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An Appraisal of Financial Sustainability of Dairy-Based Farmer Producer Companies in India

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ABSTRACT

The purpose of the study is to assess the financial performance of selected dairy-based producer companies in India. The data were collected from four dairy-based FPCs which were more than three years old from three states of India i.e., Madhya Pradesh, Uttar Pradesh, and Rajasthan. Major four financial performance indicators i.e., liquidity, solvency, efficiency, and profitability were studied. Each indicator has four ratios and thus a total of 16 ratios were used for financial performance assessment. A financial ratio analysis methodology was used and performance was indicated by the performance score method. The study found that all four Farmer Producer Companies are in the red zone and perform poorly in terms of solvency, efficiency, and profitability during the three years under study. The overall Combined Performance Score of all four FPCs was in the yellow (average) zone. The study suggests that suitable measures like increase the share of stakeholders, fund generation and financial support from donor institutions, effective and efficient business plan for the company, suitable marketing linkage, and strategy, enhance the business capacity of the company, etc. should be taken immediately to improve the financial performances of FPCs in India to make them sustainable and viable.

INTRODUCTION

Agriculture, being an integral part of the Indian economy provides employment opportunities and livelihood sustainability to the majority of the population. Nowadays, most Indian farmers are facing problems like rising indebtedness, lesser financial inclusion, low barging power, and the absence of insurance facilities (Manaswi, 2018; NABARD, 2013). Different collective action approaches were emerged in different parts of India to solve the several issues faced by small and marginal farmers. The collectivization of farmers plays a significant role in reducing transaction costs and bring scale advantages through bulk purchase of inputs (Kanitkar, 2016; Singh, 2008; Tandon, 2019; Trebbin and Hassler, 2012). Recently Indian agricultural system is experiencing a paradigm shift from social welfare to welfare capitalism and needs a policy reform that should focus on the "collectivization of farmers for capitalization not only for social welfare" (Trebbin and Hassler, 2012). In recent years, the new concept of farmer producer company has gained major attention across India and become popular among various stakeholders. Producers (farmers) pool their resources in FPCs to obtain greater economies of scale, easier access to the market and new technology, larger revenues, and so on. The primary motivation for the formation of these businesses is to address the cooperative society model's supply-side bias and incapacity to function freely in a competitive market. Most of the FPCs are closed/ non-functional after three years of the establishment when the government withdraws the financial support. The major reason behind the failure of the FPCs model is farmers see themselves as beneficiaries of FPCs, not as shareholders, lack of own feeling, lack of awareness, and unfavorable attitude. The entrepreneurial-oriented behavior of farmer stakeholders is also very important for the success of any organization (Manivannan,

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2020; Gupta 2020). Farmers often view their financial contribution to FPCs as a service or membership fee and not as their share capital or investment (Neti et al., 2018). Other prevalent issues reported by various studies are inadequate working capital, problems with cash flow, product quality issues, less popularization of products, weak market linkages, poor inventory management, high overhead costs, and lack of skills for developing feasible business plans (Christie and Prasad, 2017; Sastry, 2017; Singh and Singh, 2013; Neti et al., 2018). FPCs will have to make it through a very short window of opportunity, both monetarily and socially. The FPCs would lose their sense of existence if they leaned to one side or the other.

METHODOLOGY

The study was conducted in purposively selected three states of India i.e., Uttar Pradesh, Madhya Pradesh, and Rajasthan. The selection of states was done based on two criteria i.e., the states having the highest number of dairy-based farmer producer companies as well as the highest contribution in total milk production of India. Two criteria were developed for the study i.e., FPCs are dairy-based, having at least 100 members, and completed successfully three years during the time of the investigation. Based on these criteria, four FPCs (A, B, C, D) were selected purposively for getting in-depth information about the financial status of farmers' producer companies. The Financial Ratio Analysis (FRA) methodology developed by Kataki 2017, Chouhan 2015 is used for assessing the financial performance of selected dairy-based FPCs. In this study, the financial statements were analyzed using ratio analysis for the financial years 2017-18, 2018-19, and 2019-20. The financial performance is assessed on the four selected financial parameters of liquidity, solvency, profitability, and efficiency. Each indicator has four sub-indicators and thus a total of 16 financial indicators were used for measuring the financial performance of FPCs (Kataki, 2017; Chouhan, 2015). List of indicators for assessing the financial performances of FPCs given below:

The financial performance of the FPCs was assessed using a performance score pattern designed by Kattaki (2017); Blocker (2010); MAFRD (2014); NFCS, GRDC (2013) and CFFM. A scorecard was created to evaluate Farmer Producer Companies based on their financial performance. Each of the financial performance indicators is assigned a score, i.e., Liquidity, Solvency, Efficiency, and Profitability, and financial ratios under it to each of the four companies. Based on the performance benchmark for each financial Ratio, five distinct performance groups are identified. The financial performance of that performance variable was summarised by adding all of the Performance Scores (company-wise). After that, the research adds together all of the performance scores for each performance variable and concludes the overall variable and industry performance. The efficiency and efficacy of the financial ratios generated from the financial accounts of the 'Farmer Producer Companies' determine the performance score. The study employed a Likert Scale type scoring technique, as indicated in Table 2 because neither a low nor a high ratio indicates the optimal level of performance.

RESULTS AND DISCUSSION

Liquidity ratio

Liquidity is also known as short-term solvency, and it refers to a company's capacity to meet and discharge short-term liabilities. The capacity or inability to satisfy these short-term obligations has an impact on a company's reputation. Defaults on the part of the business regularly would result in commercial bankruptcy, which might lead to illness and dissolution. The score for total liquidity was 36.321 out of 60, or 60.53 per cent. It was calculated by summing the three-year averages of the FPCs (Table 3). Short-term creditors are primarily concerned with the business's liquidity or near-term solvency since their stakes and claims are satisfied in the short term. To evaluate the short-term solvency of chosen firms, the researchers utilized three liquidity measures. Those are the Current Ratio, Quick Ratio, and Absolute Cash Ratio, respectively. For the three years studied, the total liquidity profile of all dairy-based farmer producer companies was average (yellow zone) with a score of 36.32, according to Table 3. The optimum current-to-voltage ratio is 2:1. Each amount of current liabilities should be matched by an equal amount of current assets, if possible. Except for company B, all of the companies scored above average. All three companies current ratios are on an increasing trend whereas the for company C is on an upward trend. The overall performance of farmer-producer companies was in the yellow zone. As a result,

Table 1. Performance indicators for assessing the financial performances of FPCs

Variables	Ratios Used	Authors
Liquidity	Current Ratio, Quick Ratio, and Absolute Liquid Ratio	(Garg, 2012) (Odalo, 2016) (Iyakaremye, 2015) (Hardesty & Salgia, 2004)
Solvency	Debt-Equity Ratio, Total Assets to Debt Ratio, and Proprietary Ratio	(Garg, 2012) (Iyakaremye,2015) (Hardesty & Salgia, 2004) (Slavickiene & Savickiene, 2014)
Efficiency	Capital Turnover Ratio, Net Working Capital Turnover Ratio, and Fixed Asset Turnover Ratio	(Garg, 2012) (Hardesty & Salgia, 2004)
Profitability	Net Profit Ratio, Earning per Share, and Return on Investment	(Garg, 2012) (Odalo, 2016) (Iyakaremye, 2015) (Slavickiene & Savickiene, 2014) (Chauhan, 2015) (Singh & Singh, 2013)

Table 2. Criteria for Performance Score

Performance Score (Company-wise)	Performance Score (Variable-wise)	Performance Score (Industry)
Green = Good = 46 and Above (Green Zone)	Good = 46 and Above (Green Zone)	Good = 184 and Above (Green Zone)
Yellow = Average = Below 46 to 30 (Yellow Zone)	Average = Below 46 to 30 (Yellow Zone)	Average = Below 184 to 120 (Yellow Zone)
Poor = Below 30 (Red Zone)	Poor = Below 30 (Red Zone)	Poor = Below 120 (Red Zone)

Table 3. Overall Performance Score of dairy based Farmer Producer Companies

Name	Years	Liquidity	Solvency	Efficiency	Profitability	Total	Rank	Remark
Company A	2019	10	9	9	11	39	1	Yellow
	2018	10	9	10	10	39	1	
	2017	10	8	8	11	37	1	
Total/3	Average	10	8.66	9	10.66	38.32	1	
Company B	2019	7	6	3	4	20	4	Red
	2018	7	5	3	4	19	4	
	2017	6	5	3	4	18	3	
Total/3	Average	6.66	5.33	3	4	18.99	4	
Company C	2019	10	7	8	8	33	3	Yellow
	2018	10	6	8	6	30	3	
	2017	10	6	8	6	30	2	
Total/3	Average	10	6.33	8	6.66	30.99	3	
Company D	2019	10	9	10	9	38	2	Yellow
	2018	10	9	8	8	35	2	
	2017	9	6	7	8	30	2	
Total/3	Average	9.66	8	8.33	8.33	34.32	2	
Overall score		36.32	28.32	28.33	29.65	122.62		

the performance of the FPCs in terms of the liquidity ratio was ordinary. To meet their short-term obligations, the FPCs have sufficient fast or liquid assets. Except for business B, all three FPCs are on the rise. A strong overall performance may be expected from the FPCs. One business, Company A, has been able to keep its cash and marketable securities at an optimal level for the longest period. In contrast to the other three companies, business B has kept its cash reserves and marketable securities low and will have to rely on other current assets to satisfy its financial needs. This might potentially have an impact on their day-to-day operations. There is a general rising tendency in the absolute cash ratios of all FPCs, as well. Similarly, the absolute cash ratio performance of FPCs was likewise in the yellow zone, which means that FPCs performed average. The results are in agreement with Chouhan's (2015) and Kakati (2019).

Solvency ratio

Achieving long-term solvency Solidity refers to an organization's capability of meeting long-term obligations and making timely payments. Investors, such as long-term creditors, care about the business's long-term viability since their stakes and claims will have to be satisfied in the long run. Three solvency ratios were employed in the study to assess the long-term solvency of the selected firms. These ratios include the Debt-Equity Ratio, the Total Assets to Debt Ratio, and the Proprietary Ratio. This equates to a 47.22 per cent overall solvency score of 28 out of 60 (Table 3). FPCs had a Debt-Equity Ratio Score of less than 30, which put them in the red zone (bad performance). It was a decreasing trend for companies C and B, yet the debt content of companies A and D has been steadily increasing for three years. As a result, the long-term creditors of Company C and Company D were more secure. This means that their assets are sufficient to pay off their debts, and they can do so at any time by realizing their assets. Company A's capital structure has a larger proportion of debt. The assets are just enough to pay off their long-term creditors. The assets are hardly enough to pay off their long-term debts. It will have an impact on the firm's continued operations if the corporation needs to pay down its long-term debt in full. As a result of having no or very little debt in its capital structure, Company A has a high Proprietary Ratio (PR). A higher safety buffer for creditors, but also a lack of trading in the stock. To fund their assets, firms rely heavily on stock capital. Creditors incurred higher risk as a result of Company B and C's stock trading. Overall, FPCs performed poorly in terms of the solvency ratio, falling into the "Red Zone." (<30). The findings of the study are in agreement with Chouhan (2015); Tanmay (2012); Bijman (2007) and Kakati (2019).

Efficiency or activity ratio

Efficient or activity Ratio or Turnover Ratio measures how well a firm uses its resources. Efficiency Ratios measure how efficiently the firm manages its assets, as well as the pace at which the resources are converted into sales. Three ratios are used in the study to assess efficiency or activity ratios. Capital Turnover Ratio, Working Capital Turnover Ratio, and Non-Current Assets Turnover Ratio are three of the most important ratios. The total efficiency score is 28, 33 out of 60 (48.21%) (Table 3). Company A and C had exceptionally high capital turnover ratios. This suggests that the firm has been over-trading or is under-capitalized, whichever is the case. Company D's Capital Turnover Ratio likewise grew, and it was nearly double in 2019 compared to 2017. Except for company B, all of the other three companies are on the rise. Performance scores of less than 30 indicate a poor overall performance for these firms. When it came to efficiency, all four businesses performed poorly when it came to non-current fixed assets (Net Fixed Assets), except for company B al others' performance was average. Company A and D have a strong ability to create sales per rupee of working capital, suggesting that the firms manage their working capital very well. It is unknown whether or not this is true on the ground level. Company B and C were both operating at a low capital turnover ratio. To increase their Working Capital Ratio, firms can make better use of their working capital. The study found that overall company performance in terms of efficiency or activity ratio was in the red zone, indicating that firms were doing poorly, with a performance score of 28.33 (30). Chouhan (2015); Taanmay (2012); Murray (2009) and Kakati (2019).

Table 4. Financial ratio of all selected dairy-based FPCs

Companies	Years	Liquidity Ratios			Solvency Ratio			Efficiency Ratio			Profitability Ratios		
		Current ratio	Quick ratio	Absolute cash ratio	Debt-equity ratio	Total assets to debt ratio	Proprietary ratio (%)	Capital turnover ratio	Fixed assets turnover ratio	Working capital turnover ratio	Net profit ratio	Return on investment	Earnings per share
Company A	2019	1.270	1.067	0.317	3.140	1.168	19.440	7.112	45.110	47.415	6.002	18.710	45.475
	2018	1.210	1.045	0.319	3.115	1.476	17.110	6.435	48.412	42.170	5.113	16.118	39.125
	2017	1.204	1.023	0.297	4.110	1.347	16.140	6.123	47.140	52.310	5.109	24.102	38.147
Company B	2019	1. 020	0.576	0. 298	1.020	12.030	53.140	54.110	210.145	70.143	1.312	5.210	7.470
	2018	1. 101	0.520	0. 227	1.089	13.040	50.190	60.320	198.114	68.110	1.418	4.110	5.117
	2017	1.002	0.419	0. 210	1.074	16.325	50.423	53.110	170.325	65.420	1.445	7.147	4.120
Company C	2019	1.331	1.289	0.347	1.340	10.40	14.160	7.412	10.114	54.140	5.129	14.418	22.285
	2018	1.309	1.114	0.314	1.298	12.70	12.380	6.302	9.112	53.124	4.221	12.104	18.402
	2017	1.274	1.019	0.305	1.304	11.75	10.441	6.110	8.912	51.002	4.168	10.114	16.107
Company D	2019	1.149	1.020	0.311	1.571	9.750	57.442	9.416	9.128	46.701	4.149	18.409	35.119
	2018	1.142	1.008	0.305	1.419	10.070	40.320	6.114	11.220	54.115	4.116	17.908	29.908
	2017	1.134	0.970	0.297	1.019	12.320	38.410	5.490	8.112	55.695	4.109	17.009	28.370

Profitability ratio

Profitability ratios assess a company's overall performance in terms of sales and investment returns. Profitability ratios are divided into three categories: Profitability of Sales, Profitability of Equity Shareholders' Funds, and Profitability of Investments. Profitability in sales is evaluated using the Net Profit Ratio, profitability in equity shareholders' funds is measured using earnings per share, and profitability in investments is measured using return on investment. Total profitability is a score of 29.65 out of 60 or 49.41 per cent (Table 3). According to the statistics in Table 3, business A and C's net profit ratios were greater than 5%, suggesting typical sales profitability. Company B and D, on the other hand, had net profitability ratios of less than 5%, suggesting low sales profitability. The results show that in the event of unfavorable economic conditions, such as a drop in selling prices or a rise in operational and non-operating expenditures, none of the FPCs would be able to endure the situation and post losses for the time. This ratio also reveals a company's capacity to pay dividends and build reserves through sales. Companies confront a problem in the dividend-to-reserves trade-off due to low profitability. Except for company B, all of the firms' net profit ratios were increasing. Now, companies C and D have decreased their losses and are gradually improving their net profit ratio. The research also revealed that, except Company A, none of the other FPCs had paid any bonus or dividend to its shareholders, and that this has been the case since the FPCs were registered. Company A and D had a high return on investment ratio, implying that these FPCs had a greater ability to create profits per rupee of capital invested. In terms of capital and financial resource use, Company B and C were found to have inefficient management. Company B was unable to generate a profit for several years, resulting in a poor Return on Investment. The firm has to enhance its management efficiency in terms of capital and financial resource usage, since it has not been able to generate a profit in the previous three years, dating back to its inception. According to the data in the table, businesses A and D had excellent earnings per share ratios. These businesses have made enough money to maximize shareholder wealth in terms of earnings, which is the primary goal of contemporary business. Company B was in the worse shape, having lost money for all three years and earned very little per share. The result of the study indicates that the overall performances of the selected dairy based farmer producer companies regarding profitability ratio were in the red zone that means the companies are performing poorly and the performance score was 29.65 (<30). Similar kind of findings of lack of business profitability among FPCs is reported by Singh (2015); Chouhan (2015); Kakati (2017); NABCONS (2011) and Singh and Singh (2014).

CONCLUSION

The study concludes that most of the dairy-based farmer producer companies are in the incubation stage and less than three years old. The financial performances of these companies are also not stable. It also found that the number of years and financial performances have a positive correlation i.e., as the company grows older, its financial performance improved. Apart from one FPCs (red zone), all three companies' financial performances are average and fall in the yellow zone. All the companies were having an upward trend in the net profit ratio except company B. Company C and D have reduced their losses and were slowly moving upwards towards increasing their net profit ratio. But all companies still need to improve their financial performances for long-term viability and sustainability. The study recommends that suitable measures like increase the share of stakeholders, fund generation and financial support from donor institutions, effective and efficient business plan for the company, suitable marketing linkage and strategy, enhance the business capacity of the company, etc. should be taken for improving the financial performance of the FPCs who are facing financial crunch and about to shut down in future.

REFERENCES

Anika, T., & Markus, H. (2012). Farmers' Producer Companies in India: A new concept for collective action. *Environment and Planning, 44,* 411-427.

Annapurna, N., Richa, G., & Rao, Madhushree R. (2019). Farmer Producer Companies in India: Demystifying the Numbers. *Review of Agrarian Studies*, *9*(2), 92-113.

Bijman, J., & Wollni, M. (2009). Producer Organisations and vertical coordination. An economic organization theory perspective. In: Rösner, H. J. (Ed.), Beiträge der genossenschaftlichen Selbsthilfe

zur wirtschaftlichen und sozialen Entwicklung (pp. 231-252). Lit Verlag.

Blocker, A., Ibendahl, G., & Anderson, J. (2010). Interpreting Farm Financial Ratios. interpreting_Farm_Financial_Ratios.pdf. Mississippi State University. http://www.cottoninc.com/fiber/AgriculturalDisciplines/Agricultural/Economics/Farm/Finance/Interpreting-Farm-Financial-Rates/

Chauhan, S. (2015). Producer companies in Madhya Pradesh: An evaluative study. *International Journal of Recent Research Aspects*, *2*(3), 66-77.

Chauhan, S. (2016). Luvkush Crop Producer Company: a farmer's organization. *The decision: official Journal of the Indian Institute of Management Calcutta*, *43*(1), 93-103.

Christie, N., & Prasad, C. S. (2017). "Framing futures: National conference on farmer producer organisations." Workshop report of the workshop held on 2-3 February 2017, IRMA, Anand, Gujarat, India. Dr. Verghese Kurien Centre of Excellence: Institute of Rural Management

Garg, T. (2012). Business performance of a producer company in Madhya Pradesh. Department of Agricultural Marketing, Co-Operation, and Business Management University of Agricultural Sciences Bangalore.

GRDC. (2013). Key Financial Ratios- Fact Sheet. Grains Research & Development Corporation.https://grdc.com.au/__data/assets/pdf_file/0016/117322/8116-key-financial-ratios-fspdf.pdf.pdf

Gupta, R. K., Saha, A., Tiwari, P. K., Dhakre, D. S., & Gupta, A. (2020). Entrepreneurial Behaviour of Tribal Dairy Farmers in Balrampur District of Northern Hill Region of Chhattisgarh. *Indian Journal of Extension Education*, *55*(4), 25-30.

Hardesty, S. D., & Salgia, V. D. (2004). Comparative financial performance of agricultural cooperatives and investor-owned firms. Proceedings of the NCR-194 Research on Cooperatives Annual Meeting, Kansas City, Missouri, USA.

Iyakaremye, A. (2015). Analysis of Financial Performance and Financial Risk in Agricultural Companies Listed on the Nairobi Security Exchange, unpublished Ph.D. thesis, United States International University-Africa.

Kakati, S., & Roy, A. (2017). A study on the financial performance of farmer producer companies with special reference to Northeast India. *Amity Journal of Agribusiness*, *2*(1), 37-56.

Kakati, S., & Roy, A. (2019). A study on financial sustainability of farmer producer companies in India. In Farmer Producer Companies in India: Issues and Challenges, edited by A. Roy, 22–36. Tezpur. Excel India Publishers, 124-135.

Kanitkar, A. (2016). The Logic of Farmer Enterprises. Anand: Institute of Rural Management Anand. Occasional Publication, 17.

MAFRD. (2014). Transition Planning Guide for Agribusiness. Manitoba: Manitoba Agriculture, Food and Rural Development (MAFRD). (PLP).

Manaswi, B. H., Kumar, P., Prakash, P., Anbukkani, P., Kar, A., Jha, G. K., & Rao, D. U. M. (2018). Progress and performance of states in promotion of farmer producer organisations in India. *Indian Journal of Extension Education*, *54*(2) 108-113.

Manivannan N., & Natarajan, M. (2020). The effect of entrepreneurial performance among the mango growers in Salem district of Tamil Nadu. *Indian Journal of Extension Education*, *56*(1), 73-77.

Murray, E. V. (2009). Producer company model-current status and outlook: opportunities for bank finance. *Financing Agriculture*, *40*, 18-26.

NABARD (2013). "Farmer Producers' Organizations (FPOs): Status, Issues & Suggested Policy Reforms." National Level Paper, Potential Linked Plans NABCONS. (2011). Integration of Small Producers into Producer Companies-Status and Scope, NABARD Consultancy Services Pvt. Ltd., Hyderabad.

NABCONS (2011): Integration of Small Producers into Producer Companies-Status and Scope, NABARD Consultancy Services Pvt. Ltd., Hyderabad.

NFCS. (n.d.). Understanding Key Financial Ratios and Benchmarks. Northwest Farm Credit Services., https://www.northwestfcs.com/Resources/business-tools

NRCRL (National Resource Centre for Rural Livelihoods) (2009): Report of the Working Group on Producer Companies, NRCRL, Pradan, January issue.

Odalo, S. K., & Achoki, G. (2016). Liquidity and financial performance in agricultural firms listed in the Nairobi Securities Exchange in Kenya. *International Journal of Business and Social Science*, *7*(7), 57-65.

Sastry, T. (2017). "Financial Inclusion in Capital Markets: Challenges and Opportunities for Producer Companies," Working Paper No. 555, Indian Institute of Management, Bangalore. Rural Management Anand (IRMA), Anand.

Sikuka, W. (2010). The Comparative Performance of Selected Agribusiness Companies and Cooperatives in The Western Cape, South Africa. Stellenbosch: Stellenbosch University.

Singh, S. (2008). Producer companies as new generation cooperatives. *Economic and Political Weekly*, *43*, 22–24.

Singh, S. (2015). "Promotion of Milk Producer Companies: Experience of NDS," Presentation in Workshop on Producer Companies organized by National Dairy Development Board, Anand, Gujarat, 8 October.

Singh, S., & Singh, T. (2013). Producer companies in India: A study of organization and performance. Indian Institute Management Ahmedabad, CMA Publication No. 246, pp. 1-115.

Singh, S., & Singh, T. (2013). Producer Companies in India: A Study of Organization and Performance, publication No 246, Centre for Management in Agriculture, Indian Institute Management, Ahmedabad.

Slavickiene, A., & Savickiene, J. (2014). Comparative analysis of farm economic viability assessment methodologies. *European Scientific Journal*, *10*(7), 130-150.

State of India's Livelihoods (SOIL) Report. New Delhi: Basix Social Enterprise Group, 2014.

Tanmay, G. (2012). Business performance of a producer company in Madhya Pradesh, unpublished MSc thesis, University of Agricultural Sciences GKVK, Bangalore.