



## A Study on "Financial Performance of Selected Cooperative Dairy Units in Andhra Pradesh

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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**

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. The milk production in Andhra Pradesh has gone up from 9569.58 thousand tonnes in the year 2009 to 12761.65 thousand tonnes in the year 2013. The Andhra Pradesh Government develops dairy activities through Andhra Pradesh Dairy Development Cooperative Federation Limited (APDDCF). During the last seven years, it has introduced various schemes like Pasu Kranti Patham, CM package, PM package, Integrated Dairy Development Project (IDDP) etc. to increase the milk production and productivity by providing suitable infrastructure, forward and backward linkages for milk producers in milk procurement, providing marketing facilities and capacity building etc.

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. Two of the erstwhile big cooperative dairy firms including Chittoor district dairy and Kadapa district dairy were closed. West Godavari district dairy is under the verge of bankruptcy. During the last few years dairy input prices have gone up steeply. The labour costs have more than doubled. Due to the increased labour cost, lack of investment, frequent power cuts and diesel price hikes several big dairy units were facing financial troubles. The cooperative dairy units in Andhra Pradesh are facing operational and financial risks.

**Research Methodology: Objectives of the study**

To investigate the Profitability and overall financial performance of selected Cooperative Dairy units of Andhra Pradesh and to predict the Growth prospects and Tendencies of bankruptcy if any.

To evaluate the relative financial performance of the selected dairy units during the period of study.

To make recommendations for improving the financial performance of 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.

**Regression analysis and Chi-square test of gross profit ratio**

Regression equations are developed to establish the relationship between gross profit (Y) and sales (X) on the basis of respective regression equations, the computed values of gross profit have been calculated. Therefore, the Chi-square (X<sup>2</sup>) test has been used to decide, whether the differences between the actual value of gross profit and the computed value of gross profit are significant or not. If the calculated of chi-square is greater than the table value of chi-square, the differ-

ences between actual values and calculated values are significant and the results are not as per our expectations while if the calculated value of chi-square is less than the table value of chi-square, the difference are significant and the results are as per our expectations.

**Hypothesis of Krishna dairy for testing significance differences actual gross profit and estimated gross profit**

**Statement of hypothesis of Gross profit ratio**

**H<sub>0</sub>** Differences between actual value of gross profit and estimated value of gross profit is not significant

**H<sub>1</sub>** Differences between actual value of gross profit and estimated value of gross profit is significant

**Regression Analysis of Gross Profit and Chi-Square Test for Krishna Dairy (Rs. In Lakhs)**

Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Profit Actual	1858.64	2635.11	2910.57	3265.51	3367.98	3778.1	4147.02	4537.94	7201.71	6166.32
Gross Profit Computed	2285.62	2517.07	2779.96	2886.74	3376.01	3788.92	4408.08	5393.75	6165.57	6267.20
Deviation	-426.96	118.04	130.61	378.77	-8.03	-10.82	-261.06	-855.81	1036.14	-100.88

Calculated value of Chi-square (X<sup>2</sup>) = 468.19

Table value of Chi-square (X<sup>2</sup>) at 5% level of significance and degree of freedom is 9 = 16.92

Regression equation of Gross profit(Y) on sales (X) is Y = a+ bx

**Comment:** The data in the above table represents the fact that the calculated value of chi-square = 468.19 is greater than the table value of chi-square i.e. 16.92, hence we reject null hypothesis (H<sub>0</sub>) at 5% level of significance and 9 degrees of freedom, we accept alternative hypothesis (H<sub>1</sub>). The difference between actual value of gross profit and estimated value of gross profit is significant for Krishna dairy

**Hypothesis of Guntur dairy for testing significance differences actual gross profit and estimated gross profit**

Statement of hypothesis of Gross profit ratio

**H<sub>0</sub>** Differences between actual value of gross profit and estimated value of gross profit is not significant

**H<sub>1</sub>** Differences between actual value of gross profit and estimated value of gross profit is significant

**Regression Analysis of Gross Profit and Chi-Square Test for Guntur Dairy (Rs. In Lakhs)**

Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Profit Actual	1972.68	2614.57	3374.77	3626.41	4023.84	4348.21	5219.65	5985.42	6501.4	9228.42
Gross Profit Computed	2302.30	2663.58	3048.87	3408.47	4051.94	4488.51	5220.35	6329.20	7159.45	8222.70
Deviation	-329.62	-49.01	325.9	217.94	-28.1	-140.3	-0.7	-343.78	-658.05	1005.72

Calculated value of Chi-square (X<sup>2</sup>) = 303.61

Table value of Chi-square (X<sup>2</sup>) at 5% level of significance (D.F. =9) = 16.92

Regression equation of Gross profit(Y) on sales (X) is Y = a+bx

**Comment:** The data in the above table represents the fact that the calculated value of chi-square = 303.61 is greater than the table value of chi-square i.e. 16.92, hence we reject null hypothesis (H<sub>0</sub>) at 5% level of significance and 9 degrees of freedom, we accept alternative hypothesis (H<sub>1</sub>). The difference between actual value of gross profit and estimated value of gross profit is significant for Guntur dairy.

**Hypothesis of Prakasam dairy for testing significance differences actual gross profit and estimated gross profit****Statement of hypothesis of Gross profit ratio**

$H_0$  Differences between actual value of gross profit and estimated value of gross profit is not significant

$H_1$  Differences between actual value of gross profit and estimated value of gross profit is significant

**Regression Analysis of Gross Profit and Chi-Square Test for Prakasam Dairy (Rs. In Lakhs)**

Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Profit Actual	1088.7	809.0	877.2	2062.69	1623.5	1556.38	1243.67	1304.38	919.32	1918.01
Gross Profit Computed	1526.13	1585.41	1565.69	1293.16	1320.33	1286.32	1323.65	1296.57	1237.86	967.69
Deviation	-437.43	-776.41	-688.49	769.53	303.17	270.06	-79.98	7.81	-318.54	950.32

Calculated value of Chi-square ( $X^2$ ) = 2412.69

Table value of Chi-square ( $X^2$ ) at 5% level of significance (D.F. =9) = 16.92

Regression equation of Gross profit(Y) on sales (X) is  $Y = a+bx$

**Comment:** The data in the above table represents the fact that the calculated value of chi-square = 2412.69 is greater than the table value of chi-square i.e. 16.92, hence we reject null hypothesis ( $H_0$ ) at 5% level of significance and 9 degrees of freedom, we accept alternative hypothesis ( $H_1$ ). The difference between actual value of gross profit and estimated value of gross profit is significant for Prakasam dairy.

**Findings**

It is found that the difference between actual value of gross profit and estimated value of gross profit is significant for Krishna dairy.

It is found that the difference between actual value of net profit and estimated value of net profit is significant for Krishna dairy.

It is found that the difference between actual value of gross profit and estimated value of gross profit is significant for Guntur dairy.

It is found that the difference between actual value of net profit and estimated value of net profit is significant for Guntur dairy.

It is found that the difference between actual value of gross profit and estimated value of gross profit is significant for Prakasam dairy.

It is found that the difference between actual value of net profit and estimated value of net profit is significant for Prakasam dairy.

**Suggestions**

Gross profit and net profit of Krishna dairy have increased throughout the period of study. We may conclude that the financial performance of Krishna dairy is good. Significant deviations were found between the actual values of gross profit and estimated values during the period of study. Same is the case with net profit. The deviations drive us to the conclusion that some more performance is possible. Hence the management of the dairy may concentrate in this direction.

Gross profit and net profit of Guntur dairy have increased throughout the period of study. We may conclude that the financial performance of Guntur dairy is good. Significant deviations were found between the actual values of gross profit and estimated values during the period of study. Same is the case with net profit. The deviations drive us to the conclusion that some more performance is possible. Hence the management of the dairy may concentrate in this direction.

Gross profit and net profit of Prakasam dairy have increased throughout the period of study. We may conclude that the financial performance of Prakasam dairy is good. Significant deviations were found between the actual values of gross profit and estimated values during the period of study. Same is the case with net profit. The deviations drive us to the conclusion that some more performance is possible. Hence the management of the dairy may concentrate in this direction.

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