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8.1 INTRODUCTION

Co-operative form of business organisation is based on democratic setup with the concept of “Each for all” cutting across the caste, creed, culture, tradition, etc. It has touched the life of every individual one way or the other. The co-operatives are based on the following principles-

1. Voluntary and open membership
2. Democratic Member Control
3. Members’ Economic Participation
4. Autonomy and Independence
5. Education, Training and Information
6. Co-operation among Co-operative

Co-operative is a democratic institution run by the members who take active role in the overall functioning and success for their individual and mutual benefit.

As per ICA (International Co-operative Alliance) there are 1 billion members in different types of co-operatives in the World of which 239 million people are registered as members from India.

The co-operative movement in India began with the passing of the Co-operative Societies Act of 1904. The Government of India has been making efforts in creating co-operative a vibrant organisation to uplift the condition of the rural people. Thus a number of Committees constituted by Government of India in different years for suggesting different issues related to Co-operatives. The Committees recommended different measures that can be taken by the Government for the growth and development of co-operatives. Government of India also accepted many recommendations of these Committees.
There are different forms of Co-operatives of which Dairy Co-operative is one of the rapidly growing co-operatives in India. The real beginning of the dairy co-operatives in India was during the period of 1940s. Prior to 1949 due to the exploitation by the middlemen of a private farm named, Polson Dairy, the co-operative movement was initiated; thus an infant co-operative dairy, namely, Kaira District Co-operative Milk Producers’ Union Limited, now known as Amul, was born in the year 1946. The Amul pattern of co-operatives had been so successful, that in 1965, then the Prime Minister of India, Shri Lal Bahadur Shastri, desired to replicate Amul pattern of Cooperatives on a nationwide basis. Thus National Dairy Development Board (NDDB) was set up for the purpose and it completed Operation Flood (OF)-I (1970-1981), OF-II (1981-1985) and OF-III (1985-2002). As a result, there was a huge stride in both the production and marketing of milk and milk products in India.

In India Dairy Industry is one of the key industries. The Indian dairy sector contributes a large share in the agricultural Gross Domestic Product (GDP). The future of the Indian Dairy Industry is promising and its growth potential is high as there is sufficient domestic demand and good scope for exports of milk and milk products. In the early 1990s the Government of India initiated major trade policy reforms, which favoured increasing privatization and liberalization of all sectors of the economy and dairy sector was no exception to this. Dairy industry particularly, the handling, processing and marketing of fluid milk, which was reserved mainly for the co-operative sector, was delicensed in June 1991. The private sector companies including multi-nationals were allowed to set up milk processing and product manufacturing plans. The second India became a member of the WTO. Both these developments indicate that sooner or later, the Indian dairy industry will have to face the world dairy markets. At the time in changing scenario Gujarat state is undergoing considerable modernization with latest technology. It will be right to study and analyse the performance of the district co-operative milk unions of Gujarat and to suggest measure to cost control and improve their profitability.

The present study deals with performance analysis of co-operative dairy industry of Gujarat state which are engaged in processing and selling of milk and milk products.
For these purpose seven leading co-operative dairy units are selected which are associated with GCMMF. For analyzing the performance of dairy units of Gujarat state, the data related to all the seven district co-operative dairy units for the past ten years viz. 2003-04 to 2012-13 have been collected and various techniques of measuring performance like Ratio analysis and several statistical techniques have been applied to analyze and drew conclusions.

The present study has been divided in eight chapters and chapter-wise finding have been discussed as here under.

### 8.2 SUMMARY

#### CHAPTER-1

**INTRODUCTION TO CO-OPERATIVE SECTOR AND DAIRY INDUSTRY**

Since the times human-beings started sharing the common pursuits of life, the concept of co-operation emerged as a strong instrument of interlinking and living people together. The co-operative movement started in India in the last decade of the 19\textsuperscript{th} century with two objects in view, i.e. to protect the farmers’ from the hands of the private money lenders and to improve their economic condition. The history of dairy development movement in India is a new one. During the pre-independence period this movement was limited to a few pockets of Calcutta, Madras, Bangalore and Gujarat. The most notable of this venture was The Khaira District Co-operative Milk Producers’ Union Limited of Anand. It organized the first producers-oriented dairy in 1946. In today Gujarat Co-operative Milk Marketing Federation Ltd. (GCMMF) is India's largest food product marketing organisation with annual turnover (2013-14) US$ 3.0 billion. Its daily milk procurement is approx 13.18 million liters per day from 17,025 village milk co-operative societies, 17 member unions covering 31 districts, and 3.23 million milk producer members. The dairy industry made a considerable progress during last 10 years.

In spite of making a sound progress during the last 10 years, the co-operative dairy industry is still facing several internal and external problems. In the last 10 years, the government has taken several major steps like full decontrol of dairy industry,
liberalization and several tax relaxations to improve the financial position of the industry as a whole.

CHAPTER-2
CONCEPTUAL FRAMEWORK OF FINANCIAL PERFORMANCE

Financial performance refers to the act of performing financial activity. In broader sense, financial performance refers to the degree to which financial objectives being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation. In the present study financial health of Co-operative Dairy units of Gujarat is measured from the profitability analysis, Liquidity analysis and activity analysis. Various accounting, statistical and mathematical techniques are used for the analysis.

CHAPTER-3
RESEARCH METHODOLOGY AND REVIEW OF LITERATURE

The subject of the present study is “An Analysis of Financial Performance of Co-operative Dairy Industry in Gujarat” which covers the period of last ten years 2003-04 to 2012-13. The study is based on secondary data published by the Co-operative dairy in their annual reports and account. The main objective of the present study is to measure financial performance of concern dairy and to find out the various factors which affect the financial performance. Further, to compare the performance of all the units, researcher has used F-test (ANOVA) and \( \chi^2 \) -test for the hypothesis testing.

Finally a survey of the exiting literature on the subject has been made and limitations of present study have been also shown.

CHAPTER-4
SAMPLE PROFILE

This chapter includes the individual information of the each unit undertaken for the study. This chapter gives history, vision, mission, achievement, policy etc. of each co-
operative dairy unit. Financial data from the period 2003-04 to 2012-13 is given. The data and the relevant information is obtained from the financial statements and annual reports of the company, various websites have been checked out and other publishing materials, journal, periodical have been referred out to collect the information about the units.

CHAPTER-5
ANALYSIS OF PROFITABILITY

In this chapter analysis of profitability of Dairy units under study has been explained. Here Concept of profit and profitability, factors affecting the profitability, Significance of profitability, techniques to measure profitability, Analysis of variance (f-test) has been discussed. Finally, analysis of profitability with help of various profitability ratios based on financial statements has been given. Here various statements of hypothesis have been tested with help of statistical tools and techniques like mean, standard deviation, correlation and F-test.

CHAPTER-6
ANALYSIS OF LIQUIDITY

In this chapter analysis of liquidity of Dairy units under study has been explained. Here Concept of liquidity, relationship between liquidity and profitability, measurement of liquidity has been discussed. Finally, analysis of liquidity has been done with help of different analytical tools such as ration analysis, Current liquidity ratio, Quick liquidity ratio, and liquid ratio. Here various statements of hypothesis have been tested with help of statistical tools and techniques like mean, standard deviation, correlation and F-test.

CHAPTER-7
ANALYSIS OF ACTIVITY

In this chapter analysis of Activity of dairy units under study has been explained. Here concept of activity analysis and activity in relation to total resources has been discussed. Finally, analysis of activity has been done with help of different analytical
tools such as ration analysis, total assets turnover ratio, fixed assets turnover ratio, stock turnover ratio, working capital turnover ratio. Here various statements of hypothesis have been tested with help of statistical tools and techniques like mean, standard deviation, correlation, $\chi^2$ - test and F-test.

In co-operative dairies higher profitability is not the result of higher price of milk or milk products because co-operative dairies are functioning in a monopolistic competition market condition so they can not charge higher price moreover the aim of co-operative dairies is to safeguard the interest of both the milk producers and the milk consumers so charging higher prices would go against the interests of consumers. Higher profitability in co-operative dairies is mainly due to efficient use of funds and also due to cost control and cost reduction. So we can say that profitability is the result of capable management plus favorable external circumstances plus absence of politically interference.

As far as higher milk procurement, cooling, storing and processing cost are concerned, it should be clarified that if such higher costs are due to higher price to milk producers, they are not objectionable because the main aim of co-operative milk dairies is to save milk producers from exploitation; but if such higher cost are due to higher transport charge for fetching milk or higher cost for boiling, cooling and processing milk then such higher costs are objectionable.

8.3 FINDINGS

✓ ANALYSIS OF PROFITABILITY

Profitability ratio shows the financial soundness of the dairy units. Management of the units always takes interest to know its operational efficiency. Here below the analysis and conclusion done of the profitability ratios.

1. NET PROFIT RATIO

Net profit ratio establishes relationship between net profit and sales. It also indicates management’s efficiency in manufacturing, administering and selling the products. The net profit ratio of Vasudhara Dairy was 0.006 percent in 2008-09, which was the
lowest as compared to other Selected Dairy Units during the study period. Dudhsagar Dairy, Gopal Dairy, Amul Dairy, Sumul Dairy, Sabar Dairy and Madhur Dairy were recorded positive net profit during the study period. Vasudhara Dairy suffered losses during 2003-04. The net profit ratio of Vasudhara Dairy was 1.33 percent in 2006-07, which was the highest as compared to other Selected Dairy Units. The average net profit ratio of the all selected dairy units was 0.3382 percent.

It can be concluded that the average of net profit ratio of Sabar Dairy (0.49 percent), Gopal Dairy (0.473 percent) and Amul Dairy (0.434 percent) was better as compared to other dairies. On the other hand the performance of Dudhsagar Dairy (0.326 percent), Sumul Dairy (0.224 percent), Vasudhara Dairy (0.0562 percent) and Madhur Dairy (0.364 percent) was satisfactory.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in net profit ratio among the dairy units were significant at 5% level of significance, because the calculated value of ‘F’ (3.9218) was greater than the table value ‘F’ (2.2464), the null hypothesis stood rejected and the alternative hypothesis accepted.

2. RETURN ON EQUITY SHAREHOLDER’S FUNDS

The return on equity shareholders’ fund was nil in Vasudhara in 2003-04 due to net losses. In this dairy unit could not earn on borrowed funds a sum even to repay the interest there on. The return on equity shareholders’ fund of Vasudhara Dairy was 0.38 percent in 2012-13, which was the lowest as compared to other selected dairy units during the study period. Dudhsagar Dairy, Gopal Dairy, Amul Dairy, Sumul Dairy, Sabar Dairy and Madhur Dairy were recorded positive return on Equity shareholders’ fund during the study period. The return on Equity shareholders’ fund of Gopal Dairy was 26.59 percent in 2012-13, which was the highest as compared to other Selected Dairy Units. The average return on Equity shareholders’ funds of the all selected dairy units was 8.2628 percent.

It can be concluded that the average of return on Equity shareholders’ fund of Dudhsagar Dairy (4.839 times), Gopal Dairy (16.12 times), Amul Dairy (7.619 times), Sumul Dairy (8.152 times), Sabar Dairy (9.376 times) and Madhur Dairy
(11.096 times) proved satisfactory performance except Vasudhara Dairy (0.638 times).

On the basis of results obtained from ‘F’ test it may be concluded that the difference in return on Equity shareholders’ fund ratio among the dairy units were significant at 5% level of significance, because the calculated value of ‘F’ (7.5905) being greater than the table value ‘F’ (2.2464), the null hypothesis stood rejected and the alternative hypothesis accepted.

3. EARNING PER SHARE

The earning per share of Vasudhara Dairy was Rs. 1.29 in 2007-08, which was the lowest as compared to other Selected Dairy Units during the study period. Dudhsagar Dairy, Gopal Dairy, Amul Dairy, Sumul Dairy, Sabar Dairy and Madhur Dairy were recorded positive earnings per share during the study period. Vasudhara Dairy suffered losses during 2003-04. The earning per share was nil in Vasudhara in 2003-04 due to net loss. The earning per share of Gopal Dairy was Rs. 49.38 in 2012-13, which was the highest as compared to other selected dairy units. The average earning per share of the all selected dairy units was Rs. 18.99.

It can be concluded that the average of Earning per share of Dudhsagar Dairy (Rs.12.245), Gopal Dairy (Rs.32.102), Amul Dairy (Rs.19.274), Sumul Dairy (Rs.25.295) Vasudhara Dairy (Rs.9.0322) Sabar Dairy (Rs.19.957) and Madhur Dairy (Rs.14.375) proved a satisfactory position. Whereas earning per share of Vasudhara Dairy only in the year 2003-04 was not satisfactory due to loss.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in Earning per share among the dairy units were significant at 5% level of significance, because the calculated value of ‘F’ (7.7439) being greater than the table value ‘F’ (2.2464), the null hypothesis stood rejected and the alternative hypothesis accepted.
**LEVERAGE RATIO**

4. **DEBT-EQUITY RATIO**

The debt-equity ratio in selected Dairy units taken as a whole revealed mix trend with the range of 0.11 times to 9.88 times. The debt-equity ratio of Sumul Dairy was 0.11 times in 2008-09, which was the lowest as compared to other selected dairy units during the study period. It was indicated that the dairy unit more relied on owner’s fund. The debt-equity ratio of Sabar Dairy was 9.88 times in 2010-11, which was the highest as compared to other selected dairy units during the study period. Sabar Dairy was not borrowed long – term debts till 2008-09. Major units had not maintained standard norms of 1:1. Dudhsagar Dairy, Gopal Dairy, Amul Dairy, Vasudhara Dairy, Sabar Dairy and Madhur Dairy ratio were more than one indicated an inefficient financial management. The average debt-equity ratio of the all selected dairy units was 0.3382 times.

It can be concluded that the average of Debt-Equity ratio of Dudhsagar Dairy (2.214 times), Gopal Dairy (1.57 times), Amul Dairy (2.162 times), Vasudhara Dairy (3.428 times) Sabar Dairy (5.565 times) and Madhur Dairy (1.50 times) proved a conservative policy of financing. The solvency positions of dairies were not satisfactory during study period because the average ratio more than the standard norms. On other hand Sumul Dairy average ratio (0.349 times) indicated a highly conservative policy of financing and very good solvency position of dairy.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in debt-equity ratio among the dairy units were significant at 5% level of significance, because the calculated value of ‘F’ (2.7449) being greater than the table value ‘F’ (2.2464), the null hypothesis stood rejected and the alternative hypothesis accepted.

**ANALYSIS OF LIQUIDITY**

Second category of financial ratio is liquidity ratios. Various parties are interested to know the liquidity position and long term soundness of the unit. The liquidity ratios
show the liquidity position of the unit. Here, various liquidity ratios are compared of
the sampled units to analyse the performance of the liquidity position of each unit.

1. CURRENT RATIO

The current ratio of Madhur Dairy was 0.68 times in 2012-13, which was the lowest
as compared to other Selected Dairy Units during the study period. The current ratio
of Dudhsagar Dairy was 4.55 times in 2010-11, which was the highest as compared to
other Selected Dairy Units. Major units had not maintained standard norms of 2:1.
Gopal Dairy, Amul Dairy, Sumul Dairy, Vasudhara Dairy, Sabar Dairy and Madhur
Dairy ratio were less than two times. The average current ratio of the all selected dairy
units was 1.8552 times.

It can be concluded that the average of current ratio of Gopal Dairy (1.19 times),
Amul Dairy (1.72 times), Sumul Dairy (1.053 times), Vasudhara Dairy (1.906 times),
Sabar Dairy (1.805 times) and Madhur Dairy (0.964 times) proved a little low liquid
position . The solvency positions of dairies were not satisfactory during study period
because the average ratio less than the standard norms. On other hand Dudhsagar
Dairy average ratio (2.368 times) indicated that the solvency position was very sound
and short term creditors’ position regarding their claims was safe, because dairy unit
had sufficient fund in the form of current assets to meet their claims. The liquidity
position of Dudhsagar Dairy was sound as compared to other dairies.

On the basis of results obtained from ‘F’ test it may be concluded that the difference
in current ratio among the dairy units were significant at 5% level of significance,
because the calculated value of ‘F’ (6.0842) being greater than the table value ‘F’
(2.2464), the null hypothesis stood rejected and the alternative hypothesis accepted.

2. LIQUID RATIO

The Liquid ratio in selected Dairy units taken as a whole revealed progressive and
fluctuating trend with the range of 0.35 times to 3.95 times. The liquid ratio of Sabar
Dairy was 0.35 times in 2004-05, which was the lowest as compared to other selected
dairy units during the study period. It was indicated that the low liquid position. The
liquid ratio of Dudhsagar Dairy was 3.95 times in 2011-12, which was the highest as
compared to other Selected Dairy Units during the study period. Dudhsagar dairy, Vasudhara Dairy and Sabar Dairy units had maintained standards norms of 1:1. Gopal Dairy, Amul Dairy, Sumul Dairy and Madhur Dairy ratio were less than one indicated it low liquid position. The average liquid ratio of the all selected dairy units was 1.0471 times.

It can be concluded that the liquidity position of Dudhsagar Dairy (1.728 times), Sabar Dairy (1.035 times) and Vasudhara (1.316 times) were sound as compared to other dairies. Where the performance of Gopal Dairy (0.89 times), Sumul Dairy (0.684 times), Amul Dairy (0.895 times) and Madhur Dairy (0.782 times) were low liquidity position compared to other dairy units under study.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in liquid ratio among the dairy units were significant at 5% level of significance, because the calculated value of ‘F’ (3.7906) being greater than the table value ‘F’ (2.2464), the null hypothesis stood rejected and the alternative hypothesis accepted.

3. ACID TEST RATIO/ QUICK RATIO

Quick ratio has been achieved by dividing the quick assets by quick liabilities. All the units are having mixed trend however liquidity has decreased in Dudhsagar Dairy, Gopal Dairy, Amul Dairy, Sumul Dairy and Madhur Dairy in the year 2003-04 compared to 2012-13. The quick ratio of Dudhsagar Dairy was 0.01 times in 2004-05, which was the lowest as compared to other selected Dairy Units during the study period. The quick Ratio of Sabar Dairy was 3.85 times in 2010-11, which was the highest as compared to other selected dairy units. Major units had not maintained standard norms of 1:1. All the Dairy units’ ratio was less than one. Overall averages of quick ratio of the dairy units range from 0.2014 times to 1.31 times. The average quick ratio of the all selected dairy units was 0.5028 times. So it is also below the standard level.

It can be concluded that the average of quick ratio of Dudhsagar Dairy (0.769 times), Gopal Dairy (0.21 times), Amul Dairy (0.286 times), Sumul Dairy (0.443 times), Vasudhara Dairy (0.383 times), Sabar Dairy (0.953 times) and Madhur Dairy (0.476
times) proved a little low liquid position. The solvency positions of dairies were not satisfactory during study period because the average ratio less than the standard norms.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in quick ratio among the dairy units were insignificant at 5% level of significance, because the calculated value of ‘F’ (1.8926) being less than the table value ‘F’ (2.2464), the null hypothesis stood accepted and the alternative hypothesis rejected.

❖ ANALYSIS OF ACTIVITY

1. TOTAL ASSETS TURNOVER RATIO

The total assets turnover ratio which indicates the effectiveness of utilization of assets recorded a fluctuating trend in all the dairy units. The total assets turnover ratio of Amul Dairy was 0.94 times in 2010-11, which was the lowest as compared to other Selected Dairy Units during the study period. The total assets turnover ratio of Gopal Dairy was 6.24 times in 2007-08, which was the highest as compared to other Selected Dairy Units. All the Dairy units’ ratio was more than two times. A high ratio indicates reflects the efficiency of management in using assets for the generating earning. Overall average of total assets turnover ratios of the dairy units range from 3.0042 times to 4.22 times. The average total assets turnover ratio of all the selected dairy units was 3.6645 times.

It can be concluded that the average of total assets turnover ratio of Dudhsagar Dairy (2.45 times), Gopal Dairy (5.306 times), Amul Dairy (2.727 times), Sumul Dairy (3.868 times), Vasudhara Dairy (3.377 times), Sabar Dairy (3.069 times) and Madhur Dairy (4.855 times) proved satisfactory position. On the whole, it may be concluded that the total assets turnover in all the dairy units was satisfactory. Whereas Amul dairy ratio only in the year 2010-11 was not satisfactory due to decreasing sales, revaluation of assets or development of plants etc.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in total assets turnover ratio among the dairy units were significant at 5% level of
significance, because the table value (2.2464) is lower than calculated ‘F’ (19.0805) value, the null hypothesis stood rejected and the alternative hypothesis accepted.

Analysis of total assets turnover ratio based on the use of chi-square \( \chi^2 \) test makes it evident that the difference in between actual total assets turnover ratio and computed total assets turnover ratio were not significant in Dudhsagar Dairy, Gopal Dairy, Amul Dairy, Sumul Dairy, Vasudhara Dairy, Sabar dairy and Madhur Dairy and total assets turnover was satisfactory in all the Dairy units, which shows the results in these dairy units were as per expectations.

2. FIXED ASSETS TURNOVER RATIO

The fixed assets turnover ratio which indicates the effectiveness of utilization of fixed assets. The fixed assets turnover ratio registered a progressive and fluctuating trend in all the dairy units during the study. The ratio was the lowest (1.00 times) in Vasudhara Dairy in 2008-09 while it was the highest (43.40 times) in Sabar Dairy in 2008-09. All the Dairy units’ ratio was more than ten times except Vasudhara Dairy. A high ratio indicates reflects the efficiency of management in using assets for the generating sales. Overall average of fixed assets turnover ratios of the dairy units range from 10.4157 times to 19.3371 times. The average fixed assets turnover ratio of all the selected dairy units was 13.7054 times.

It can be concluded that the average of fixed assets turnover ratio of Dudhsagar Dairy (11.437 times), Gopal Dairy (12.048 times), Amul Dairy (13.791 times), Sumul Dairy (20.259 times), Vasudhara Dairy (5.219 times), Sabar Dairy (19.553 times) and Madhur Dairy (13.631 times) proved satisfactory position. On the whole, it may be concluded that the fixed assets turnover ratio in all the dairies was satisfactory because the fixed Assets turnover ratio almost reflects a fluctuating but progressive trend during the study period. It indicates that the management of all the dairy units was succeeded in the utilization of fixed assets.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in fixed assets turnover ratio among the dairy units were significant at 5% level of
significance, because the table value (2.2464) is lower than calculated ‘F’ (5.4258) value the null hypothesis stood rejected and the alternative hypothesis accepted.

Analysis of fixed assets turnover ratio based on the use of chi-square $\chi^2$ test makes it evident that the difference in between actual fixed assets turnover ratio and computed fixed assets turnover ratio were not significant in Gopal Dairy, Amul Dairy, Sumul Dairy, Vasudhara Dairy and Madhur Dairy and fixed assets turnover was satisfactory in the Dairy units, which shows the results in these dairy units were as per expectations. However, the differences were significant in Dudhsagar Dairy and Sabar dairy which shows the results in these units were not as per expectations.

3. STOCK TURNOVER RATIO

Stock turnover indicates the efficiency of the firm’s stock management. It shows rapidity of the turning stock into sales. The stock turnover ratio registered a fluctuating trend in all the dairy units during the study. The ratio was the lowest (6.21 times) in Dudhsagar Dairy in 2012-13 while it was the highest (90.54 times) in Vasudhara Dairy in 2005-06. A high ratio indicates reflects the efficiency of management. Overall average of stock turnover ratio of all the dairy units range from 24.9614 times to 41.57 times. The average stock turnover ratio of all the selected dairy units was 32.3471 times.

It can be concluded that the average of stock turnover ratio of Dudhsagar Dairy (12.905 times), Gopal Dairy (47.523 times), Amul Dairy (11.016 times), Sumul Dairy (16.717 times), Vasudhara Dairy (67.883 times), Sabar Dairy (21.139 times) and Madhur Dairy (49.247 times) which was indicated that better stock management in the dairy units. On the whole, it may be concluded that the stock turnover ratio in all the dairy units was satisfactory.

On the basis of results obtained from ‘F’ test it may be concluded that the difference in stock turnover ratio among the dairy units were significant at 5% level of significance, because the calculated value of ‘F’ (34.5734) being greater than the table value ‘F’ (2.2464), the null hypothesis stood rejected and the alternative hypothesis accepted.
Analysis of stock turnover ratio based on the use of chi-square ($\chi^2$) test makes it evident that the difference in between actual stock turnover ratio and computed stock turnover ratio was not significant in Amul Dairy which shows the results in these dairy unit was as per expectations. However, the differences were significant in Dudhsagar Dairy, Gopal Dairy, Sumul Dairy, Vasudhara Dairy, Sabar dairy and Madhur Dairy.

4. WORKING CAPITAL TURNOVER RATIO

The working capital turnover ratio indicates the efficiency in the utilization of short term funds in making the sales. Inadequacy or mis-management of working capital is the leading cause of business failure. “The working capital of a company is life blood which flows through the veins and arteries of the structure. The working capital turnover ratio registered a highly fluctuating trend in all the dairy units during the study. It was negative in Gopal Dairy during 2010-11 and 2012-13, Sumul Dairy during 2003-04 to 2006-07 and in Madhur Dairy 2003-04, 2004-05 and 2009-10 to 2012-13 wing to deficiency of working capital. The ratio was the lowest (2.53 times) in Sabar Dairy in 2010-11 while it was the highest (70.99 times) in Dudhsagar Dairy in 2009-10. A high ratio indicates reflects the efficiency of management. Overall average of working capital turnover ratio of all the dairy units range from 14.49 times to 95.2828 times. The average working capital turnover ratio of all the selected dairy units was 33.8505 times.

It can be concluded that the average of working capital turnover ratio of Dudhsagar Dairy (13.579 times), Gopal Dairy (79.992 times), Amul Dairy (15.212 times), Sumul Dairy (30.675 times), Vasudhara Dairy (19.919 times), Sabar Dairy (24.634 times) and Madhur Dairy (28.8505 times) which was indicated that quite satisfactory working capital management in the Dairy units.

On the whole, Analysis of working capital turnover reveals that there was better utilisation of working capital in Dudhsagar Dairy, Amul Dairy Sabar Dairy and Vasudhara Dairy. There were negative ratio in Sumul Dairy and Gopal Dairy utilisation of working capital in these dairy units was poor.
On the basis of results obtained from “F” test it may be concluded that the difference in working capital turnover ratio among the dairy units were insignificant at 5% level of significance, because the calculated value of ‘F’ (1.5714) being less than the table value ‘F’ (2.2464), the null hypothesis stood accepted and the alternative hypothesis rejected.

Analysis of working capital turnover ratio based on the use of chi-square \( \chi^2 \) test makes it evident that the difference in between actual working capital turnover ratio and computed working capital turnover ratio were significant in Dudhsagar Dairy, Gopal Dairy, Amul Dairy, Sumul Dairy, Vasudhara Dairy, Sabar dairy and Madhur Dairy which shows the results in these dairy units were not as per expectations.

### 8.4 SUGGESTIONS

To make co-operative dairy industry more financially sound following suggestions can be made:

- In the present scenario of new economic policy of liberalization, privatization and globalization, co-operative dairies have to be alert against competitions from corporate level private dairies within India and outside India. Those dairies having less profitability should control and reduce unnecessary expenses and improve marketing to increase sales.
- The net profit in Dudhsagar Dairy, Sumul Dairy, Vasudhara Dairy and Madhur Dairy is lower as compared to other units under study. They are required to increase net profit by decreasing processing expenses, marketing expenses, interest expenses, and salary and wages expenses etc.
- Vasudhara Dairy should try to increase their earning per share by taking different remedial steps like proper utilisation of borrowed funds, better utilisation of assets, and effective utilisation of share holder’s fund.
- To create sufficient funds from its members, they should be given attractive return on shareholders’ funds.
- In Dudhsagar Dairy and Amul dairy the total asset turnover ratio is low as compared to other units under study. This proves that there is under utilization
of assets. The idle assets should be amortized and volume of sales is required to increase.

- The capital structure of the units should be re-organized by converting part of the loan into equity.
- Co-operative dairies which have liquid crisis or net working capital crisis should manage their affairs efficiently so that stock of goods does not remain unsold and arrears are cleared at the earliest to avoid bad-debts.
- In Gujarat, dairy industry has been developed in co-operative sector. These co-operative dairies are managed by the representatives of member of the milk producers’ on democratic base. Hence political interference has become a major evil. Hence political interferences should be avoided.
- Co-operative dairies should be given maximum autonomy and there should be minimum government interference in a day to day working. For that self reliance and self management are required.

8.5 SCOPE FOR FURTHER RESEARCH

This study was limited only for co-operative sector dairy units, but in future comparative analysis would be the valuable study for academician.