OPEN ACCESS

Volume: 9

Special Issue: 1

Month: March

Year: 2022

P-ISSN: 2321-4643

E-ISSN: 2581-9402

Impact Factor: 3.122

Received: 18.01.2022

Accepted: 07.02.2022

Published: 19.03.2022

Citation:

Homiga, U., and V. Alagu Pandian. "A Study of Non-Performing Assets (NPA) in PACS – A Comparative Analysis of Selected Pacsin Villupuram District, Tamil Nadu." *Shanlax International Journal of Management*, vol. 9, no. S1, 2022, pp. 74–84.

DOI:

https://doi.org/10.34293/ management.v9iS1-Mar.4895

A Study of Non-Performing Assets (NPA) in PACS – A Comparative Analysis of Selected Pacsin Villupuram District, Tamil Nadu

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Abstract

The present study observed that the NPA level of the selected cooperative societies showed a declining trend over the study period. The study also observed that even though there is an improvement in the Non-performing asset management in the societies, in the case of Sithathur PACS, a higher AAG rate of overdue advances is found. It is indicated that they have a poor credit management system. Therefore Co-operative Societies should manage their NPA effectively and systematically.

Keywords: NPA, Standard Assets, Doubtful Assets, Loss Assets, Villupuram District and PACS.

Introduction

Asset Quality	Net Non-performing advances (NNPA) ratio	>=6.0% but <9.0%	>=9.0% but < 12.0%	>=12.0%
Profitability	Return on assets (ROA)	Negative ROA for two consecutive years	Negative ROA for three consecutive years	Negative ROA for four consecutive years
Leverage	Tier 1 Leverage ratio ⁴	<=4.0% but > = 3.5% (leverage is over 25 times the Tier 1 capital)	< 3.5% (leverage is over 28.6 times the Tier 1 capital)	

The present study observed that the NPA level of the selected cooperative societies in Villupuram Districts.

Statement of the Problem

A loan might fail for numerous reasons. Banks are actively marketing unsecured loans to individuals/members to avoid idle assets. Most cooperative bank consumers are uneducated in finance, and banks often provide loans without assessing their financial situation. A lack of adequate recovery mechanisms, purposeful defaults, natural catastrophes, changes in government policy, demonetisation and loan waivers have all contributed to the NPA crisis, affecting cooperative banks the most.

When a bank is not able to recover the loan given or not getting regular interest on such a loan

- The flow of funds in the banking industry is affected.
- Also, the earning capacity is adversely affected.
- This has a direct and immediate impact on bank profitability and efficiency.
- Under the prudential norms, banks cannot book any income from NPA.
- At the same time, they have to make necessary provisions for NPA
- Moreover, the money is blocked as the provisions for NPAs is not available for further use of business, and thus the profit margin of the societies goes down.
- The low profitability of the banking sector affects its growth and expansion.
- NPA is a double-edged sword. On the one hand, banks cannot recognise interest income on NPA, and on the other hand, it is a drain of banks' profitability.
- Moreover, profits earned are required to be diverted for provision on NPA. The high level of NPA is dangerous to the very existence of banks.
- Gross NPA reflects the quality of the society loans, and the Net NPA reflects the actual burden
 of the societies.

Objectives of the Study

The objective of this research is

- To Study the Non-Performing Assets of selected Primary Agricultural Co-operative Societies (PACS).
- To comparative analyse the various ratios to NPA of selected PACS.
- Based on findings, suggest measures for better performance of Primary Agricultural Cooperative Societies concerning NPAs.

Research Design

Descriptive studies are designed to describe what is going on or says what exists. Descriptive studies are usually the best methods for collecting information that will demonstrate relationships and describe them as it exists.

Sources of Data

Secondary Data refers to the data which has already been generated and is available for use. The data about NPAs and their composition, classification of loan assets, profits and advances of selected PACS in Villupuram district from their published annual reports for the study purpose.

Data Analysis

The data collected will be tabulated, analysed and interpretation has to arrive based on statistical analysis. It is a comparative study through ratio analysis using essential ratios.

Tools of Analysis

Accountants utilise ratio analysis, a kind of financial statement analysis, to quickly assess numerous aspects of a business' financial health. Financial statement analysis is defined as the use of ratios to evaluate the company's performance and financial situation in the context of the financial statements.

- Gross NPA ratio.
- · Net NPA ratio
- Provisions Coverage ratio
- Problem Assets ratio

- Substandard Assets ratio
- Doubtful Assets ratio
- Loss Assets ratio

Statistical Techniques

The following tools used to analyse the data

- Mean
- Standard Deviation
- Co- efficient of variation

Mean: Mean has been used to find the average of various items. It refers to a central value of a discrete set of numbers, specifically the sum divided by the number of values.

Standard Deviation: measures the absolute dispersion or variability from the mean values. It shows the variation in data. A small standard deviation implies a high degree of uniformity or homogeneity in the distribution or vice versa.

Coefficient of Variation: It is a relative measure of dispersion based on standard deviation. The coefficient of variation was used to test the consistency. There is an inverse relationship between the coefficient of variation and consistency. More the value of the coefficient of variation lesser is the consistency and vice versa.

Scope of the Study

This study covers seven years ranging between 2013-14 and 2019-20 to study the trends and comparative study of two PACS, from Villupuram District, Tamilnadu.

The selected PACS are:

- Sithathur PACS, Mugaiyur Block, Villupuram Dist.
- Veerapandy PACS, Mugaiyur Block, Villupuram Dist.

This study has a major focus only on the financial performance of both the PACS concerning Non Performance Assets (NPA). Other functional and operational transactions like deposit mobilisation and credit expansion Are not considered for analysis purposes.

Review of Literature

Barki (2015), the study analysed the lending practices of the PACS and its performances during the study period. The study found that the financial performance of UCBs is improved over the period by satisfying customers with the excellent quality of services, easy mode of repayment of instalment, simple procedure and reasonable rate of interest and quick sanction of loans. It was suggested that the bank adopt digital banking and introduce new schemes for attracting new customers and satisfying the present ones.

Sivakumar (2018), in his study "A Study on Non-Performing Asset Management with Special Reference to Coimbatore City Co-Operative Bank Ltd, Tamilnadu", analysed the various concepts of NPAs and their impact on the performance and profitability of the selected bank. It was revealed in the study that the bank failed to control the NPA in the early years of the decade. The study also observed that the contribution of the priority sector was high towards total NPA. The study suggested that the bank take corrective steps to prevent further NPAs and recover existing NPAs. The study also suggested the banktake some effective measures to control NPAs in priority sector and non-priority sector lending.

Namboodiri, N. V., Natarajan, D. P. (2018), the study revealed the trends, causes, and impact of NPAs on the performance of the District Central Co-operative Bank Ltd. The study observed that there exist a high positive correlation between actual values and trend values of Net NPA

to Total Assets. The study also suggested various preventive measures to manage NPA, such as presanctioning evaluation and Post disbursement monitoring, strict recovery efforts, strict rules against willful defaulters and introduction of professional expertise.

Ali and Kaveri's (2018) study focused on the Pre-Sanction Credit Appraisal (PSCA) and Post Sanction Credit Monitoring (PSCM) stages in PACS in Kanchipuram District Tamilnadu State. The study suggested several strategies for effective lending, such as a sound credit appraisal system, effective follow-up system, strict loan sanctioning and disbursement system and regular monitoring of the financial performance of the borrowers.

Gross NPA Ratio

The Gross NPA Ratio is the proportion of gross NPA and loans (advances). The ratio is used as a measure of the overall the quality of Credit portfolio of the banks. The high gross NPA ratio indicates the low Credit portfolio of the bank, and the low gross NPA ratio indicates the good Credit portfolio of the bank.

Gross NPA Ratio = Gross NPA/Total Loans and Advances (Rs. in Lakhs)

Name of the PACCS: I.I.601 Name of the PACCS: I.I.520 SITHATHUR PACCS VEERAPANDI PACCS **Gross NPA** Total **Gross NPA** Gross Total Year **Gross NPA** Advances Ratio **NPA Advances** Ratio 2013-14 346.60 1.83 419.14 5.49 6.36 23.00 2014-15 7.66 377.87 2.03 64.66 484.81 13.34 2015-16 3.15 0.82 45.91 508.64 9.03 383.74 2016-17 3.42 65.17 288.73 1.18 453.36 14.37 2017-18 3.32 0.91 73.30 364.39 462.27 15.86 2018-19 5.25 382.21 1.37 11.33 667.87 1.70 2019-20 5.60 1.36 66 29 410.99 833.98 7.95 1.36 9.68 Mean SD 0.41 4.76 CV 30.38 49.15

Table 1 Average Level and Stability of Gross NPA Ratio

Source: Computed based on Record of SITHATHUR PACS & VEERAPANDY PACS during period 2013-14 to 2019-20

It is found from Table 1 that the Gross NPA ratio of SITHATHUR PACS's, on average, throughout the study was found to be lower than VEERAPANDY PACS's ratio. The average ratio over the period from 2013-14 to 2019-20 was 1.36 % for SITHATHUR PACS and 9.68 % for VEERAPANDY PACS. It concludes that SITHATHUR PACS's recovery is satisfactory, which leads to lower gross NPA over VEERAPANDY PACS. Also, Co-efficient of Variation (CV) figures show that the ratio of gross NPA of SITHATHUR PACS is relatively stable throughout the study compared to VEERAPANDY PACS.

Net NPA Ratio

Net NPA ratio explains whether the PACS has made sufficient provisions or not, against NPA during the study period of seven years. This ratio indicates the degree of risk prevailing in the credit portfolio of the PACS. The high Net NPA ratio indicates the high quantity of risky assets in the PACS for which no provisions had been made.

Net NPA Ratio = Net NPA/Total Loans and Advances (Rs. in Lakhs)

Table 2 Average Level and Stability of Net NPA Ratio

Name of the PACCS: I.I.601 SITHATHUR PACCS				Name of the PACCS: I.I.520 VEERAPANDI PACCS		
YEAR	Net NPA	Total Advances	NET NPA Ratio	Net NPA	Total Advances	NET NPA Ratio
2013-14	4.39	346.60	1.27	3.30	419.14	0.79
2014-15	5.33	377.87	1.41	3.38	484.81	0.70
2015-16	0.53	383.74	0.14	24.74	508.64	4.86
2016-17	0.64	288.73	0.22	10.81	453.36	2.38
2017-18	0.39	364.39	0.11	12.30	462.27	2.66
2018-19	2.32	382.21	0.61	0.68	667.87	0.10
2019-20	2.65	410.99	0.64	20.11	833.98	2.41
Mean	0.63				1.99	
SD	0.49			1.50		
CV	78.33			75.40		

Source: Computed based on Record of SITHATHUR PACS & VEERAPANDY PACS during period 2013-14 to 2019-20

Table 2 shows that SITHATHUR PACS has a lower average net NPA ratio than VEERAPANDY PACS. That means SITHATHUR PACS made more sufficient provisions for NPA accounts than VEERAPANDY PACS. Table 2 also shows that the CV of VEERAPANDY PACS's net NPA ratio is quite stable than SITHATHUR PACS's net NPA ratio.

Provision Coverage Ratio

Provision Coverage ratio indicates the degree of safety measured adopted by the society. If the provision ratio is less, it indicates that society has made under-provisioning. Lesser provisioning is possible only by identifying lesser NPA. Lesser NPA must be due to more recovery. A high PCR ratio (ideally above 70%) means most asset quality issues have been taken care of, and the bank is not vulnerable.

Provisions Coverage Ratio = Total Provisions/Gross NPA (Rs. in Lakhs)

Table 3 Average Level and Stability of Provision Coverage Ratio

		he PACCS: I. THUR PACC	Name of the PACCS: I.I.520 VEERAPANDI PACCS			
YEAR	Total Provisions	Gross NPA	Provisions Coverage Ratio	I Cross NDA I		Provisions Coverage Ratio
2013-14	1.97	6.36	30.97	3.30	23.00	14.35
2014-15	2.33	7.66	30.42	0.08	64.66	0.12
2015-16	2.62	3.15	83.17	21.35	45.91	46.50

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2016-17	2.78	3.42	81.29	0.00	65.17	0.00
2017-18	2.93	3.32	88.25	0.00	73.30	0.00
2018-19	2.93	5.25	55.81	0.00	11.33	0.00
2019-20	2.95	5.60	52.68	0.00	66.29	0.00
Mean	60.37			8.71		
SD	22.60			16.20		
CV	37.44			186.00		

Source: Computed based on Record of SITHATHUR PACS & VEERAPANDY PACS during period 2013-14 to 2019-20

Table 3 explains the provisions coverage ratio of both societies. As SITHATHUR PACS has an average provision ratio is 60.37, and VEERAPANDY PACS has an average of 8.71. It means SITHATHUR PACS made an adequate provision for NPA than VEERAPANDY PACS. The provision ratio indicates the degree of safety measured adopted by the society. If the provision ratio is less, society has made it under the provision. Lesser provisioning is possible only by identifying lesser NPA. Lesser NPA must be due to more recovery. Here SITHATHUR PACS made adequate provision from 2013-14, but VEERAPANDY PACS always made under the provision or no provision except 2015-16.

Problem Assets Ratio

The high problem assets ratio indicates low liquidity, and the low problem assets ratio indicates high liquidity of assets. To avoid financial problems, the problem assets ratio must be brought down to a minimal level.

Problem Assets Ratio = Gross NPA/Total Assets (Rs. in Lakhs)

Table 4 Average Level and Stability of Problem Assets Ratio

Name of the PACCS: I.I.601 SITHATHUR PACCS				Name of the PACCS: I.I.520 VEERAPANDI PACCS		
YEAR	Gross NPA	Total Assets	Problem Assets Ratio	Gross NPA	Total Assets	Problem Assets Ratio
2013-14	6.36	26.65	23.86	23.00	16.24	141.63
2014-15	7.66	28.76	26.63	64.66	32.92	196.42
2015-16	3.15	25.55	12.33	45.91	47.44	96.77
2016-17	3.42	26.64	12.84	65.17	65.39	99.66
2017-18	3.32	45.24	7.34	73.30	66.83	109.68
2018-19	5.25	43.90	11.96	11.33	57.41	19.74
2019-20	5.60	48.00	11.67	66.29	60.54	109.50
Mean	15.23			110.49		
SD	6.59				49.13	
CV		43.27			44.47	

Source: Computed based on Record of SITHATHUR PACS & VEERAPANDY PACS during period 2013-14 to 2019-20

From above table 4 Problem Ratio of SITHATHUR PACS shows a consistently decreasing trend during the study period except in 2014-15 till 2017-18 as VEERAPANDY PACS's ratio has a fluctuation tendency. Throughout the study, an average problem ratio of SITHATHUR PACS is lower than VEERAPANDY PACS's ratio. It shows that SITHATHUR PACS has more control over problem assets than VEERAPANDY PACS. Considering the CV of problem ratio of both societies, SITHATHUR PACS's problem assets are relatively stable compared to VEERAPANDY PACS.

Sub-Standard Assets Ratio

The substandard assets ratio indicates the scope for improvement in NPA. The higher the ratio, the better is the position of recovering the advances. The variations in the substandard assets ratio are caused by the higher percentage of doubtful assets over substandard assets in some of the banks.

Substandard Assets Ratio = Sub Std. Assets/Gross NPA (Rs. in Lakhs)

Table 5 Average Level and Stability of Sub-Standard Assets Ratio

Name of the PACCS: I.I.601 SITHATHUR PACCS				Name of the PACCS: I.I.520 VEERAPANDI PACCS		
YEAR	Substandard Assets	Gross NPA	Substandard Assets Ratio	Substandard Assets	Gross NPA	Substandard Assets Ratio
2013-14	1.26	6.36	19.81	23.00	23.00	100.00
2014-15	4.64	7.66	60.57	61.63	64.66	95.31
2015-16	22.06	3.15	700.32	20.01	45.91	43.59
2016-17	29.47	3.42	861.70	23.67	65.17	36.32
2017-18	21.89	3.32	659.34	21.09	73.30	28.77
2018-19	17.70	5.25	337.14	11.20	11.33	98.85
2019-20	18.60	5.60	332.14	19.89	66.29	30.00
Mean		424.43			61.83	
SD	301.13			31.71		
CV		70.95			51.28	

Source: Computed based on Record of SITHATHUR PACS & VEERAPANDY PACS during period 2013-14 to 2019-20

From the data available substandard asset ratio of VEERAPANDY PACS, on average, for the study, was found lower than the SITHATHUR PACS ratio. The average substandard ratio of VEERAPANDY PACS showed a lot of scope for improvement of the NPA.

Doubtful Assets Ratio

Lack of follow-up in upgrading the substandard assets, shift down to doubtful assets. In case of doubtful assets, societies must take immediate action. Banks should try to recover more advances through compromise by which the bank can reduce NPA.

Doubtful Assets Ratio = Doubtful Assets/Gross NPA (Rs. in Lakhs)

Table 6 Average Level	and Stability	of Doubtful	Assets Ratio

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Name of the PACS: I.I.601 SITHATHUR PACCS				Name of the PACCS: I.I.520 VEERAPANDI PACCS		
YEAR	Doubtful Assets	Gross NPA	Doubtful Assets Ratio	Doubtful Assets	Gross NPA	Doubtful Assets Ratio
2013-14	6.36	6.36	100.00	0.00	23.00	0.00
2014-15	7.31	7.66	95.43	3.03	64.66	4.69
2015-16	0.80	3.15	25.40	2.54	45.91	5.53
2016-17	3.01	3.42	88.01	40.91	65.17	62.77
2017-18	2.97	3.32	89.46	52.21	73.30	71.23
2018-19	4.90	5.25	93.33	0.00	11.33	0.00
2019-20	4.95	5.60	88.39	46.27	66.29	69.80
Mean	82.86		30.57			
SD	23.80			32.50		
CV	28.72			106.31		

Source: Computed based on Record of SITHATHUR PACS & VEERAPANDY PACS during period 2013-14 to 2019-20

VEERAPANDY PACS's doubtful debt ratio found an increasing trend during the period of the study except 2018-19. It is concluded from the data doubtful asset ratio of SITHATHUR PACS's as on average, throughout the study was found lower than VEERAPANDY PACS's ratio. The value of CV indicates that the ratio of substandard assets of SITHATHUR PACS's relatively stable throughout the study as compared to VEERAPANDY PACS.

The average ratio of SITHATHUR PACS showed more than 50% of gross NPA is in the doubtful asset category, which required immediate actions to overcome it. The management must try to recover as many doubtful assets as possible to reduce the gross NPA.

Loss Assets Ratio

The loss asset ratio shows the proportion of the loss that the society is likely to suffer as compared to the Gross NPA. The ratio must be minimum, as it means that the lost assets would be lower than Gross NPA. The loss assets are not likely to be recovered at all.

Loss Assets Ratio = Loss Assets/Gross NPA (Rs. in Lakhs)

Table 7 Average Level and Stability of Loss Assets Ratio

Name of the PACCS: I.I.601 SITHATHUR PACCS				Name of the PACCS: I.I.520 VEERAPANDI PACCS		
YEAR	Loss Assets Gross NPA Loss Assets Ratio Loss Assets		Gross NPA	Loss Assets Ratio		
2013-14	0.00	6.36	0.00	0.00	23.00	0.00
2014-15	0.35	7.66	4.57	0.00	64.66	0.00
2015-16	0.35	3.15	11.11	23.36	45.91	50.88
2016-17	0.41	3.42	11.99	0.59	65.17	0.91
2017-18	0.35	3.32	10.54	0.00	73.30	0.00
2018-19	0.35	5.25	6.67	0.13	11.33	1.15

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2019-20	0.35	5.60	6.25	0.13	66.29	0.20
Mean	7.30			7.59		
SD	3.95			17.68		
CV	54.09			232.87		

Source: Computed based on Record of SITHATHUR PACS & VEERAPANDY PACS during period 2013-14 to 2019-20

The data indicate that SITHATHUR PACS and VEERAPANDY PACS lost assets found very negligible compared to Gross NPA during the study period. In that SITHATHUR PACS's ratio is lower than VEERAPANDY PACS's ratio throughout the study.

Recommendations

- In the light of the findings, a few suggestions are offered to improve the functioning of SITHATHUR PACS and VEERAPANDY PACS.
- Overdue can be minimised if the loan is provided to farmers who satisfy the technical feasibility and financial viability test.
- Generally, PACS must have a higher level of standard assets to provide safety of the fund positioned in the credit portfolio. PACS must have a loan-follow up program throughout the year to keep the level of standard assets always at the greatest.
- The Gross NPA ratio should be calculated for different categories of loans to know the contributing factor for high NPA in society. It will help to take the remedial course as Ill as to review the disbursement of loans category wise.
- It is advised to the societies to follow RBI and NABARD in respect of agricultural advances to small farmers, SC and ST.
- It is suggested that societies should ensure that advances do not become NPA through proper follow-up and supervision at the post-disbursement stage.
- It is advised to provide loans and advances to those farmers who satisfy the test of technical feasibility and financial viability so that overdue can be minimised.
- It is suggested that the societies should set up an economic research wing by creating a group of PACS in the same area with the help of DCCB, which should provide data on various types of farm and non-farm activities and rural industries etc. required for proper appraisal of the loan.
- The societies may take steps, by creating a group of PACS with the help of DCCB, to establish more legal cells and tribunals, recovery branches, NPA management departments, Lok Adalat, etc., speedy recovery of NPA in addition to the existing systems.
- It is advised to PACS to display the detailed information related to NPA, capital adequacy, investments etc., in their annual reports.
- It is suggested that incentives can be given to honest repayers to create a better climate for repayment.
- The government should introduce proper measures to help societies take possessions of land belonging to wilful defaulters.
- As it is found higher AAG rate of overdue to advances, it is suggested that VEERAPANDY PACS must employ efficient machinery for lending and in timely recovery of loans. Society should concentrate on willful defaulters and speed up recovery efforts from them.

Conclusion

In this current Post Covid economic situation, financial institutions are exposed to many financial crises or challenges in their operating environment. The problem of Non-performing

SHANLAX Management

Assets becomes a burden to the bank. A high NPA indicates poor asset quality and a lack of a credit management system in the bank. The magnitude of NPA has significant influences on the profitability and performance of the bank. The most challenging issue concern to the Primary Agricultural Cooperative Societies (PACS) is the mounting amount of Non-performing assets in the rural credit system.

The present study observed that the NPA level of the selected cooperative societies showed a declining trend over the study period. The study also observed that even though there is an improvement in the Non-performing asset management in the societies, in the case of SITHATHUR PACS, a higher AAG rate of overdue advances is found. It is indicated that they have a poor credit management system. Therefore Co-operative Societies should manage their NPA effectively and systematically.

The RBI and other regulatory authorities introduced prudential norms and guidelines to provide a systematic framework to manage the NPA effectively. The precautionary measures such as alarming early system, sound lending policy, evaluation of loan proposal, good credit appraisal system, systematic monitoring system, etc., are advisable to the bank. The post loan inspection and credit audit is an effective tool to verify the creditworthiness of the borrowers. The bank can make the best use of recovery measures and channels to overcome the problem of recovery and disposal of a problem loan. It is needless to say, the issue of NPA is solved only when the bank makes an effort to enhance the credit assessment and risk management system.

References

- 1. Reddy (2002), The effects of the reforms on NPA in PACs, Jagadish Capoor Committee Report. New Delhi: Government of India.
- 2. Prasad.A (2003), The asset and liability management in UCBs, Indian Cooperative Review, 42-58.
- 3. Das.S (2008), A study of State Cooperative Banking System in the North Eastern Region of India. International Journal of Consumerism, 1(1), 54-63.
- 4. Dhanarajan (2009), the asset quality of selected PACS in Tamil Nadu. (September Vol. XXI, No.1). Land Bank Journal, pp. 21-23.
- 5. Saha (2010), The profitability and operational efficiency of selected PACS in Karnataka.
- 6. Mahipal Singh Yadav(2011), "Impact of Non Performing assets on profitability and productivity of public sector banks in India", AFBE journal, pp 10-16.
- Goyal, S., Kaur, s., & Suhag, K. (2006). Performance and Regional Variability in Primary Agricultural Cooperative Credit Societies in Haryana. Indian Cooperative Review, 43 (4), 697-705.
- 8. S.Poornima(2012), "Non- performing assets and its impact on the performance of Karnataka state cooperative apex limited", International journal of advanced research in management
- 9. Dr Suresh Patidar Ashwini Kataria(2012), in their research paper titled "An analysis of NPA in priority sector lending: a comparative study between public sector banks and private sector banks of India", Bombay: Research & Development Cell, National Cooperative Agricultural and Rural Development Banks Federations.
- 10. Sakaria Sima VasantBhai(2013), "A Comparative Analysis of NPA Management Between SBI And CBI", Indian Journal of Agriculture Economics, 1-16.
- 11. Dr G Nagarajan, N. Sathyanarayana, A. Asif Ali(2013), "Non-Performing Assets is a Threat to India Banking Sector A Comparative study between Priority and Non-Priority Sector Lending in Public Sector Banks" published in International Journal of Advanced Research in Management and Social Sciences.

- 12. Bahir (2014), "Agricultural and non-agricultural loan recovery performance of District Central Co-operative Banks (DCCBs) in Maharashtra, Indian Journal of Agricultural Economics, 56(2), 198-207.
- 13. Nagaraja and Madegowda (2015), Economics of Scale and scope of District Central Cooperative Banks. Indian Journal of Agricultural Economics, 56(2),198-207.
- 14. Tiwari (2015), Major causes for non-performing assets in Central Cooperative Banks. Tamil Nadu Journal of Cooperation, 74(5), 8-19.
- 15. Barki (2015), Lending practices of PACS and its performances, Indian Cooperative Review, 5 (2), 234-244.
- 16. Sivakumar (2018), "A Study on Non-Performing Asset Management with Special Reference to Coimbatore City Co-Operative Bank Ltd, Tamilnadu". Indian Cooperative Review, 45 (2), 110-116.
- 17. Namboodiri, N. V., Natarajan, D. P. (2018). Performance Evaluation of District Cooperative Banks in India. Asian Economic Review, 41(2), 323-330.
- 18. Ali and Kaveri (2018), study on Pre-Sanction Credit Appraisal (PSCA) and Post Sanction Credit Monitoring (PSCM) in PACS, Indian Cooperative Review, 43 (4), 711-718.