). In India, various entities, including indigenous moneylenders, commercial banks, and cooperative organizations, contribute to meeting farmers' credit requirements (Das et al., 2009). But, the credit, akin to a sharp-edged knife, must be utilized judiciously for productive purposes. Wise utilization leads to higher productivity and prosperity, whereas misutilisation deprives borrowers of potential income and hampers the overall credit flow (Narayanan, 2015).

Against this back drop, this study spotlights the challenges faced by farmers in the Western part of Odisha, particularly in Sambalpur district, known for its fertile agricultural land. Despite being heavily dependent on agriculture, farmers in this region encounter significant obstacles in securing agricultural financing, impeding their production activities. This study also aims to contribute insights for policymakers, financial institutions, and stakeholders working towards sustainable agricultural development in the region.

### **1.1 Statement of the Problem:**

Two crucial institutions, namely commercial banks and co-operative banks play a pivotal role in lending to agriculture. While many commercial banks are actively involved in providing both direct and indirect financial support to agriculture, Regional Rural Banks (RRBs) sponsored by commercial and co-operative banks are dedicated to working towards the betterment of agriculture and rural development. Additionally, several priority sector banks allocate funds for Rural Infrastructure Development, adhering to the statutory requirement of directing 40 percent of net bank credit to the priority sector.

Despite these efforts, the indirect finance provided for infrastructure development does not seamlessly reach the intended beneficiaries, particularly the economically disadvantaged farmers facing financial constraints. Consequently, the agricultural credit delivery mechanism is loosely integrated, failing to effectively reach the targeted beneficiaries. Agriculture, characterized by inherent risks, faces challenges that hinder productivity and result in mispricing of agricultural output, subsequently impacting the revenue of farmers (Madapana & Mohanty, 2014). The proposed study aims to address pertinent questions like to what extent the credit supplied by commercial banks and co-operative banks met the requirements of farmers and the pattern of financing in agriculture. The findings of this study would contribute to the development of more targeted and efficient agricultural finance strategies, fostering sustainable rural development in the Odisha State.

## **2. OBJECTIVES OF THE STUDY**

The specific objectives outlined for the present study are as follows:

1. To conduct a comparative study between Commercial Banks (CBs), Co-operative. Banks (Coop. Banks), and other Regional Rural Banks (RRBs) in the agriculture sector;
2. To study existing and new trends and patterns of financing in the agriculture sector; and
3. To study how far these institutions meet the requirements making available agricultural credit to the farmers.

## **3. RESEARCH METHODOLOGY**

The study employed data and responses from both primary and secondary sources. Primary data have been collected from 405 farmers using survey method which included interview and questionnaire, and the secondary data were gathered from published journals, different reports of the banks, and government websites. The researchers also selected one schedule commercial bank, one co-operative bank, and one regional rural bank operating on the western Odisha for making the analysis of the credit flow to the farmers in these area under study. The use of both primary and secondary sources, along with statistical methods, suggests a robust approach to gather, interpret, and analyse information related to farmers' perceptions, credit availability, and banking practices in the agriculture sector in Odisha State. This study has used percentage and comprehensive trend analysis to fulfil the objectives of the study.

## **4. LITERATURE REVIEW**

The identified challenges in Odisha's agriculture include poor productivity, falling water levels, expensive credit, a distorted market, the presence of cost-increasing intermediaries, poor infrastructure, and inadequate research. The need for exploring new inventions in product design and delivery methods to enhance technology and related processes is also highlighted (Mohanty *et al.*, 2023).

Regarding institutional credit, farmers face various issues such as non-availability of loans in a timely manner, expensive credit procedures, inadequate loan amounts, and additional costs like transport and documentation expenses. Repayment challenges become more acute when it includes crop failure, monsoon failure, and expectations of loan waivers by the government, lower yields, increased cultivation costs, and a decrease in the market value of harvested produce (Subramanian & Shivananjappa, 2017).

The inadequacy of infrastructural facilities to address the credit needs of small and marginal farmers under Priority Sector Lending (PSL) is a crucial factor. Despite government policies and initiatives, recent Reserve Bank of India (RBI) policies are seen as benefiting big and corporate agribusiness sectors more than small and marginal farmers, leading to the development of new policy initiatives in financial inclusion (Roy, 2017).

Seena (2015) observes that lack of awareness among small and marginal farmers in India about government subsidy programs on fertilisers, loans, and various agricultural development schemes contributes a decrease in production and income levels among farmers. It suggests imparting education on the importance of technology in agriculture, creating awareness about government agricultural subsidies, and concrete steps by banks, including Regional Rural Banks (RRBs), Commercial Banks (CBs), and other agricultural cooperative banks, to promote credit facilities are the need of the hour for the upliftment of the agricultural sector in India.

Dutta (2016) emphasises the application of information technologies, such as mobiles, SMS alerts, and portals, to empower farmers for both kharif (summer) and Rabi (winter) crops. Technology-aided information flow is highlighted as a tool for empowering farmers by providing insights into factors like when to expect rainfall and where to store produce after harvest. The study underscores the importance of regular farmers' awareness programs conducted through various multimedia platforms.

Baby (2014) examines credit as an input process of agricultural development, highlighting the significance of agricultural finance for farmers. Lack of access to finance is identified as a key impediment for farmers in improving the efficiency of their production and adopting better technologies. The stark statement, "Indian farmer is born in debt, lives in debt, and dies in debt," succinctly captures the pervasive issue of indebtedness among Indian farmers, emphasizing the need for solutions to alleviate this burden.

These papers collectively provide insights into the multifaceted challenges faced by farmers in India, ranging from the application of technology to the complexities of agricultural credit management and the enduring issue of farmer indebtedness.

## 5. ANALYSIS AND INTERPRETATION

In the study, the farmers with less than 5 acres of lands in their names have been chosen for the sample survey. The demographic profile suggests that the farmers fall into the small farmer category and have been largely depending on bank credit for over last 10 years. The trends of agriculture credit availed by the Odisha farmers in comparison to the national level are presented in Table-1.

Years	Odisha	All India (average)
2012-13	3.07%	5.45%
2013-14	3.98%	6.10%
2014-15	0.43%	0.63%
2015-16	0.37%	0.68%
2016-17	3.46%	7.18%
2017-18	3.48%	7.81%
2018-19	4.34%	8.59%
2019-20	4.47%	9.45%
2020-21	5.98%	10.10%
2021-22	6.43%	12.63%

**Table-1: Trends in agriculture credit of Odisha and India**

Source: NSO data, 2023

It is observed from the table above that Odisha is lagging behind in terms of availing agriculture credit from the National average. The Table -2 shows the total advance amount disbursed by the lead bank during last decade to the farmers for agriculture and non-agriculture purposes.

**Table.2**  
**Agricultural advances and other advances provided by the lead bank**

Year	Total Advances	Agriculture Advance		Other Advances	
	(Rs in thousands)	(Rs in thousands)	Per cent	(Rs in thousands)	Per cent
2012-13	7,92,310	2,72,538	34.39	4,19,772	52.98
2013-14	8,4,9303	2,81,398	33.13	4,67,905	55.09
2014-15	9,36,486	3,22,329	34.41	5,14,157	54.90
2015-16	9,24,774	3,59,533	38.87	4,65,241	50.30
2016-17	10,91,449	3,92,728	35.98	5,98,721	54.85
2017-18	11,79,118	5,14,288	43.61	5,64,830	47.90
2018-19	13,81,039	5,93,855	43.00	6,87,184	49.75
2019-20	11,86,469	6,92,946	58.40	3,93,523	33.16
2020-21	15,01,217	7,05,382	46.98	5,95,835	39.69
2021-22	18,76,516	8,15,231		6,98,879	

The agricultural advances registered a growth rate of 193.61% over the decade. Other advances have grown by 80.88% during the period. As to the quantum of total advance, it has seen a substantial increase over the years, with a growth percentage ranging from 3.26% to 9.49%. The percentage change from 2012 to 2022 is 124.18%, indicating a significant overall growth in total advances during this period. The Agricultural advances have also shown substantial growth, with a percentage change of 193.61% from 2012 to 2022. The growth percentage varies each year but generally shows positive growth. The category of other advances has experienced fluctuating trends over the years. There is an 80.88% increase in this category from 2010 to 2019. It is worth noting that in 2018, there is a significant decrease in other advances compared to the previous years. In 2012, agricultural advances constituted 49.19% of the total advances, while other advances constituted 49.75%. This suggests a roughly equal distribution between the two categories. Over the years, the percentage distribution has shifted. In 2018, agricultural advances constituted 58.40% of the total, indicating an increase in the share of agricultural advances compared to other advances. Yearly changes in percentage and growth suggest the rate of increase or decrease from the previous year. For example, agricultural advances increased by 43.61% in 2016 but decreased by 58.40% in 2018. There is substantial growth in total advances, agricultural advances, and other advances over the years, indicating economic development. The percentage distribution between agricultural and other advances has shifted, with agricultural advances playing a more significant role in recent years.

**Table.3: Development of Agricultural Advances per branch under Lead Bank Scheme (Rs.Lakh/branch)**

Year	Total advances	Agriculture advances	Other advances
2012	44.00	17.89	26.11
2021	90.00	45.92	44.08
Percentage change (%)	104.54	156.67	68.24

An analysis of the above table as regards total advances, agriculture advances, and other advances reveal that the total advances have increased from 44.00 in 2012 to 90.00 in 2021. The percentage change in total advances is 104.54%, indicating a significant increase over the nine-year period. Agriculture advances have increased from 17.89 in 2012 to 45.92 in 2021. The percentage change in agriculture advances is 156.67%, reflecting substantial growth over the same period. Other advances have increased from 26.11 in 2012 to 44.08 in 2021. The percentage change in other advances is 68.24%, showing a growth, but it is comparatively lower than the percentage changes in total advances and agriculture advances. In 2012, agriculture advances constituted 40.66% (17.89/44.00) of the total, while other advances constituted 59.34%. In 2021, there is a shift in the percentage distribution, with agriculture advances constituting 50.91% (45.92/90.00) of the total, and other advances constituting 49.09%. The data indicates a substantial overall increase in total advances, driven by significant growth in both agriculture and other advances. The percentage distribution shows that agriculture

advances have become a larger proportion of the total advances over the nine-year period. The shift towards a higher proportion of agriculture advances may suggest increased investment or focus on the agricultural sector, potentially driven by economic policies, changes in demand, or other factors. Understanding the context behind these changes would provide more insights into the reasons for the observed trends.

**Table.4 Total deposit, total advances to agricultural sector, advances and their ratio  
(Rs in Thousands)**

Year	Total deposit		Total advance	Agriculture Advances		Proportion	
	Amount	%		Amount	%	TA to TD	AD to TD
2012	876619	6.85	669644	240241	5.49	76.38	27.40
2013	981713	7.67	792310	272538	6.22	80.70	27.76
2014	1018867	7.96	849303	281398	6.43	83.35	27.61
2015	1076692	8.42	936486	322329	7.36	86.98	29.93
2016	1195640	9.35	924744	359533	8.21	77.34	30.07
2017	1362384	10.65	1091449	392728	8.97	80.11	28.82
2018	1440102	11.26	1179118	514288	11.75	81.87	35.71
2019	1558292	12.18	1381039	593855	13.57	88.62	38.10
2020	1659606	12.98	1186469	692946	15.83	71.49	41.75
2021	1615449	12.63	1501217	705382	16.12	92.92	43.66
TOTAL	1,27,85301	100	98,42,165	41,34,997	100	76.98	32.34

This is an analysis of the data on total deposits (TD), total advance (TA) amounts, total agriculture advances (AD), and the proportion of these values for each year. Total deposits have increased over the years, from 876,619 in 2010 to 1,615,449 in 2019. The percentage increase in total deposits over the entire period is 84.17%. Total Advance Amount: Total advance amounts have also shown an increasing trend, from 669,644 in 2010 to 1,501,217 in 2019. The percentage increase in total advances over the entire period is 124.18%. Total Agriculture Advances: The amount of total agricultural advances has increased from 240,241 in 2010 to 705,382 in 2019. The percentage increase in total agriculture advances over the entire period is 193.61%. Proportion Analysis: The proportion of total advances to total deposits shows an increasing trend from 76.38% in 2010 to 92.92% in 2019. This indicates a higher utilization of deposits for providing advances. The proportion of agriculture advances to total deposits has also increased from 27.40% in 2010 to 43.66% in 2019, suggesting a higher allocation of funds towards agricultural advances. The increasing proportion of total advances to total deposits and agriculture advances to total deposits indicates a growing reliance on advances as a utilization of deposited funds. The significant growth in agriculture advances suggests a focus on supporting and investing in the agricultural sector. Total Analysis: Over the years, the financial institution has experienced growth in both deposits and advances, with a notable emphasis on agricultural advances. The proportions highlight changes in the allocation and utilization of funds for advances, reflecting evolving financial strategies.

**Table.5 Numbers of borrowers according to size of land holding**

Sl.No	Year	Small		Medium		Large		Total	
		No.	%	No.	%	No.	%	No.	%
1	2010	201	48	109	26	107	26	417	100
2	2011	213	50	112	27	97	23	422	100
3	2012	240	51	124	27	103	22	467	100

4	2013	233	49	128	27	115	24	476	100
5	2014	210	49	116	27	101	24	427	100
6	2015	228	47	130	27	125	26	483	100
7	2016	244	47	153	30	118	23	515	100
8	2017	238	42	203	35	132	23	573	100
9	2018	240	41	213	36	137	23	590	100
10	2019	256	44	196	34	127	22	578	100

An analysis of the distribution of enterprises into small, medium, and large categories over a period of ten years. Yearly Trends: The data shows the number and percentage distribution of enterprises into small, medium, and large categories for each year. It appears that the total number of enterprises (small, medium, and large combined) has been increasing over the years, from 417 in 2010 to 578 in 2019. Size Categories: Small Enterprises: The number of small enterprises has shown some variation over the years, with an increase from 201 in 2010 to 256 in 2019. The percentage distribution fluctuates but generally remains in the 40-50% range. Medium Enterprises: The number of medium enterprises has seen an increasing trend, from 109 in 2010 to 196 in 2019. The percentage distribution has ranged from 26% to 36%. Large Enterprises: The number of large enterprises has also increased, from 107 in 2010 to 127 in 2019. The percentage distribution fluctuates but generally stays in the 22-26% range. Overall Analysis: The overall growth in the total number of enterprises suggests economic development or increased entrepreneurial activities. The increase in both medium and large enterprises may indicate a shift towards larger and more established businesses over the years. The percentage distribution provides insights into the relative contribution of each size category to the total number of enterprises. Sector Dynamics: The distribution of enterprises across size categories can be indicative of the structure and dynamics of the business sector in the region. Understanding the factors influencing the growth or decline in each category would provide additional insights. Policy Implications: Policies and initiatives that support the growth of small and medium enterprises may be crucial for fostering economic development and job creation. Monitoring the trends in each size category helps policymakers tailor strategies to address the specific needs and challenges faced by enterprises of different sizes.

**Table.6 Number of defaulters under different groups of holding**

Size of landholding in acre	Borrowers		Number of defaulters with repayment capacity		Number of borrowers without repayment capacity		Total number of defaulter	
	No.	%	No.	%	No.	%	No.	%
Small	2302	46.52	670	58.77	305	52.31	970	56.29
Medium	1484	29.99	250	21.92	95	16.29	351	20.37
Large	1162	23.48	220	19.29	183	31.38	402	23.3
Total	4948	100	1140	100	583	100	1723	100

An analysis based on the size of landholding in acres for farmers, the number of borrowers, the number of defaulters based on their repayment capacity, and the overall distribution. Size of land holding. Small Farmers: 46.52% of the total borrowers have small land holdings, accounting for 2302 individuals. Medium Farmers: 29.99% of the total borrowers fall into the category of medium land holdings, with 1484 individuals. Large Farmers: 23.48% of the total borrowers have large land holdings, constituting 1162 individuals. The data provides a breakdown of borrowers based on the size of their land holdings. Repayment Capacity: Small Farmers: Among the small farmers, 58.77% have the repayment capacity, while 41.23% (100% - 58.77%) do not. Medium Farmers: For medium farmers, 78.08% (100% - 21.92%) have the repayment capacity, and 21.92% do not. Large Farmers: Among large farmers, 80.71% (100% - 19.29%) have the repayment capacity, and 19.29% do not. Number of Defaulters: Small Farmers: 52.31% of defaulters come from the small farmer category,

constituting 970 individuals. Medium Farmers: 16.29% of defaulters are from the medium farmer category, with 95 individuals. Large Farmers: 31.38% of defaulters belong to the large farmer category, making up 183 individuals. The total number of defaulters is 1723 individuals. Overall Analysis: The data suggests that a higher percentage of defaulters come from the small farmer category, even though they constitute the largest proportion of borrowers. Medium and large farmers, while having a lower percentage of defaulters, still contribute significantly to the overall defaulters. Policy Implications: Policymakers may need to focus on providing support and assistance to small farmers to enhance their repayment capacity. Understanding the reasons behind default, whether related to market conditions, crop failures, or other factors, is essential for designing targeted interventions. Risk Management: Financial institutions should consider implementing risk management strategies tailored to the specific challenges faced by each category of farmers.

**Table 7: Agricultural Credit Advance in Odisha from 2015-21 (Rs in thousands)**

Year	Commercial Banks	Co-operative Banks	RRBs	Total
2015-16	2230600	1445000	344500	4020100
% of Total Loan	55	36	9	100
2016-17	808210	1485396	302952	2596558
% of Total Loan	31	57	12	100
2017-18	1388948	1790804	471060	3650812
% of Total Loan	38	49	13	100
2018-19	1091419	3531866	42648	4665933
% of Total Loan	23	76	1	100
2019-20	2750561	2817243	482118	6049922
% of Total Loan	45	47	8	100
2020-21	1606670	5605632	125961	7338263
% of Total Loan	22	76	2	100

From the table, it appears that Co-operative Banks are lending a higher percentage of agricultural credit compared to Commercial Banks and Regional Rural Banks in the given study area. Here's a breakdown of the key point: Co-operative Banks: Co-operative Banks are lending a higher percentage of agricultural credit in the study area. Comparison with Other Banks: Commercial Banks and Regional Rural Banks are lending a lower percentage of agricultural credit compared to Co-operative Banks in the same study area.

This information suggests that, in the specified study area, Co-operative Banks play a more significant role in providing agricultural credit compared to Commercial Banks and Regional Rural Banks. The reasons for this could vary and may be influenced by factors such as the structure of the banking sector, local agricultural practices, government policies, and the historical development of cooperative institutions in the region.

## 6. CONCLUSION

The study emphasized the importance of a robust and responsive agricultural financing system for the sustainable development of Odisha's agricultural sector. The insights generated are valuable not only for the banks involved but also for policymakers, farmers, and other stakeholders striving to enhance the resilience and prosperity of the agricultural community. Based on available data, it appears that Co-operative banks have a greater role than Commercial and Regional Rural Banks in the research region when it comes to lending for agriculture. This might be due to a number of variables, including the way the banking industry is structured, regional agricultural practices, government regulations, and the historical evolution of cooperative organizations in the area.

This study serves as a foundational exploration, encouraging a continuous dialogue between financial institutions, policymakers, and the agricultural community to refine and optimize the mechanisms through which agricultural financing is delivered and utilized in Odisha.

**Policy Implications:** The findings of the study have crucial implications for policymakers in Odisha. Recommendations were made on potential policy adjustments to facilitate more inclusive, accessible, and farmer-friendly financial services. **Future Research and Recommendations:** While the study addressed specific aspects of agricultural financing, it also highlighted avenues for future research. Areas such as the impact of digitalization on banking services, climate-resilient financing models, and the role of cooperatives in agricultural finance were suggested for further exploration.

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