



## A study on "Financial Performance of Cooperative Dairy Units in Andhra Pradesh" - A Case Study with Krishn, Guntur and Prakasam districts

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**ABSTRACT**

*Dairy industry is highly concentrated industry with the top five sectors constituting the majority of the country's Gross Domestic Product and national income. This paper is an attempt to evaluate the financial performance of the selected cooperative dairy units in the state of Andhra Pradesh with the help of some financial indicators, regression and chi square test. Measuring current and past profitability and estimating future profitability is very important. For this purpose the study of the cooperative sector units were selected.*

**KEYWORDS :** Gross Domestic Product, Financial Performance, Financial Indicators

**Introduction**

Indian economy is basically rural. Agriculture is the main occupation of our rural area. The growth of agriculture still holds the key for economic and social upliftment of the rural people. The economic development of the country is largely linked with its rural development because majority of our population live in the villages. The rural dwellers depends directly or indirectly on agriculture for live hood. India ranks first among the world's milk producing nations, achieving an annual output of 137.68 million tonnes of milk during the year 2013-14 as compared to 132.43 million tonnes in 2012-13 recording a growth of 3.96 percent. The anticipated milk production in the country for the year 2014-15 is about 142 million tonnes. The dairy industry contributes a largest share of India's agricultural gross domestic product (GDP), dairying has been considered as one of the activities aimed at alleviating the poverty and unemployment, especially in the rural areas, rain-fed and drought-prone regions. In India, about three-fourth of the population lives in rural areas and about 38 percent of them are poor. Dairying is an important source of subsidiary income to small/marginal farmers and agricultural labourers. The per capita availability of milk has reached a level of 307 grams per day during the year 2013-14, which is more than the world average of 294 grams per day. About 15.46 million farmers have been brought under the ambit of 1,62,600 village level dairy cooperative societies up to March, 2014. The cooperative milk unions have procured an average of 34.2 million kgs of milk per day during the year 2013-14 as compared to 33.5 million kgs in the previous year recording a growth of 2.1 percent. The sale of liquid milk by cooperative sector has reached 29.4 million litres per day during the year 2013-14 registering a growth of 5.8 percent over the previous year. Thus cooperative dairy sector has been making a significant contribution to the Indian dairy sector.

Andhra Pradesh is one of the 29 states in India. The primary occupation of the people in Andhra Pradesh is agriculture. The total reported population of Andhra Pradesh is 4.97 crores. People of rural areas and the landless agricultural labours take up dairying as a source of supplementary income. Until last decade cooperative dairies played a predominant role in Andhra Pradesh. During this period dairy industry has to cope with the rapid transformations that had taken place in Indian economy. There has been huge interest in dairy farming as a business in Andhra Pradesh in the last one decade. Hundreds of dairy firms were opened with most modern design, equipment and best breed animals. But not even 50 percent of those dairy firms are operational now. Even the cooperative dairy firms which occupied predominant place until the last decade faced several operational problems due to the entry of new private firms.

**Research Methodology: Objectives of the study**

- To Assess the past performance, Current position and Progress

of the selected Cooperative Dairies in Andhra Pradesh during the period of study.

- To find out the efficiency of asset utilization in selected Cooperative Dairies of Andhra Pradesh.
- To make recommendations for improving the financial position of selected cooperative dairies in the state of Andhra Pradesh.

**Sources of data collection**

The main source of data used for the study is secondary, derived from the annual reports of selected district cooperative dairy units in the state of Andhra Pradesh information available in Trading account, Profit and loss account and balance sheets.

**F - Test of Return on Investment on Gross Capital Employed**

We have used two way Analysis of Variance (ANOVA) to study the effect of two independent factors namely dairy and year on return on investment on gross capital employed. Null hypothesis is formed such that the difference appeared is not significant, alternative hypothesis is taken as the difference appeared is significant. When the calculated value is greater than the table value of F, null hypothesis is rejected and alternative hypothesis is accepted. When calculated value of F is less than the table value, null hypothesis is accepted and alternative hypothesis is rejected.

**Statement of hypothesis of ROI on Gross Capital Employed**

Statement of hypothesis of ROI on Net Capital Employed

$H_{0A} = \mu_1 = \mu_2 = \mu_3$  i.e. ROI on Gross Capital employed do not differ significantly among the dairies.

$H_{0B} = \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7 = \mu_8 = \mu_9 = \mu_{10}$  i.e. ROI on Gross Capital Employed do not differ significantly among the years.

$H_{1A}$  at least two of the means are different i.e. ROI on Gross Capital Employed differ significantly among the dairies.

$H_{1B}$  at least two of the means are different i.e. ROI on Gross Capital Employed differs significantly among the years.

**F-test of R5OI on Gross Capital Employed**

Sources of variations	Sum of Squares	Degree of Freedom (D.F)	Mean square	F ratio
Between dairies	1545.23	2	772.62	12.23
Between years	2187.51	9	243.06	3.85
Residual (Error)	1137.02	18	63.17	
Total	4869.76	29		

Table value  $\mu_1 = 2$  and  $\mu_2 = 18 = 6.01$  at 5% level of significance.

Table value  $\mu_1 = 9$  and  $\mu_2 = 18 = 3.60$  at 5% level of significance.

**Comment:** The data in the above table represent the fact that the calculated value of test statistic  $F_A = 12.23$  is greater than the table value 6.01 hence we reject null hypothesis  $H_{0A}$  at 5 % level of significance,  $H_{1A}$  is accepted. We conclude that ROI on gross capital employed differs significantly among the dairies.

Since the calculated value of the test statistic  $F_B = 3.85$  is greater than table value 3.60. Hence we reject null hypothesis  $H_{0B}$  at 5% level of significance,  $H_{1B}$  is accepted. ROI on gross capital employed differs significantly among the years.

**F - Test of Total Assets Turnover Ratio**

Statement of hypothesis of Total assets turnover ratio

$H_{0A} = \mu_1 = \mu_2 = \mu_3$  i.e. Total Assets Turnover do not differs significantly among the dairies.

$H_{0B} = \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7 = \mu_8 = \mu_9 = \mu_{10}$  i.e. Total Assets Turnover do not differ significantly among the years.

$H_{1A}$  at least two of the means are different i.e. Total Assets Turnover differ significantly among the dairies.

$H_{1B}$  at least two of the means are different i.e. Total Assets Turnover differ significantly among the years.

**F-test of Total Assets Turnover**

Sources of variations	Sum of Squares	Degree of Freedom (D,F)	Mean square	F ratio
Between dairies	25.33	2	12.67	32.49
Between years	4.82	9	0.54	1.38
Residual (Error)	6.96	18	0.39	
Total	37.11	29		

Table value  $\mu_1 = 2$  and  $\mu_2 = 18 = 6.01$  at 5% level of significance.

Table value  $\mu_1 = 9$  and  $\mu_2 = 18 = 3.60$  at 5% level of significance

**Comment:** The data in the above table represent the fact that the calculated value of the test statistic  $F_A = 32.49$  is greater than the table value 6.01, hence we reject null hypothesis  $H_{0A}$  at 5% level of significance,  $H_{1A}$  is accepted. We conclude that total assets turnover differs significantly among dairies.

Since the calculated value of the test statistic  $F_B = 1.38$  is less than table value 3.60. Hence we accept null hypothesis  $H_{0B}$  at 5% level of significance and reject  $H_{1B}$ , total assets turnover do not differs significantly among years.

**F - Test of Fixed Assets Turnover Ratio**

Statement of hypothesis of fixed assets turnover ratio

$H_{0A} = \mu_1 = \mu_2 = \mu_3$  i.e. Fixed Assets Turnover do not differ significantly among the dairies.

$H_{0B} = \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7 = \mu_8 = \mu_9 = \mu_{10}$  i.e. Fixed Assets Turnover do not differ significantly among the years.

$H_{1A}$  at least two of the means are different i.e. Fixed Assets Turnover differ significantly among the dairies.

$H_{1B}$  at least two of the means are different i.e. Fixed Assets Turnover differs significantly among the years.

**F-test of Fixed Assets Turnover**

Sources of variations	Sum of Squares	Degree of Freedom (D,F)	Mean square	F ratio
Between dairies	563.52	2	281.76	10.93
Between years	440.18	9	48.91	1.90

Residual (Error)	464.15	18	25.79	
Total	1467.85	29		

Table value  $\mu_1 = 2$  and  $\mu_2 = 18 = 6.01$  at 5% level of significance.

Table value  $\mu_1 = 9$  and  $\mu_2 = 18 = 3.60$  at 5% level of significance

**Comment :** The data in the above table represent the fact that the calculated value of the test statistic  $F_A = 10.93$  is greater than the table value 6.01, hence we reject null hypothesis  $H_{0A}$  at 5% level of significance,  $H_{1A}$  is accepted. We conclude that fixed assets turnover differs significantly among dairies.

Since the calculated value of the test statistic  $F_B = 1.90$  is less than table value 3.60. Hence we accept null hypothesis  $H_{0B}$  at 5% level of significance and reject  $H_{1B}$ , fixed assets turnover do not differs significantly among years.

**F - Test of Gross Working Capital**

Statement of hypothesis of Gross Working Capital

$H_{0A} = \mu_1 = \mu_2 = \mu_3$  i.e. Gross Working Capital do not differ significantly among the dairies.

$H_{0B} = \mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5 = \mu_6 = \mu_7 = \mu_8 = \mu_9 = \mu_{10}$  i.e. Gross Working Capital do not differ significantly among the years.

$H_{1A}$  at least two of the means are different i.e. Gross Working Capital differ significantly among the dairies.

$H_{1B}$  at least two of the means are different i.e. Gross Working Capital differ significantly among the years.

**F-test of Gross Working Capital**

Sources of variations	Sum of Squares	Degree of Freedom (D,F)	Mean square	F ratio
Between dairies	255.51	2	127.76	16.25
Between years	207.00	9	23	2.93
Residual (Error)	141.40	18	7.86	
Total	603.91	29		

Table value  $\mu_1 = 2$  and  $\mu_2 = 18 = 6.01$  at 5% level of significance.

Table value  $\mu_1 = 9$  and  $\mu_2 = 18 = 3.60$  at 5% level of significance

**Comment:** The data in the above table represent the fact that the calculated value of the test statistic  $F_A = 16.25$  is greater than the table value 6.01, hence we reject null hypothesis  $H_{0A}$  at 5% level of significance,  $H_{1A}$  is accepted. We conclude that gross working capital differs significantly among dairies.

Since the calculated value of the test statistic  $F_B = 2.93$  is less than table value 3.60. Hence we accept null hypothesis  $H_{0B}$  at 5% level of significance and reject  $H_{1B}$ , gross working capital do not differs significantly among years.

**Findings and conclusions**

In terms of return on gross capital employed ratio of Prakasam dairy stood in the first place with an average of 21.53 and second and third positions are occupied by Guntur dairy and Krishna dairy with an average of 10.95 and 4.08 respectively. The performance of the dairies in terms of return on gross capital employed is satisfactory.

It is found that the ROI on gross capital employed differs significantly among the dairies and ROI on gross capital employed differs significantly among the years.

In terms of total assets turnover ratio Krishna dairy stood first with an average of 3.31, followed by Guntur dairy with an average of 2.77 and Prakasam dairy stood in the third place with an average of 1.35, all the three dairies performed well as per as the total assets turnover ratio is taken into consideration.

It is found that the total assets turnover differs significantly among dairies and total assets turnover do not differs significantly among years.

In terms of fixed assets turnover ratio Krishna dairy occupied first place with an average ratio of 12.61, Guntur dairy occupied second place with an average ratio of 9.96, Prakasam dairy occupied third place with an average of 2.38. The fixed assets turnover ratios of all the dairies are maintained above the standard levels and drive to a conclusion that fixed assets are efficiently managed in the three dairies.

It is found that the fixed assets turnover differs significantly among dairies and fixed assets turnover do not differs significantly among years.

In terms of working capital turnover ratio Krishna dairy occupied first place with an average ratio of 11.46, Prakasam dairy occupied second place with an average of 5.71 and Guntur dairy occupied third place with an average of 4.91. High working capital turnover ratios indicate the efficient management of working capital in the dairies of Andhra Pradesh.

It is found that the gross working capital differs significantly among dairies and gross working capital do not differs significantly among years.

It was found that there are differences in terms of ROI on gross capital employed, ROI on share holders fund, total assets turnover, fixed assets turnover and gross working capital among Krishna, Guntur and Prakasam dairies. These differences are found significant.

It is also found that there are differences in terms of ROI on gross capital employed and ROI on net capital employed among the years. These differences are found significant.

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