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A Comprehensive Diagnostic Analysis on Financial Health of Kerala Kerakarshaka Sahakarana Federation Limited (KERAFED), Thiruvananthapuram

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Abstract

This research paper presents a comprehensive diagnostic analysis of the financial health of KERAFED (Kerala Kerakarshaka Sahakarana Federation Limited), Thiruvananthapuram the apex cooperative federation of coconut farmers in Kerala, India. Using secondary data from annual financial statements spanning seven years (2018-19 to 2024-25), the study employs Ratio analysis and DuPont analysis to evaluate KERAFED's profitability, liquidity, solvency, and operational efficiency. The DuPont analysis confirms that improved profitability and asset utilisation are the primary drivers of recovery. The study concludes that while KERAFED faces structural vulnerabilities inherent to its dual cooperative and commercial mandate, its recent financial trajectory indicates a capacity for resilience and sustainable growth. Targeted strategic interventions particularly in inventory management, cost efficiency, and product diversification are recommended to sustain this momentum.

Keywords: Cooperative Federation, DuPont Analysis, Financial Health, KERAFED, Liquidity, Profitability, Ratio Analysis, Solvency

Introduction

Financial health is a crucial indicator of an organization's sustainability, profitability, and operational efficiency. The financial strength of an organization can be assessed through a systematic analysis of its financial statements such as the Balance Sheet and Profit and Loss Account. In the modern business environment, financial statement analysis plays a vital role in evaluating organizational performance helping management, investors, creditors, and policymakers make informed decisions regarding investment, credit, and strategic planning.

Cooperative institutions play a crucial role in rural economic development by empowering farmers and small producers. They reduce the exploitation by middlemen, ensure fair pricing, and provide technical, financial, and marketing support. KERAFED, being an apex federation of coconut farmers' cooperatives, acts as a vital link between farmers and the market. The financial strength of such a cooperative directly influences its ability to sustain procurement operations, provide price stability, and invest in modern processing and value-addition facilities.

Cooperative organisations such as KERAFED operate under a dual mandate they must function as financially viable business enterprises while simultaneously fulfilling their social obligations toward farmer members. This dual responsibility makes financial health assessment particularly critical. Considering recent market fluctuations, changing procurement policies, and operational challenges, the financial performance of KERAFED requires detailed examination. This study aims to analyse the financial health of KERAFED to evaluate its business viability, sustainability, and effectiveness in supporting coconut farmers.

Review of Literature

Dani Wahyu Wibowo et al. (2025) The study evaluated liquidity, solvency, and profitability through key indicators such as the Current Ratio, Cash Ratio, Debt to Equity Ratio, Debt to Asset Ratio, Return on Assets (ROA), and Return on Equity (ROE). The study emphasizes the need to improve asset utilization efficiency and strengthen financial management strategies to ensure sustainable performance. The findings revealed that while the cooperative demonstrated healthy solvency and moderately healthy profitability, its liquidity position was categorized as highly unhealthy, indicating short-term financial instability.

M. Rohitha et al. (2025) The study evaluated key banking ratios related to liquidity, profitability, solvency, capital adequacy, and asset quality using audited financial data over a multi-year period. The authors highlighted that conventional ratio analysis provides valuable insights into a bank's financial health, while the integration of advanced analytical tools enhances predictive accuracy and supports better strategic decision-making in the dynamic Indian banking sector. The findings suggest that AI-driven models provide deeper insights and improved forecasting ability compared to conventional financial analysis methods, thereby supporting better strategic decision-making and risk management in the banking sector.

Mrs. Vijayalaxmi Baddi and Dr. Gurupad Junnaykar (2025) The study explores the impact of financial leverage on the financial performance of Tyre and Allied Companies in India, which is a critical segment of the manufacturing sector. The research pivot on the relationship between financial leverage (measured by the Debt-to-Equity Ratio (D/E) and Interest Coverage Ratio (ICR)), and financial performance, (assessed through Return on Assets (ROA) and Return on Equity (ROE)). The findings of the study reveal that Debt-to-Equity Ratio (D/E) has a weak and insignificant impact on both ROA and ROE, suggesting that debt levels do not significantly influence profitability in this sector.

Tunay Aslan (2025) The study explains the operating performance of companies listed on the stock exchange and producing consumer durables is analysed by DuPont analysis. Using the balance sheet and income statement data of the companies the asset turnover rates, net profit margins, return on assets and equity multipliers of each company were calculated respectively. As a result of the analysis, the DuPont performance of the companies was calculated, and the companies were ranked according to their financial performance.

Dharu Harjuno et al. (2025) Using a qualitative descriptive approach and content analysis of annual reports, the study evaluated the structure and classification of financial statement elements, including assets, liabilities, revenues, and expenses. The findings indicate that the company generally

complies with PSAK1 standards in terms of transparency, relevance, and comparability. However, challenges remain in managing high operating expenses and short-term liabilities, highlighting the need for improved liquidity management and more comprehensive disclosure practices. The study underscores the importance of strict adherence to reporting standards to enhance accountability and stakeholder confidence.

Research Gap

Several studies have been conducted on financial statement analysis and corporate financial performance; however, limited research has specifically focused on the financial health of cooperative federations like KERAFED. Existing studies often analyse general financial performance without conducting a detailed diagnostic evaluation. This study attempts to fill this gap by providing a comprehensive financial health analysis of KERAFED using balance sheet and profit and loss account data over a seven-year period.

Objectives of the Study

- To assess the profitability, liquidity, and solvency position of KERAFED.
- To analyse financial performance using financial statements.

Research Methodology

This study uses analytical research which involves critical thinking skills and evaluation of facts and information relative to the research being conducted. This type of research focuses on understanding cause-effect relationships between financial variables. The study relies exclusively on secondary data collected from the company's official website, published articles, and annual reports for the period 2018-2019 to 2024-2025. Financial statements including the manufacturing trading account, profit and loss account, and balance sheet form the primary data sources.

Tools of Analysis

Ratio Analysis

Ratio analysis is a financial analysis technique used to evaluate a company performance by examining relationships between numbers in its financial statements. It allows investors and management to track trends, benchmark performance and assess financial health.

Profitability Ratios

Profitability Ratio measures the company's ability to generate profit from its operations. It looks at how efficiently a business converts its revenue into actual profit after covering all expenses.

Gross Profit Ratio

$$\text{Gross Profit Ratio} = (\text{Gross Profit} / \text{Net Sales}) \times 100$$

Table 1 Gross Profit Ratio (2018-2019 to 2024-2025)

Year	Gross Profit (Rs. Lakhs)	Net Sales (Rs. Lakhs)	Gross Profit Ratio
2018-19	2207.02	29827.99	7.40
2019-20	3075.15	28934.48	10.63
2020-21	2175.39	31406.90	6.93
2021-22	1715.98	25907.58	6.62
2022-23	1790.88	24472.40	7.32

2023-24	733.16	23568.73	3.11
2024-25	3932.61	32112.44	12.25

Source: Annual Reports, KERAFED

Chart 1 Gross Profit Ratio (2018-2019 to 2024-2025)



The gross profit ratio remained moderate at 7.40percentage in 2018-19 and improved to 10.63percentage in 2019-20. A decline to 6.93percentage in 2020-21 and 6.62percentage in 2021-22 may be attributable to COVID-19 disruptions. A slight recovery to 7.32percentage was observed in 2022-23, followed by a major decline to 3.11percentage in 2023-24, reflecting poor operational efficiency driven by high copra procurement costs. A strong recovery to 12.25percentage in 2024-25 signals improved cost management and higher realisations.

Net Profit Ratio

$$\text{Net Profit Ratio} = (\text{Net Profit} / \text{Net Sales}) \times 100$$

Table 2 Net Profit Ratio (2018-2019 to 2024-2025)

Year	Net Profit/(Loss) (Rs. Lakhs)	Net Sales (Rs. Lakhs)	Net Profit Ratio (%)
2018-19	754.42	29827.99	2.53
2019-20	658.26	28934.48	2.28
2020-21	216.84	31406.90	0.69
2021-22	206.41	25907.58	0.80
2022-23	-1233.94	24472.40	-5.04
2023-24	624.99	23568.73	2.65
2024-25	2098.03	32112.44	6.53

Source: Annual Reports, KERAFED

Chart 2 Net Profit Ratio (2018-2019 to 2024-2025)



The net profit ratio started at 2.53percentage in 2018-19 and declined steadily to 0.69percentage in 2020-21 and 0.80percentage in 2021-22, indicating weak operational performance. In 2022-23, the ratio turned negative at -5.04percentage, as expenses exceeded revenues. A strong recovery followed with 2.65percentage in 2023-24, and the ratio reached its highest level of 6.53percentage in 2024-25, reflecting significantly improved efficiency and profitability.

Liquidity Ratio

Current Ratio

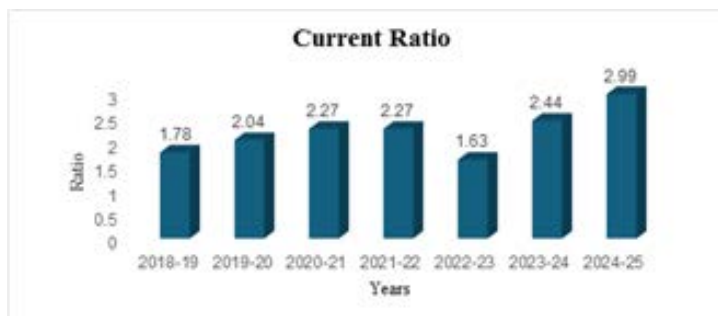
$$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$$

Table 3 Current Ratio (2018-2019 to 2024-2025)

Year	Current Assets	Current Liability	Current Ratio
2018-19	10972.45	6136.34	1.78
2019-20	13357.48	6529.27	2.04
2020-21	15708.34	6897.75	2.27
2021-22	16825.92	7381.81	2.27
2022-23	13950.51	8526.99	1.63
2023-24	23843.85	9766.70	2.44
2024-25	23765.99	7931.64	2.99

Source: Annual Reports, KERAFED

Chart 3 Current Ratio (2018-2019 to 2024-2025)



The current ratio increased from 1.78 in 2018-19 to 2.27 in 2020-21 and remained stable in 2021-22. A dip to 1.63 in 2022-23 indicated relatively weaker short-term financial position. The ratio improved significantly to 2.44 in 2023-24 and further to 2.99 in 2024-25, the highest during the period, suggesting a strong liquidity position and enhanced ability to meet short-term obligations.

Quick Ratio

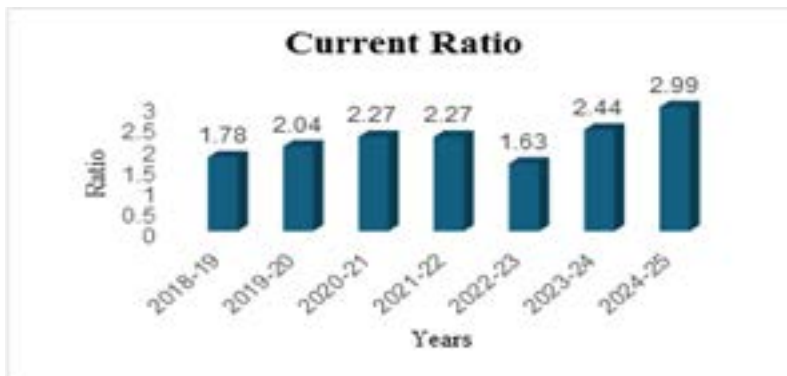
$$\text{Quick Ratio} = (\text{Current Assets} - \text{Inventory}) / \text{Current Liabilities}$$

Table 4 Quick Ratio (2018-2019 to 2024-2025)

Year	Current Assets	Inventory	Current Liabilities	Quick Ratio
2018-19	10972.45	2344.30	6136.34	1.40
2019-20	13357.48	1772.87	6529.27	1.77
2020-21	15708.34	2044.65	6897.75	1.98
2021-22	16825.92	2943.01	7381.81	1.88
2022-23	13950.51	2748.32	8526.99	1.31
2023-24	23843.85	3151.54	9766.70	2.11
2024-25	23765.99	4030.26	7931.64	2.48

Source: Annual Reports, KERAFED

Chart 4 Quick Ratio (2018-2019 to 2024-2025)



The quick ratio rise from 1.40 in 2018-19 to 1.98 in 2020-21, declined to 1.31 in 2022-23 indicating temporary liquidity stress, and then recovered strongly to 2.11 in 2023-24 and 2.48 in 2024-25. The consistently above-1.0 quick ratio indicates adequate short-term solvency throughout the study period.

Solvency Ratios

Debt-Equity Ratio

$$\text{Debt-Equity Ratio} = \text{Total Debt} / \text{Shareholders' Equity}$$

Table 5 Debt-Equity Ratio (2018-2019 to 2024-2025)

Year	Total debt	Shareholders' Equity	D/E Ratio
2018-19	4038.95	11135.69	0.36

2019-20	4038.95	11525.85	0.35
2020-21	4038.95	13176.09	0.31
2021-22	4038.95	14525.03	0.28
2022-23	4038.95	16764.86	0.24
2023-24	4038.95	17149.50	0.24
2024-25	4038.95	19215.10	0.21

Source: Annual Reports, KERAFED

Chart 5 Debt-Equity Ratio (2018-2019 to 2024-2025)



The debt-equity ratio shows a consistent declining trend from 0.36 in 2018-19 to 0.21 in 2024-25. With total debt remaining constant at ₹4,038.95 Lakhs throughout the period, the declining ratio reflects a growing equity base and reduced financial risk, indicating a shift towards equity financing and improved long-term solvency.

Proprietary Ratio

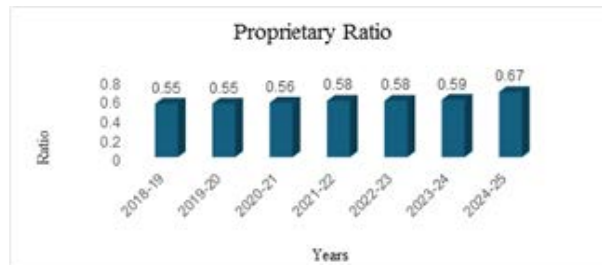
Proprietary Ratio = Shareholders' Funds / Total Assets

Table 6 Proprietary Ratio (2018-2019 to 2024-2025)

Year	Shareholders' Equity	Total Assets	Proprietary Ratio
2018-19	11135.69	20399.63	0.55
2019-20	11525.85	21132.52	0.55
2020-21	13176.09	23399.79	0.56
2021-22	14525.03	25030.40	0.58
2022-23	16764.86	29018.81	0.58
2023-24	17149.50	29053.97	0.59
2024-25	19215.10	28836.08	0.67

Source: Annual Reports, KERAFED

Chart 6 Proprietary Ratio (2018-2019 to 2024-2025)



The proprietary ratio improved steadily from 0.55 in 2018-19 to 0.67 in 2024-25, indicating that 67percentage of total assets are now financed by shareholders’ funds. This upward trend demonstrates strengthening financial stability and reduced dependence on external liabilities, reflecting improved long-term solvency.

DuPont Analysis

DuPont Analysis decomposes Return on Equity into three components: Net Profit Margin × Asset Turnover × Equity Multiplier, providing a comprehensive view of performance drivers.

Return on Equity = Net Profit Margin × Asset Turnover × Equity Multiplier

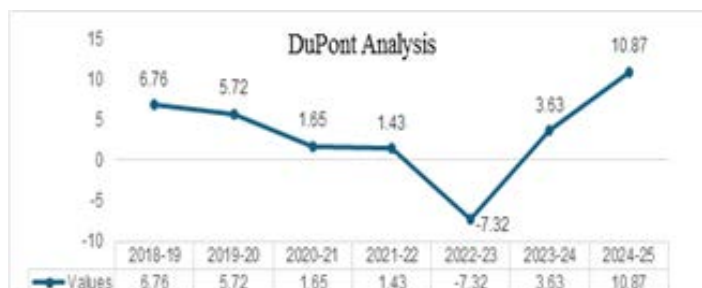
- Net Profit Margin = Net Profit/ Sales
- Asset Turnover = Sales/ Total Assets
- Equity Multiplier = Total Assets/ Shareholders’ equity

Table 7 DuPont Analysis (2018-2019 to 2024-2025)

Year	Net Profit Margin (%)	Asset Turnover	Equity Multiplier	Return on Equity
2018-19	2.53	1.46	1.83	6.76
2019-20	2.28	1.37	1.83	5.72
2020-21	0.69	1.34	1.78	1.65
2021-22	0.80	1.04	1.72	1.43
2022-23	-5.04	0.84	1.73	-7.32
2023-24	2.65	0.81	1.69	3.63
2024-25	6.53	1.11	1.50	10.87

Source: Annual Reports, KERAFED

Chart 7 DuPont Analysis (2018-2019 to 2024-2025)



The DuPont analysis mirrors the trend observed in other ratios. ROE declined from 6.76percentage in 2018-19 to a negative -7.32percentage in 2022-23, driven by a collapsing net profit margin (-5.04 percentage) and declining asset turnover (0.84). The recovery to 10.87percentage in 2024-25 the highest in seven years was primarily driven by a significant improvement in net profit margin to 6.53percentage and recovery in asset turnover to 1.11, while the equity multiplier declined to 1.50, reflecting a more conservative capital structure.

Findings

- The Gross Profit Ratio is highly volatile, crashing from 10.63percentage in 2019-20 to 3.11percentage in 2023-24 before sharply recovering to 12.25percentage in 2024-25 the highest in the study period.
- The Net Profit Ratio turned negative at -5.04percentage in 2022-23 due to losses exceeding revenues, then rebounded strongly to 6.53percentage in 2024-25 as net profit rose to ₹2,098.03 Lakhs.
- The Current Ratio fell to 1.63 in 2022-23, indicating short-term liquidity pressure, but rose to 2.99 in 2024-25, reflecting a significantly stronger ability to cover short-term obligations.
- The Quick Ratio dropped to 1.31 in 2022-23 but improved to 2.48 in 2024-25, indicating strong short-term solvency position.
- The Debt-Equity Ratio steadily declined from 0.36 in 2018-19 to 0.21 in 2024-25, with total debt remaining constant, reflecting a growing equity base and reduced financial risk.
- The Proprietary Ratio improved from 0.55 to 0.67 over the study period, indicating that 67percentage of assets are now funded by shareholders' funds, denoting improved long-term solvency.
- DuPont analysis confirms that the strong recovery in ROE to 10.87percentage in 2024-25 was primarily driven by improved net profit margin and asset turnover, while the equity multiplier declined, indicating a more conservative financial structure.

Suggestions

- Sustain the higher sales and tighter expense management achieved in 2024-25 to keep the Net Profit Ratio consistently above 4percentage, ensuring long-term profitability.
- Maintain Current Ratio between 2.0 and 3.0 to balance strong liquidity with efficient deployment of current assets, avoiding idle fund accumulation.
- Maintain Quick Ratio above 1.5 by controlling current liabilities and managing receivables efficiently.
- Keep financial leverage low as the risk profile is currently well managed; consider selective debt only for growth investments where returns clearly exceed cost of capital.
- Maintain proprietary ratio above 0.60 to ensure long-term solvency and investor and member confidence.

Conclusion

The analysis affirms that KERAFED's financial health has substantially improved in recent years, laying a solid foundation for sustainable growth. With continued focus on cost efficiency, product diversification, inventory optimisation, cooperative supply chain revival, and digital modernisation, KERAFED is well-positioned to fulfil its dual mandate of commercial viability and socioeconomic service to Kerala's coconut farmers in the years ahead. The federation stands at a strategic inflection point possessing the brand equity, infrastructure, institutional mandate, and now, a strengthening financial base to emerge as a truly resilient apex cooperative enterprise.

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