

International Journal of Statistics and Applied Mathematics

ISSN: 2456-1452

Maths 2023; SP-8(4): 189-192

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<https://www.mathsjournal.com>

Received: 14-03-2023

Accepted: 18-04-2023

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A study on the status of loan disbursement by DCCB in Western Odisha

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Abstract

The Western region of Odisha did a study on the state of loan disbursement by DCCBs. According to the study's findings, all DCCBs in Western Odisha's credit activities showed an upward growth in total lending disbursement between 2001-2002 and 2020-21. Short-term, medium-term, and other loans made up the total lending and deposits. From Rs. 15643 lakhs in 2000-01 to Rs. 603112 lakhs in 2020-21, the total loans given by DCCBs in western Odisha increased by roughly 9.05 times over the previous year. The DCCBs in western Orissa recorded a compound growth rate of 0.709% per annum for the total loans and advances they supplied. The data for each bank showed that, when compared to other DCCBs in western Odisha, Balangir DCCB's compound growth rate of total loans was the highest at 0.870% and significant at the one percent level of significance. The survey also showed that more short- and medium-term agricultural loans were provided than short- and medium-term loans for non-agricultural purposes. During 2020-21, short-term loans made up over 92.85% of all loans and advances issued; the remainder were medium-term and other loans and advances.

Keywords: Loan disbursement, DCCBs, short-term agricultural loan, medium-term agricultural loan, western Odisha

Introduction

The cooperative movement emerged from adversity. At various locations, diverse conditions led to different forms of adversity. As a result, the movement takes on a variety of forms according to the locations in which it originated. A cooperative is a type of organization in which individuals voluntarily cooperate with one another as fellow humans on the basis of equality in order to advance their own economic interests.

Co-operative movement in India

Germany served as a major source of inspiration for the cooperative movement in India. The cooperative structure was adopted in India in accordance with his proposals, which focused mostly on the credit society model in Germany. The Co-operative Societies Act was first enacted in 1904, but it was quickly superseded by the "Co-operative Societies Act 1912," a more comprehensive piece of legislation.

Co-operative movement in Odisha

Odisha has been a leader in the nation's cooperative movement as one of its founding states. Co-operative then started to take hold. In 1950, the bank issued a statement of policy admitting responsibility for agricultural loan facilities for credit-worthy borrowers based on the reports of the Gadgil Committee and the Saraiya Committee. The progress of the cooperative movement in Odisha revealed that there are seventeen branches of the district central cooperative bank in the state, which serves thirty districts.

Importance of credit in agriculture

In India, the development of the agriculture industry is significantly influenced by credit. The farmers rely heavily on borrowing and have very little capital. Due to the lack of credit, it would be impossible for them to implement sophisticated farming techniques.

Which would force them to sell their produce under duress and at reduced rates. According to the available literature on credit that is currently accessible, having access to credit allowed the borrower farmer to embrace multiple cropping and increase crop intensity.

Sources of Agricultural Credit

Institutional credit agencies and non-institutional credit agencies are the two main sources of credit for agriculture. Moneylenders, traders, friends, and family are the sources of non-institutional credit agencies, whereas the government, cooperatives, commercial banks, and regional rural banks are the sources of institutional agencies.

The Flow of Institutional Credit to Agriculture

Commercial banks, regional rural banks, and cooperative banks account for the majority of institutional financing for the agricultural sector. There has been an upward trend in the flow of institutional credit for agriculture and related activities at the national level from 2015-16 to 2020-21. The total institutional credit flow for agricultural and related activities increased from 8,45,328.23 to 125,4762 crores between 2015 and 2020. It's also vital to remember that commercial banks had a larger part of the farm credit market than cooperative banks and regional rural banks. Over time, the percentage of cooperatives declined, while the total amount of credit grew, rising from 138469.50 crores in 2015-16 to 153882.00 crores in 2020-21. The short-term (ST) or production credit structure and the long-term (LT) investment credit structure make up India's cooperative credit system. The Primary Agricultural Credit Societies (PACS), which are a part of District Central Cooperative Banks (DCCBs) at the district level and State Co-operative Banks (SCB) at the state level, form the foundation of the ST system.

Through cooperative organizations, the District Central Co-operative Banks (DCCB) receive deposits for investments in both the agricultural and non-agricultural sectors. With a connection to the RBI, the State Co-operative Banks finance Co-operative Banks. The DCCBs play a crucial role in providing loans to agriculture and related sectors and serve as a balancing hub for rural finance in a three-tier system of short- and medium-term lending.

DCCBs serve as the conduit between PACS and State Cooperative Banks. Basically, they are intended to satisfy PACS's credit needs. They also engage in banking activities such as taking public deposits, collecting bills, checks, draughts, etc., and giving credit to those in need. Individuals and organizations operating in its field of operation are eligible to join. Typically enlisted as members of the DCCBs are marketing societies, consumer societies, farming societies, urban banks, and PACS. District Central Co-Operative Banks oversee and check on PACS's operations and support the proper operation of the credit societies. They stay in close contact constantly in order to lead and guide the core civilizations. They take deposits from both public and member societies.

Status of District Central Co-operative Banks

There were 352 DCCBs with 3042226 members at the all-India level in the years 2020–21. The entire amount of deposits in these banks totaled 34073787, with paid-up capital of 1590723. These banks' working capital at the same time was \$48321027. They issued a total of \$43895516 in loans between 2020 and 2021, with \$45147242 in delayed payments during the same time (NAFSCOB Report 2021). At

the state level, there were 17 DCCBs during the year 2020-21. The progress of the cooperative movement in Odisha revealed that there are seventeen branches of the district central cooperative bank in the state, which serves thirty districts. Each district in Western Odisha has its own DCCB. There are five District Central Cooperative Banks in Western Odisha that are operational, and they are located in Sambalpur, Balangir, Boudh, Sundargarh, and Bhawanipatna.

2. Materials and Methods

2.1 Sampling Techniques

The study will focus on five District Central Co-operative Banks in Western Odisha. The sample, on the other hand, changed depending on the reaction to a particular facet of the study. For example, officials from five DCCBs in the region reacted to issues relating to DCCB difficulties. The data acquired from five DCCBs will be used to investigate inequity in credit distribution (short and medium). All five DCCBs in Western Odisha were taken under investigation for the study and the area as a whole for other components of the study, including work performance.

2.2 Selection of Districts

The Western Odisha Development Council comprise 10 districts i.e., Bargarh, Balangir, Boudh, Deogarh, Jharsuguda, Kalahandi, Nuapada, Sambalpur, Subarnapur, Sundargarh and Athamallick Sub-division of Angul district. Out of ten districts, five districts was selected purposively due to their higher demographic Composition, and bigger area as compared to other districts. The Selected Districts will be, Sambalpur, Balangir, Boudh, Sundargarh, and Anugul.

2.3 Selection of Branches

5 Branches will be selected on the basis of the Highest Loan Disbursements in the five Selected Blocks of the selected districts. The Selected Districts will be, Sambalpur, Balangir, Boudh, Sundargarh, and Bhawanipatna.

2.4 Analytical tool

In Western Odisha, simple tabular analysis will be used to compare the performance of District Central Co-operative Banks between districts and over time. For the period 2001-02 to 2020-21 for loan disbursement in Western Odisha.

The compound growth rate of selected indicators will be worked out to know the percent increase or decrease over time. The exponential model of the following form was used for this purpose.

$$Y = Ab^t e$$

Where

Y = Dependent variable (indicator) a = Intercept

B = Trend value t=Time period in years

E = Error term

The percent compound growth rate was estimated by using the formula:

$$CGR = (antilog \text{ of } b - 1) * 100.$$

The Significance of the estimated compound growth rates was tested with the help of the student's t-test.

3. Result and Discussion

3.1 Loan Advanced

The lending practices of the District Central Co-operative Banks have changed significantly as a result of the execution of numerous agricultural development initiatives. Additionally, banks have gradually diversified their business operations. They had begun lending money to small-scale businesses and weaker sections of society under a system of differential interest rates. Particular focus has been placed on the implementation of the loan component of the Integrated Rural Development Programme and the District Rural Development Agency Plan. All of these programs were designed to support landless farm labourers, small and marginal farmers, and smallholders in maintaining production

on their small holdings through intensive cultivation and engaging in side jobs that would create income and employment.

3.1.1 Growth in total loan and advances

The credit operations of all DCCBs in the Western Odisha region were assessed in light of the total loan advanced from 2001–2002 to 2020–21, and the results are detailed in Table 1. According to Table 5.15, there was an increased trend in total lending disbursement over the study period. Short, medium, and other loans made up the total amount of lending and deposits. From 15643 lakhs in 2001-02 to 603112 lakhs in 2020-21, the total loan given by DCCBs in the Western Odisha region increased by roughly 9.05 times.

Table 1: Growth in total loans and advances by the DCCBs in Western Odisha during 2001-02 and 2020-21

District	Loans and advances (₹ in lakhs)			% Change Over 2001-02	Compound Growth Rate (%)		
	2001-02	2010-2011	2020-21		Period I (2001-02 to 2010-2011)	Period II (2011-12 to 2020-21)	Entire period (2001-02 to 2020-21)
Sambalpur	5688 (36.36)	29587 (32.01)	94246 (15.63)	1556.927	0.709**	0.069**	0.160**
Balangir	647 (4.14)	12066 (13.05)	105873 (17.55)	16263.68	0.627**	0.459**	0.870**
Boudh	1485 (9.49)	13006 (14.07)	40426 (6.70)	2622.29	0.007**	0.023**	0.104**
Sundargarh	6364 (40.68)	24745 (26.77)	235121 (38.98)	3594.547	0.675**	0.000	0.320**
Bhawanipatna	1459 (9.33)	13037 (14.10)	127446 (21.13)	8635.161	0.002**	0.142**	0.707**
Western Odisha	15643 (100)	92441 (100)	603112 (100)	3755.475	0.030**	0.341**	0.709**

Note: Figures in parenthesis represent the percentage of total loans and advances in respective districts in Western Odisha

**-. Significant at 1 per cent level of significance

*-. Significant at a 5 per cent level of significance

All of the DCCBs in the area have seen an increase in the overall amount of loans advanced. Balangir (16236.68%) saw the greatest growth in the total amount of granted loans, followed by Sambalpur (1556.927%), Bhawanipatna (8635.161%), Sundargarh (3594.547%), and Boudh (2622.29%). Thus, it can be said that Balangir DCCB experienced the highest growth in terms of both absolute growth and change in percentage terms of advanced loans. This was primarily caused by the increase in the area planted with commercial and horticultural crops, which necessitated greater input expenditures and thus increased demand for loans in this industry.

Loans and advances have increased in all DCCBs during the research period relative to the total loans advanced by the DCCBs in the Western area. With the exception of Boudh and Sambalpur DCCB, the total loan and advance compound growth rate was larger during the II period than it was during the period-I. Table 5.19 also revealed a compound annual growth rate of 0.709 percent for the total loans and advances made available by DCCBs in the Western region over the course of the full study period. In comparison to other DCCBs in the Western area, the Balangir DCCB's magnitude of compound growth of total loans was the greatest (0.870%) and significant at the 1% level of significance, according to bank-level findings.

3.1.2 Total loans issued and their composition.

According to Table 2., the total amount of loans that all DCCBs collectively made available to their members in the Western region climbed from '15643 lakhs in 2001-02 to

'603112 lakhs in 2020-21. During 2001-2002, Sundargarh DCCB issued the most loans overall (Rs.6364 lakhs), followed by Sambalpur (Rs.5866 lakhs), Boudh (Rs.1485 lakhs), Bhawanipatna (Rs.1459 lakhs), and Balangir (Rs.647 lakhs). In the study's final year (2020-21), Sundargarh DCCB provided a total of 235121 lakhs in loans, maintaining its lead in loan disbursement. Bhawanipatna, Balangir, Sambalpur, and Boudh DCCB's corresponding statistics were "127446", "105873," "94246," and "40426 lakhs." This demonstrated that the Bhawanipatna DCCB has provided its members with the most credit options possible during the research period.

Compared to short- and medium-term loans for non-agriculture, more short- and medium-term agricultural loans were given. During 2020-21, more than 92.85% of all loans and advances issued were short-term loans, with the remainder being medium-term and other loans and advances. Additionally, from the years 2001-2002 to 2020-21, more loans were provided for agricultural purposes than for non-agricultural purposes. This indicated that more emphasis was on short-term loans by DCCBs in the western region.

This demonstrated that DCCBs in the western region placed a greater priority on short-term loans. According to a bank-by-bank analysis, the Boudh DCCB (99.64%), Sambalpur (97.87%), Bhawanipatna (96.53%), Balangir (94.86%), and Sundargarh (86.78%) DCCBs had the highest short-term lending rates in 2020–21. In 2001-2002, the percentage shares of medium-term loans and other loans were 15.00 and 8.05 percent, respectively. By 2020-21, those percentages had dropped to 1.95 percent for medium-term loans and 5.19 percent for other loans and advances.

Table 2: Loans and advances issued and their composition during 2001-02 and 2020-21 in respect of DCCBs in Western Odisha

District	Short term loans		Total ST	Medium-term loans		Total MT	Other loans and advances	Total loan and advances
	Agril	Non Agril		Agril	Non-Agril			
Sambalpur								
2001-02	3486 (86.01)	567 (13.99)	4053 (71.26)	554 (33.88)	1081 (66.12)	1635 (28.74)	0 (0)	VB 5688 (100)
2020-21	91492 (99.20)	742 (0.80)	92234 (97.87)	45 (2.25)	1958 (97.75)	2003 (2.13)	9 (0.01)	94246 (100)
Balangir								
2001-02	530 (85.35)	91 (14.65)	621 (95.98)	2 (8.70)	21 (91.30)	23 (3.55)	3 (0.46)	647 (100)
2020-21	100428 (100.00)	0 (0)	100428 (94.86)	489 (74.09)	171 (25.91)	660 (0.62)	4785 (4.52)	105873 (100)
Boudh								
2001-02	732 (77.30)	215 (22.70)	947 (63.77)	291 (78.86)	78 (21.14)	369 (24.85)	169 (11.38)	1485 (100)
2020-21	40013 (99.34)	267 (0.66)	40280 (99.64)	5 (6.17)	76 (93.83)	81 (0.20)	65 (0.16)	40426 (100)
Sundargarh								
2001-02	4014 (75.88)	1276 (24.12)	5290 (83.12)	95 (45.89)	112 (54.11)	207 (3.25)	867 (13.62)	6364 (100)
2020-21	204040 (100.00)	0 (0)	204040 (86.78)	2207 (46.85)	2504 (53.15)	4711 (2.00)	26370 (11.22)	235121 (100)
Bhawanipatna								
2001-02	979 (87.25)	143 (12.75)	1122 (76.90)	106 (94.64)	6 (5.36)	112 (7.68)	220 (15.08)	1459 (100)
2020-21	112452 (91.41)	10572 (8.59)	123024 (96.53)	3685 (85.26)	637 (14.74)	4322 (3.39)	100 (0.08)	127446 (100)
Western Odisha								
2001-02	9741 (80.92)	2297 (19.08)	12038 (76.95)	1048 (44.67)	1298 (55.33)	2346 (15.00)	1259 (8.05)	15643 (100)
2020-21	548425 (97.93)	11581 (2.07)	560006 (92.85)	6431 (54.61)	5346 (45.39)	11777 (1.95)	31329 (5.19)	603112 (100)

Note: Figures in parenthesis represent the percentage of total loans and advances in respective districts in Western Odisha

4. Conclusion

The foundation of Indian farmers' ability to offer need-based finance is cooperative. In India, the development of the agriculture industry is significantly influenced by credit. According to the loan disbursement status, loans advanced from 2001-2002 to 2020-21, and all DCCBs in western Odisha engaged in credit activities that resulted in an increase in total lending disbursement. Short, medium, and other loans made up the total amount of lending and deposits. From Rs. 15643 lakhs in 2001-02 to Rs. 603112 lakhs in 2020-21, the total loan given by the DCCBs in western Odisha grew by almost 9.05 times compared to 2001-02. Additionally, the study found that short- and medium-term non-agricultural loans. Over 92.85% of all loans and advances made between 2020 and 21 were short-term loans, with the remainder being medium-term and other loans and advances.

4.1 Funding

This research received no external funding.

4.2 Data availability

The data that support the findings of this study were collected through DCCBs Bank survey so it cannot be publically available to maintain the privacy policy of the Bank Authorities but available from the leading author, Debabrata Swain, upon reasonable request.

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4.3 Ethics statement

All the Bank Authorities gave their informed consent for inclusion before they participated in this study and the privacy of respondents was maintained as per Indian law.

4.4 Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

4.5 Acknowledgments

We would like to thank the DCCBs Bank Authority of Western Odisha that they participated in the survey and focus group discussion.

5. Reference

1. Bhavani G, Mankar DM, Bhople PP. Utilization pattern of crop loan the farmers in Akola District. *International Journal of Agriculture Sciences*. 2018;10(6):5558-5560.
2. Ibrahim MS. Performance evaluation of regional rural banks in India. *International Business Research*. 2010;3(4):203-211.
3. Kaur P. Growth of Cooperative Credit in Punjab. *Zenith International Journal of Business Economics & Management Research*. 2015;7:78-87.
4. Bala K, Reena. Analysis of Loan Disbursement to Agricultural Sector by Regional Rural Bank in Sirsa District of Haryana. *International Research Journal of Social Sciences*. 2015;3:54-57.
5. Sharma BK, Kumawat RC. Purpose-wise utilization pattern of agricultural credit in Rajasthan. *An Int. Journal of Agro Economist*. 2014;(1):29-37.