

District-Level Analysis of NPAs in Karnataka Banking Sector: A Comparative Study of Mandya, Belagavi, and Bangalore

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Abstract: This paper presents a comprehensive district-level analysis of Non-Performing Assets (NPAs) in the Karnataka banking sector, with a focused examination of Mandya, Belagavi, and Bangalore districts. Using secondary data from NABARD reports and RBI publications spanning 2012-2022, the study reveals significant inter-district variation in NPA performance. Mandya District Central Co-operative Bank demonstrates consistently low NPA levels (0.43% in 2021-22 for SHG loans), while Bangalore DCCB exhibits historically high stress (113.59% in 2012-13, improving to 8.17% in 2021-22). Belagavi shows moderate performance with notable challenges in urban livelihood programs (11.07% NPA under NULM/SJSRY). The analysis identifies agricultural dependence, rainfall variability, institutional capacity, and loan portfolio composition as key determinants of district-level NPA patterns. The findings underscore the importance of district-specific policy interventions and contribute to understanding regional disparities in banking sector health.

Keywords: Non-Performing Assets (NPAs), District Central Co-operative Banks, Karnataka, Mandya, Belagavi, Bangalore, Agricultural Credit, SHG Banking

Introduction

Non-Performing Assets (NPAs) represent a critical indicator of banking sector health and financial stability. An asset becomes non-performing when interest or principal remains overdue for 90 days, as per RBI guidelines. For District Central Co-operative Banks (DCCBs), which form the backbone of rural credit delivery in Karnataka, NPA levels directly impact their capacity to sustain agricultural and rural development financing.

The Karnataka banking sector has experienced fluctuating NPA trends, with significant variation across districts reflecting diverse economic structures, rainfall patterns, and borrower profiles. According to research by Darshan Gowda (2009), commercial banks in Karnataka reduced NPA accounts from 413,936 (2002-03) to 315,954 (2007-08), while co-operative banks experienced an increase from 177 to 47,802 accounts during the same period. This suggests structural challenges in co-operative banking that merit district-level investigation.

Priority sector advances constitute approximately 45.47% of total bank advances in Karnataka, with agricultural advances alone representing 20.60% as of March 2018. The predominance of priority sector lending makes Karnataka banks particularly vulnerable to agricultural risks such as rainfall variability and crop failure.

Rationale and Scope

While aggregate NPA data for Karnataka are regularly reported by the RBI and NABARD, district-level analysis remains limited. This study addresses this gap by examining three distinct districts that represent different economic and agro-climatic zones of Karnataka:

- **Mandya:** A predominantly agricultural district in the Cauvery basin, known for sugarcane cultivation with assured irrigation
- **Belagavi:** A diversified agricultural and industrial district in northern Karnataka
- **Bangalore:** An urban-metropolitan district with a mix of commercial, industrial, and service sector activity

The study focuses on SHG (Self-Help Group) loan portfolios of DCCBs as a representative indicator of retail credit quality, supplemented by broader DCCB performance indicators.

Research Objectives

- To compare NPA levels across Mandya, Belagavi, and Bangalore DCCBs using multiple time periods
- To identify district-specific factors influencing NPA formation and recovery
- To analyze temporal trends in NPA performance
- To examine the relationship between loan portfolio composition and asset quality
- To provide policy recommendations based on district-level findings

Literature Review

Conceptual Framework of NPAs

NPA classification in the Indian banking system follows RBI guidelines. For co-operative banks, including DCCBs, assets are classified as:

- **Standard Assets:** Performing loans with regular repayments
- **Sub-standard Assets:** NPAs for up to 12 months
- **Doubtful Assets:** NPAs for more than 12 months
- **Loss Assets:** Assets identified as loss by the bank or auditors

Co-operative banks operate under dual regulation by RBI and the Registrar of Co-operative Societies, which can create unique governance challenges affecting asset quality.

NPA Trends in Karnataka Banking Sector

Research on NPA management in Karnataka reveals important trends:

Table 1: NPA Trends in Karnataka Financial Institutions (2002-03 to 2007-08)

Institution Type	NPA Accounts (2002-03)	NPA Accounts (2007-08)	NPA Amount (2002-03)	NPA Amount (2007-08)
Commercial Banks	4,13,936	3,15,954	Rs. 2,94,560.2 lakh	Rs. 3,52,088.5 lakh
Co-operative Banks	177 (2003-04)	47,802	Rs. 66,647 lakh	Rs. 75,936 lakh
RRBs	1,62,109	69,834	Rs. 31,877 lakh	Rs. 19,229.1 lakh
Private Banks	13,169	21,271	Rs. 41,838.9 lakh	Rs. 11,565.84 lakh

Source: SLBC Karnataka data, cited in Darshan Gowda (2009)

The study reveals several key observations regarding NPA trends and recovery practices across banking institutions. Co-operative banks experienced a significant rise in the number of NPA accounts, increasing sharply from 177 to 47,802, despite only a moderate growth in the total NPA amount. In contrast, commercial banks showed a decline in the number of NPA accounts, but the overall NPA amounts continued to rise, indicating larger loan defaults. Across all types of institutions, priority sector advances constituted the major share of NPAs, highlighting sector-specific vulnerabilities. Furthermore, among various recovery strategies, personal contact with borrowers emerged as the most effective method, emphasizing the importance of direct engagement and relationship-based recovery approaches in managing non-performing assets.

Determinants of NPAs at District Level

Existing literature identifies several district-level NPA determinants:

- **Rainfall Variability:** Gulbarga and Bijapur districts, being drought-prone, exhibited higher NPA rates. Conversely, Dharwad's favorable monsoon pattern contributed to better recoveries.
- **Socio-Economic Factors:** Education levels correlate with recovery performance. Dharwad showed better recoveries due to higher education levels.
- **Monitoring Effectiveness:** Strict supervision was identified as a mitigating factor in Bagalkot district.
- **Economic Structure:** Districts with diversified economies showed mixed results; agricultural dependence increases vulnerability to climatic risks.

Research Gap

While aggregate state-level data and bank-wise NPA analysis exist, district-level comparative analysis with explanatory contextual factors remains limited. This study addresses this gap by providing a focused three-district comparison with explanatory analysis.

Methodology

This study is based on secondary data collected from various reliable institutional and academic sources to analyze Non-Performing Assets (NPAs) in District Central Cooperative Banks (DCCBs) in Karnataka. The primary sources of data include reports published by the National Bank for Agriculture and Rural Development (NABARD), particularly the *Status of Microfinance in India* reports (2012–13, 2015, and 2021–22), which provide district-level information on Self-Help Group (SHG) related NPAs. In addition, data on financial health indicators such as asset quality, profitability, and risk exposure have been obtained from the Reserve Bank of India (RBI) publications, especially the *Salient Indicators of Financial Health of DCCBs* for the years 2023–24 and 2024–25. Further statistical support, including Net NPA ratios and Credit-Deposit (CD) ratios, is drawn from NABARD's *Key Statistics of DCCBs* (2021–22).

The study also incorporates academic perspectives through the review of Darshan Gowda's (2009) thesis on NPA management in Karnataka, which provides a conceptual and analytical foundation. Additionally, reports from the State Level Bankers' Committee (SLBC), Karnataka, are used to understand historical trends and regional variations in NPAs. The collected data are analyzed using descriptive and comparative methods to identify patterns, trends, and key issues related to NPA management. This approach ensures reliability, validity, and a comprehensive understanding of the subject.

Analytical Framework

- **Descriptive Statistics:** Comparison of NPA ratios, amounts, and recovery percentages
- **Comparative Analysis:** Cross-district and temporal comparisons using multiple time periods
- **Contextual Analysis:** Linking NPA patterns to district-specific economic, agro-climatic, and institutional factors
- **Portfolio Analysis:** Examining NPA variation across different loan categories (SGSY/NRLM, NULM/SJSRY, women SHGs)

Scope and Limitations

Scope of the study is primarily confined to District Central Cooperative Banks (DCCBs), with a specific focus on Self-Help Group (SHG) loan portfolios as a representative indicator of NPA trends. However, the study faces certain limitations. Comprehensive district-wise NPA data disaggregated by bank type and sector is limited, which restricts detailed comparative analysis. Additionally, data availability is confined to selected years, mainly 2012–13 and 2021–22, affecting the continuity of trend analysis. Furthermore, the study excludes commercial banks and Regional Rural Banks (RRBs) at the district level due to the unavailability of consistent and reliable data sources.

District-Level NPA Analysis: Mandya, Belagavi & Bangalore - Combined Data & Explanation

Table:2 Comparative Data

Parameter	Mandya	Belagavi	Bangalore
SHG NPA (2012-13)	0.03%	0.00%	113.59%
SHG NPA (2021-22)	0.43%	1.87%	8.17%
Loans Outstanding (Rs. Lakh)	20,032.44	2,812.09	2,739.76
Women SHG NPA	0.44%	1.13%	8.23%
NRLM/SGSY NPA	0.40%	1.35%	0.00%
NULM/SJSRY NPA	0.60%	11.07%	0.00%
Net NPA to Net Loans	2.06%	Negligible	1.71%
Credit-Deposit Ratio	95.54%	80.59%	111.29%
Recovery Rate (2012-13)	97%	100%	90%
Historical Trend	Stable Excellent	Slight Deterioration	Dramatic Recovery

Sources: NABARD Status of Microfinance Reports (2012-13, 2021-22); NABARD Key Statistics of DCCBs (2021-22)

Agricultural Stability Excellence: Mandya DCCB demonstrates exceptional asset quality with NPA ratio rising marginally from 0.03% (2012-13) to 0.43% (2021-22), despite 530% portfolio growth (₹3,176 to ₹20,032 lakh). All categories perform below 0.60%, with women SHGs at 0.44%, NRLM/SGSY at 0.40%, and NULM/SJSRY at 0.60%.

The 97% recovery rate reflects strong repayment culture. Mandya's Cauvery command area provides assured irrigation for sugarcane cultivation. Regular sugar mill operations ensure predictable farmer incomes through established cooperative structures and MSP support. Low NPA despite massive expansion indicates robust credit appraisal, monitoring, and recovery systems. Net NPA of 2.06% suggests moderate stress in non-SHG segments.

Urban Program Challenge: Belagavi DCCB declined from zero NPA (2012-13) to 1.87% (2021-22). Critical concern is NULM/SJSRY urban loans showing 11.07% NPA, contrasting sharply with rural NRLM/SGSY at 1.35%. Women SHGs perform better at 1.13%. Belagavi's diversified agriculture-industry economy creates mixed portfolios. Urban program challenges include irregular incomes, informal lending competition, financial literacy gaps, and high living costs affecting repayment. 2025 microfinance crisis with 70,000 NPAs and 30% recovery highlights how district-level factors (financial illiteracy, social dynamics) can trigger localized crises. Negligible net NPA indicates overall bank health remains strong despite SHG portfolio stress.

Remarkable Urban Recovery: Bangalore DCCB achieved dramatic recovery from 113.59% NPA (2012-13) to 8.17% (2021-22) - a 105% improvement. Government programs (NRLM/SGSY, NULM/SJSRY) show 0% NPA, while women SHGs face 8.23% stress. Urban challenges include micro-enterprise lending with variable success rates, informal lending competition, transient migrant populations, and absence of agricultural collateral. Low 1.71% net NPA suggests adequate provision coverage. Aggressive recovery campaigns, write-offs and settlements, improved credit appraisal, and better government program coordination with credit guarantees, systematic monitoring, and group-based discipline drove this transformation.

Policy Implications: The findings suggest important policy implications at both district and broader levels. In Mandya, efforts should focus on sustaining existing best practices while promoting diversification beyond sugarcane to reduce sectoral risk. In Belagavi, targeted interventions under schemes such as NULM and SJSRY are needed, along with strategies to replicate successful rural recovery models in urban areas. In Bangalore, there is a need to strengthen and expand government-backed financial programs while addressing specific challenges faced by women Self-Help Groups (SHGs). More generally, policymakers should establish district-specific monitoring cells to track NPA trends effectively and expand credit guarantee coverage to reduce default risks and improve financial inclusion.

Comparative Analysis

Table 3: Comparative NPA Performance (2021-22)

Parameter	Mandya	Belagavi	Bangalore
Total SHG NPA Ratio	0.43%	1.87%	8.17%
Women SHG NPA Ratio	0.44%	1.13%	8.23%
NRLM/SGSY NPA Ratio	0.40%	1.35%	0.00%
NULM/SJSRY NPA Ratio	0.60%	11.07%	0.00%
Net NPA to Net Loans	2.06%	Negligible	1.71%
Credit-Deposit Ratio	95.54%	80.59%	111.29%

Sources: Compiled from NABARD 2021-22 data

The comparative analysis of NPA performance across Mandya, Belagavi, and Bangalore districts for the year 2021-22 reveals significant spatial variation in asset quality, with each district demonstrating distinct characteristics shaped by its unique economic and institutional context. Mandya District Central Co-operative Bank emerges as the best performer with the lowest Total SHG NPA Ratio of 0.43%, followed by Women SHG NPA at 0.44%, NRLM/SGSY at 0.40%, and NULM/SJSRY at 0.60%. This exceptional performance across all categories is primarily attributed to Mandya's location in the Cauvery command area, which provides assured irrigation and stable agricultural incomes, coupled with the sugarcane economy that ensures predictable cash flows through regular sugar mill operations and well-established cooperative marketing structures. The strong cooperative culture in the district further supports robust recovery mechanisms, as reflected in the Credit-Deposit Ratio of 95.54% and Net NPA to Net Loans of 2.06%, indicating that while overall asset quality remains excellent, there is moderate stress from non-SHG segments of the loan portfolio.

Belagavi District presents a contrasting picture with moderate mixed performance, recording a Total SHG NPA Ratio of 1.87% and Women SHG NPA at 1.13%, but revealing a dramatic variation between rural and urban programs. The NRLM/SGSY rural program maintains a relatively healthy 1.35% NPA, while the NULM/SJSRY urban livelihood program shows an alarming 11.07% NPA, highlighting the distinct challenges in urban micro-credit delivery. This divergence stems from Belagavi's diversified economy combining agriculture, industry, and urban activity, which creates mixed credit portfolios with differential risk profiles. Urban borrowers face irregular income streams, intense competition from informal money lenders, financial literacy gaps in the informal sector, and higher living costs that collectively impair repayment capacity. Despite these challenges, Belagavi's overall bank health remains strong with negligible Net NPA to Net Loans and a Credit-Deposit Ratio of 80.59%, suggesting that the stress is primarily concentrated in specific urban program segments rather than reflecting systemic weakness.

Bangalore District presents the most complex scenario with the highest Total SHG NPA Ratio at 8.17% and Women SHG NPA at 8.23%, yet demonstrates remarkable resilience through government program protection, where both NRLM/SGSY and NULM/SJSRY maintain zero percent NPA. The urban character of Bangalore introduces unique challenges including higher incidence of micro-enterprise lending with variable success rates, competition from informal money lenders and unregulated financial entities, lack of agricultural stability and collateral, and transient migrant populations affecting recovery mechanisms. However, the Net NPA to Net Loans ratio of 1.71% indicates adequate provision coverage, while the high Credit-Deposit Ratio of 111.29% reflects strong deposit mobilization and aggressive lending activities. The dramatic improvement from the historical crisis of 113.59% NPA in 2012-13 to the current moderate stress level demonstrates that institutional reforms, aggressive recovery campaigns, and effective coordination with government-backed programs can transform asset quality even in challenging urban contexts. Government programs provide structural advantages through credit guarantee coverage, systematic loan monitoring, group-based lending discipline, and linkage with livelihood support services, making them well-protected and resilient to urban economic pressures.

Table4: Recovery Performance Comparison

District	2012-13 Recovery (%)	Interpretation
Mandya	97%	Strong recovery culture
Belagavi	100%	Excellent historical recovery
Bangalore	90%	Moderate recovery performance

Source: NABARD Status of Microfinance in India 2012-13

Key Findings

- **Mandya emerges as the best performer** with consistently low NPA levels, demonstrating the effectiveness of Cauvery basin agricultural stability combined with strong recovery mechanisms. The district's sugarcane economy provides predictable cash flows that support repayment.
- **Bangalore shows dramatic improvement:** The decline from 113.59% to 8.17% indicates significant recovery efforts, though the district still faces the highest NPA stress among the three. The 0% NPA in government programs suggests that credit guarantee mechanisms are effective.
- **Belagavi faces urban program challenges:** The 11.07% NPA under NULM/SJSRY suggests targeted interventions needed for urban livelihood lending. The contrast with rural program performance (1.35%) indicates program-specific rather than institutional factors.
- **Institutional capacity matters:** Mandya's ability to maintain low NPA despite 530% portfolio growth indicates robust systems. Bangalore's dramatic improvement suggests institutional reforms are possible.

Determinants of District-Level NPA Variation

Agricultural Factors

Research on Karnataka districts reveals that rainfall variability significantly affects NPA performance. Gulbarga and Bijapur, being drought-prone, exhibited higher NPA rates. Conversely, Dharwad's favorable monsoon pattern and higher education levels contributed to better recoveries.

Table 5: Agricultural Risk and NPA Correlation

District	Agricultural Zone	Rainfall Dependability	Key Crop	NPA Impact
Mandya	Cauvery Command	High (Assured Irrigation)	Sugarcane	Low NPA
Belagavi	Transition Zone	Moderate	Mixed Crops	Moderate NPA
Bangalore	Urban	N/A	N/A	Higher NPA

Economic Structure

District NPA levels correlate with economic diversification patterns:

- **Mandya:** Monocrop sugarcane economy with predictable income and stable repayment. The cooperative sugar industry provides institutional support for credit and marketing.
- **Belagavi:** Mixed agriculture-industry economy with diversified but variable cash flows. Urban program challenges reflect urban economic dynamics.
- **Bangalore:** Urban-service economy with higher risk in micro-enterprise lending and competition from informal money lenders.

Institutional Factors: Research on priority sector financing across Belagavi, Davanagere, and Kalaburgi districts found that cooperative banks were the only category failing to achieve lending targets in most sectors. This suggests institutional capacity constraints affecting portfolio quality and diversification.

Portfolio Composition

Table 6: Portfolio Composition and NPA Correlation

District	Portfolio Concentration	Government Program Share	NPA Level
Mandya	Agriculture Focused	High (84% under NRLM)	Low
Belagavi	Diversified	High (94.6% under NRLM)	Moderate
Bangalore	Urban Micro-enterprise	Moderate (58.8% under NRLM)	High

Source: Author's calculation from NABARD 2021-22 data

Social and Demographic Factors

- **Financial Literacy:** Bangalore's transient population and diverse migrant communities face financial literacy gaps that affect borrowing and repayment behaviour.
- **Social Capital:** Mandya's strong cooperative culture supports group lending models and peer pressure for repayment.
- **Urban Challenges:** Haveri's microfinance crisis demonstrates how social dynamics (local leaders discouraging repayment, borrower suicides) can trigger localized crises.

Conclusion

This district-level analysis reveals significant spatial variation in NPA performance within Karnataka's banking sector. The three studied districts represent distinct economic and institutional contexts that shape asset quality outcomes. Mandya demonstrates that favourable agricultural conditions combined with effective credit management can achieve exceptional asset quality. The district's sugarcane economy, supported by assured Cauvery irrigation and strong cooperative institutions, provides a stable foundation for credit repayment.

Belagavi shows moderate performance with specific urban program challenges. The 11.07% NPA under urban livelihood programs highlights the distinct challenges of urban micro-credit delivery. The contrast with rural program performance (1.35%) suggests program-specific factors rather than institutional weakness. Bangalore presents the most dramatic story - from an NPA crisis exceeding 100% to moderate stress of 8.17%. This remarkable improvement indicates that aggressive recovery efforts, institutional reforms, and government program support can transform asset quality even in challenging urban contexts.

The findings underscore the importance of district-level analysis in understanding NPA dynamics. Policy interventions must be calibrated to district-specific conditions, recognizing the interplay of agricultural patterns, economic structure, institutional capacity, and social factors in determining banking sector health. The success of government-sponsored programs in maintaining low NPA across districts offers a template for expanding protected lending while addressing challenges in unguaranteed portfolios.

Future research should extend this analysis to include commercial bank and RRB district-level data, examine the impact of specific policy interventions, and explore the relationship between NPA performance and socio-economic development indicators at the district level.

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