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CHAPTER 11

A Financial Analysis of Selected Dairies of Gujarat

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Abstract

India has become the world's largest milk producer. This is accomplished by "operation flood" one of the largest creating a strong connection between rural producers and urban consumers. The Indian dairy sector contributes is Gross Domestic Product, which focuses on the performance evaluation of the Gujarat State's co-operative dairy set programs in the world for milk production, to the agricultural production of the industry engaged in milk and milk products 'manufacturing and sales. Nine leading cooperative dairy units linked to GEMME are chosen for these purposes. Information linked to all nine-district cooperative dairy units for the last ten years were used for evaluating the accomplishments of Gujarat dairy units. Collected India is developing economy having agriculture as its primary occupation of a considerably larger populace. Agriculture in India is monsoon-dependent, while it gives employment to almost 50% of the population, the farmers still live in portable situations. Poor and debt-ridden farmers tend to commit suicides owing to them failing to adjust to the challenges posed by man and mother nature. In such a situation, making available to thema fitting alternative is vital for earning their

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bread and butter. Dairy facilitates thwarting such adverse conditions. This research article makes efforts to highlight the dairy business as a budding agriculture - sectoral.

Keywords: India, Economy, Agriculture, Dairy

Introduction

The agriculture sector is among the foundational sectors of the Indian economy: Agriculture is a platform of survival for over two-thirds of India's employed human capital. As mentioned in the economic report of the financial year (FY) 2015-16, agriculture and allied sectors have claimed 14.5% of India's GDP. Indian agriculture sector has claimed over 43% of India's geographical arca. 'While a stationary reduction of the agricultural sector in India's GDP share has happened, the sector still plays a vital role in the overall socioeconomic develop 'mentor of India. "The Indian agriculture sector is at crossroads, facing a prominent challenge of reverse deceleration in growth of agriculture. Primary reasons behind the deceleration in agricultural grow their reduced investment specially the public invest- 'met in agriculture research, development and irrigation, along with inefficiency of institutions giving inputs and services (such as rural credit and extension). Other factors, viz. Land fragmentation, outdated tenancy laws, absence of modern market, rural infrastructure, misfit input pricing policies, etc. are liable for agrarian and ecological shortcomings in India. The stagnation crisis in Agri-culture leads loan increase in the rural areas' poverty. Farmers in India are highly indebted and poor. The time to change snow as the plight of the Indian farmers is portable. Improving the adoption of the allied activities of farming highly scientifically and in an organized way. The allied business concept isn't a new concept. Animal husbandry, dairy, fishing, and motherland sectors have on- tributed, also including agriculture for over multiple centuries. Dairying is a highly promising allied sector of agriculture. The livestock population of India is: 'one of the highest in the world. 50% of the buffaloes and 20% of the cattle in the world are in India, a number of these are milk cows and buffaloes. It's only because of the "Operation Flood" that the ongoing and balanced efforts

taken by the government led to make India the largest milk producer nation in the World. This research paper is directed towards evaluating the performance of India's dairy industry The focus should be an all the ingredients of the sector.

Objectives of the Study

1. To study the overall milk production in India.
2. To evaluate the performance of the dairy business in India.

Sources of Data

"This study is directed towards the secondary data. Data collection is done from various government reports and news is gathered from various newspapers and magazines. Certain references are also taken from various scholarly research are clues.

Indian Dairy- A Promising Sector: The livestock population of India is among the largest in the world. 50% of the buffaloes and 20% of the cattle in the world exist in India, a number of which arc milk cows and buffaloes. Dairy development in India is acknowledged all over the world as modem India's highly successful developmental programme. Today, India i ranked among the largest milk-producing nations of the world. Milk and milk products are rated among the highly promising sectors that deserve considerable applause. At the time when the global world milk production recorded a sluggish growth of 1%, India recorded a better performance with 4.5% growth. The total milk production touched 121 million tonnes in FY 2015-16.

As are the daily per capita milk access has also risen from 124 grams in 196110281 grams in 2015-16. The livestock sector added 3.93% to India's GDP and 20.71% to agriculture GDP in 2014-15 (Economic Survey). Livestock acts as an integral component of the rural community's economic and social life. Milk Production in India: India is the world's largest dairy den, although India still cesses a production short- age owing 10a high demand from rising population and also reduced productivity of Indian cows. India tops the milk production ranking, Indian dairy sec-prime illustration of production by masses a again mass production. Indi's milk supply emanates from millions of small producers, spread all over the rural access. On an average, a herd of only two-three milch animals (having, cows and buffaloes) is maintained

by these farmers. Having an overall gain of 121 million tonnes of milk in 2015-16 from cattle, buffaloes and goats, coupled with a per capita milk availability of 281 g/day the Indian dairy story is continuously marching forward and makes a promise to each higher echelons of success, increasing dairy remuneration for the famer. Although, with the rising population, itis projected that the total milk production must be close to 200 million tonnes by 2030 to satisfy the demand a shortfall would still exist in the supply. The table below exhibits the overall production and the percapita milk availability. Livestock Population in Indi Dairy sector amasses economic and social significance in India owing to the dairy animals giving output, input, asset and socio-cultural functions in a multi-functional environment, The 2008-09 Livestock Census puts indigenous cattle quantity at 166 million, with 3 million crossbred cattle and 105 million buffaloes existing in India. Within this, the proportion of adult milch females is 19,43 and 46%, respectively. The decade-wise trend in livestock population (1997- 2007) exhibit a unique transformation in the composition of dairy animal stock, favouring buffaloes and crossbred cattle, since their quantity rose by 5.91 and 6.05 million. Indigenous cattle were reduced by 1.8, Department of Animal Husbandry, Dairying & Fisheries, Ministry of Agriculture, Gol Different breeds of cows and buffaloes used for milking in Indi: India is rich in its livestock wealth. It accounts for nearly 15.8% of the world cattle population, more than half of the world buffalo population. Breeds of Buffaloes and cows of Indian Origin and Breeding Tracts re given below.

Sachdeva (2012), suggested that the contribution of private milk agencies and cooperatives to Punjab's dairy industry was assessed. Verka, Nestle, and other companies buy milk from farmers for less than market value. This is the main cause of Punjab's dairy industry's lack of profitability. This prevented it from covering dairy expenses.

Khanna (2012a) evaluated Punjab's milk adulteration problem. The majority of the adulteration was discovered in milk that milkmen sold loose, whereas samples of packaged milk were discovered to be unadulterated. Milkmen do whatever they can to earn a quick buck, from adding water to packaged milk before selling it as loose milk to adding glucose powder or skimmed milk powder. Therefore, the milk we receive each morning is undoubtedly not as healthy as we would like. 257

lakh litres of milk are produced on average per day in Punjab. Out of this, dairymen keep 55% of the milk for their own use, while organised dairy players buy 25% to sell as packaged milk and other milk products. The majority of adulteration has been identified in the remaining 20% of the milk, which is purchased by milkmen and sweet vendors.

Chengappa (2012), examined milk adulteration in India. The National Survey of Milk Adulteration 2011, which revealed that 81% of milk samples tested lately in Punjab were found to be tainted, has been explained by the author. It is very shocking, in fact. According to a report, 42% of youngsters in India are undernourished. Alarmingly, Punjab has a high rate of milk adulteration. The use of the hormone-stimulating drug oxytocin to increase milk production and the associated negative effects are well-known. According to the survey, water and diluted powder milk are the sources of adulteration in the milk that is sold in bulk.

Khanna (2011) noted in his article that an increase in milk procurement rates has led to higher milk prices. The author also mentioned that Milkfed in Punjab purchases about 11 lac litres of dairy milk every day. The remaining amount is converted into other milk products including butter, ghee, curd, lassi, and kheer. Of this, 8.5 lac litres are sold as milk.

Malhotra (2011) evaluated the primary sectors of the dairy business. In his research article, the author analysed the many dairy sector activities, including production, processing, job profiles, opportunities, and personality qualities. The largest producer of milk animals worldwide is India. Two of the agricultural industries in the nation with the fastest growth rates are dairy farming and processing. The one commodity that contributes the most to India's GDP is milk. Numerous job opportunities have arisen as a result of the dairy sector's phenomenal growth, which also includes the dairy processing business and allied sectors. The number of large and small dairy plants nearly 600 owned by private businesses and dairy federations has led to an increase in the demand for certified and skilled workers. Although practically every state is copying Amul's 'cooperative' success, the National Dairy Development Board (NDDB), a multi-locational institution active in planning, implementing, financing, and supporting

farmers owned professional agri-businesses, is the key PSU in this field. Employment prospects and wages have increased as a result of the entry of international corporations including Nestle, Cadbury, Kellogg's, Unilever, Walls, Heinz, and Prefetti Van Melle onto the Indian market. To increase demand, milk cooperatives and federations like Mother Dairy, Amul, Prang, Vijaya, Milkfed (Verka), as well as private businesses like Milkfood, Dalmia, Dabur, Britannia, and Vadilal, are actively modernising and diversifying their business models.

Research Methodology

It is the systematic, theoretical examination of the methods that are employed to a particular subject of study that is known as methodology. In this context, theoretical study of the collection of methods and concepts linked with a particular discipline of knowledge is included.

This research is exploratory in character, and it is intended to provide new insights into the subject matter. "A Comparative Study of Financial Performance of Selected Dairies in Gujarat". Experts, researchers, and other renowned people with years of experience in the fields of dairy products, agriculture, and research will debate in detail numerous topics linked to major areas of the study to gain a better understanding of the topic before collecting information. We will use the information and ideas gathered from the conversations in the development of a framework for this research.

Methods of Data Collection

Secondary data sources have been used in this study, which is unique.

Secondary Data

Secondary sources of information were used in the preparation of this proposed research project.

Secondary information has been gathered from the Annual Reports of cooperative dairy farms. Using the information gathered from the Cooperative Dairies' Annual Reports on Incomes and Expenses, we can assess the performance of the dairy industry overall. Other valuable information was gathered

from the website and publications available on Google Books, as well as from the library of the School of Commerce in New York City. The reason for selecting five co-operative dairy farms is that all of these co-operative farms are premier co-operative farms and may serve as good representatives of the dairy industry in Gujarat.

Period of Data Coverage

The financial statements of the Co-operative dairy company under investigation were examined during a ten-year period. To analyse the most recent trends and performance of a selected Co-operative dairy in Gujarat, financial accounts from 2010-11 to 2019-20 have been compiled and analysed.

Research Objective

1. To study the Dairy Industry in Gujarat.
2. To study the role of GCMMF in Dairy Development in Gujarat state.
3. To study the financial performance of selected Dairy in Gujarat.
4. To study profitability of selected Dairy in Gujarat.
5. To provide suggestion to improve the financial position of selected Dairy in Gujarat.

Research Hypothesis

H0(1): There is no significant difference between Asset Turnover Ratio between selected dairies of Gujarat

H1(1): There is significant difference between Asset Turnover Ratio between selected dairies of Gujarat

H0(2): There is no significant difference between Current Ratio between selected dairies of Gujarat

H1(2): There is significant difference between Current Ratio between selected dairies of Gujarat

H0(3): There is no significant difference between Quick Ratio between selected dairies of Gujarat

H1(3): There is significant difference between Quick Ratio between selected dairies of Gujarat

H0(4): There is no significant difference between Net Profit Margin between selected dairies of Gujarat

H1(4): There is significant difference between Net Profit Margin between selected dairies of Gujarat

Ho (5): There is no significant difference between Net Profit To Net Purchase Ratio between selected dairies of Gujarat

H1(5): There is significant difference between Net Profit To Net Purchase Ratio between selected dairies of Gujarat

H0(6): There is no significant difference between Net Profit To Production Expense Ratio between selected dairies of Gujarat

H1(6): There is significant difference between Net Profit To Production Expense Ratio between selected dairies of Gujarat

H0(7): There is no significant difference between Operating Profit Margin between selected dairies of Gujarat

H1(7) : There is significant difference between Operating Profit Margin between selected dairies of Gujarat

H0(8) : There is no significant difference between Profit Before Interest And Tax Margin(%) between selected dairies of Gujarat

H1(8) : There is significant difference between Profit Before Interest And Tax Margin(%) between selected dairies of Gujarat

H0(9) : There is no significant difference between Return on Assets between selected dairies of Gujarat

H1(9) : There is significant difference between Return on Assets between selected dairies of Gujarat

H0(10) : There is no significant difference between Return on Capital Employed between selected dairies of Gujarat

H0(10) : There is significant difference between Return on Capital Employed between selected dairies of Gujarat

The information gathered from the Annual Reports:

Tables, graphs, and statistical data were created using statistical software such as SPSS and Microsoft Excel. Mean, trend analysis, and analysis of variances are some of the statistical tools recommended for data analysis (ANOVA).

Asset Turnover Ratio

YEAR	Amul Dairy	Dudhdhara Dairy	Madhur Dairy	Sabar Dairy	Vasudhara Dairy
2010-11	2.074	4.789	3.687	4.568	3.943
2011-12	2.378	5.007	5.091	3.705	3.912
2012-13	2.892	4.476	4.728	4.764	3.523
2013-14	3.200	4.317	4.104	5.260	3.242
2014-15	3.012	4.354	5.415	4.649	3.206
2015-16	3.797	4.390	6.096	3.317	4.023
2016-17	3.072	4.006	5.789	2.494	3.219
2017-18	3.819	3.982	3.899	1.745	3.468
2018-19	3.421	3.944	4.549	1.842	3.220
2019-20	2.692	3.133	4.956	4.022	2.032

Table 7 : Trend of Asset Turnover Ratio

YEAR	AVERAGE RATIO	TREND
2010-11	3.812	100.000
2011-12	4.019	105.417
2012-13	4.077	106.937
2013-14	4.024	105.571
2014-15	4.127	108.268
2015-16	4.325	113.443
2016-17	3.716	97.478
2017-18	3.383	88.735
2018-19	3.395	89.066
2019-20	3.367	88.322

Generally speaking, asset turnover is a financial ratio that assesses the efficiency with which a corporation uses its assets in order to generate sales revenue or sales income for the organisation. Low profit margins are associated with high asset turnover, whereas high profit margins are associated with low asset turnover, as shown in the chart below. Retail companies have a high turnover percentage, which is mostly owing to the intense competition and low prices that exist in the market today. As shown in the above tables and graphs, the highest average value of asset turnover ratio value was observed during the year 2015-

16, indicating that selected dairies based in Gujarat used their assets most efficiently to generate revenue during the year 2015-16, whereas the least efficient use of assets was observed during the year 2019-20, which indicates that selected dairies based in Gujarat used their assets least efficiently to generate revenue during the last ten years of the study period. When compared to the most recent years, dairies have utilised their assets more efficiently during older periods on average. Madhur Dairy was ranked first for generating income from its assets in the most efficient manner, whereas Amul Dairy was ranked first for generating revenue from its assets in the least efficient manner. Zigzag trend of asset turnover ratio of all selected 5 dairies has been observed during last 10 years of study period.

Anova Testing : Asset Turnover Ratio

H0(1) : There is no significant difference between Asset Turnover Ratio between selected dairies of Gujarat

H1(1) : There is significant difference between Asset Turnover Ratio between selected dairies of Gujarat

We use ANOVA to analyse the data for the above hypothesis.
Anova: Single Factor

Summary

Groups	Count	Sum	Average	Variance
Amul Dairy	10	30.357	3.036	0.318
Dudhdhara Dairy	10	42.397	4.240	0.269
Madhur Dairy	10	48.315	4.831	0.637
Sabar Dairy	10	36.367	3.637	1.573
Vasudhara Dairy	10	33.787	3.379	0.329

Anova

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	20.426	4	5.106	8.1654	4.9E-05	2.5787
Within Groups				28.142	45	0.625
Total					48.568	49

Current Ratio

YEAR	Amul Dairy	Dudhdhara Dairy	Madhur Dairy	Sabar Dairy	Vasudhara Dairy
2010-11	2.376	1.971	0.955	1.327	1.185
2011-12	1.969	2.040	1.007	1.276	1.186
2012-13	1.920	3.228	1.250	1.297	1.362
2013-14	1.738	2.953	1.228	1.317	1.095
2014-15	1.230	3.063	1.157	1.215	1.507
2015-16	1.224	4.292	1.050	1.094	1.025
2016-17	1.159	2.800	0.843	1.056	1.415
2017-18	1.083	2.018	0.890	4.425	1.274
2018-19	1.167	1.541	0.762	3.922	1.903
2019-20	1.231	1.991	0.700	1.601	1.571

Current Ratio

YEAR	AVERAGE RATIO	TREND
2010-11	1.563	100.000
2011-12	1.495	95.688
2012-13	1.811	115.916
2013-14	1.666	106.610
2014-15	1.634	104.584
2015-16	1.737	111.164
2016-17	1.454	93.070
2017-18	1.938	124.017
2018-19	1.859	118.959
2019-20	1.419	90.795

Challenges

- **Breeding infrastructure and genetics**:

  The success of the Indian dairy industry may largely be attributed to an increase in the number of cows, rather than an increase in production. Increasing the production of each animal is essential when resources are limited. Advance breeding procedures including artificial insemination, embryo transfer, and so on, are in high demand in the livestock industry.

- **Animal feed and fodder:**

  Green fodder and high-quality feed are becoming increasingly scarce. As the popularity of purebred livestock increases, so does the need for high-quality feed and fodder to meet the nutritional needs of dairy cows. Feed pre-mixes are also being used as a preventative measure to avoid numerous health and nutrition-related issues.

- **Animal health:**

  To fill the void, we need better healthcare and animal illness diagnostics. Due to the increased care needed by high-yielding animals, the animal health industry has grown steadily over the years.

- **Farm mechanization:**

  Despite having a population of 1.25 billion people, there is a growing labour shortage and rising labour costs in the country. As a solution, farmers have welcomed the use of farm machinery.

- **Cold chain infrastructure:**

  To avoid contamination and deterioration at the village level, there is a dearth of the infrastructure required for cooling plants and bulk coolers. The government and commercial sector are putting a lot of money into this market in order to secure enough procurements.

- **Power availability:**

  As a result, the quality and shelf life of milk degrade, especially in areas where electricity is scarce. Solar-powered milk chillers present a potential opportunity in this market.

- **Quality testing infrastructure and trained work force:**

  At milk collection centres, there is insufficient quality testing infrastructure. Because of the scarcity of qualified personnel to conduct quality testing, the issue is exacerbated. The need for safe food is growing quickly at the consumer end, which means there is a lot of room for growth.

- **Processing equipment and food ingredients:**

  Processors are being compelled by rising consumer awareness and a shift in lifestyle to focus on product innovation, which in turn is increasing demand for high-quality equipment and a wide range of food ingredients.

Key Areas of Concern in the Dairy Industry

Competitiveness, production costs, animal productivity, etc. Increased consumption and production in many emerging nations are boosting demand for high-quality dairy products. A rise in global demand for dairy products should benefit countries with low production costs the most. As a result, the Indian dairy industry should work to cut production costs in order to remain competitive. The cost of milk production can be reduced by increasing animal output, improving animal health and breeding facilities, and managing dairy animals better. Both the federal government and the dairy business have a stake in this outcome. Infrastructural support for production, processing, and marketing To become an exporting nation, India must have a well-developed production, processing, and marketing infrastructure capable of matching international quality standards. To produce safe and high-quality dairy products, a comprehensive strategy must be devised that includes legal support. It's best to concentrate on buffalo milk-based products The Indian dairy business is also notable for its abundance of buffalo milk. The speciality goods based on buffalo milk, such as Mozzarella cheese, that India can focus on meeting the needs of target consumers. Importation of high-value goods and exportation of low-value goods In the future, despite the efforts of Indian enterprises to expand their product variety, it is possible that imports of high-value goods will increase while exports of low-value goods will decrease. The industry as a whole must get ready to tackle these new challenges.

Opportunity

The demand for milk and milk products in the Indian market is expected to develop at a quick pace due to a growing middle class, increased prosperity, changing food preferences, and a higher level of knowledge. Backward chain integration and the growth and competitiveness of new dairy sectors are critical to India's dairy industry's future. The supply of high-quality milk will become increasingly important as processing capacity grows. So many processors will spend in developing the backward chain and building cold chain infrastructure in such a scenario. More farmers will be able to access the organised sector through this method. The entire chain will be accelerated because of these advancements, which have already resulted

in significant progress. Growing numbers of cooperative and private milk processing companies in India are actively working to transform the small-scale structure of dairy production, improve animal feeding techniques, and increase productivity and marketing. This is a positive development. The demand for new technologies, machinery, packaging solutions, food diagnostics, and food components is growing because of this consumer-end innovation.

Hypothesis Testing Summary Anova Testing

SR NO	NULL HYPOTHESIS	P VALUE	DECISION
1	There is no significant difference between Asset Turnover Ratio between selected dairies of Gujarat	0.0000	Null Hypothesis is Rejected
2	There is no significant difference between Current Ratio between selected dairies of Gujarat	0.0001	Null Hypothesis is Rejected
3	There is no significant difference between Net Profit Margin between selected dairies of Gujarat	0.0313	Null Hypothesis is Rejected
4	There is no significant difference between Net Profit To Net Purchase Ratio between selected dairies of Gujarat	0.0046	Null Hypothesis is Rejected
5	There is no significant difference between Net Profit To Production Expense Ratio between selected dairies of Gujarat	0.0047	Null Hypothesis is Rejected
6	There is no significant difference between Operating Profit Margin between selected dairies of Gujarat	0.0075	Null Hypothesis is Rejected

7	There is no significant difference between Profit Before Interest And Tax	0.0553	Null Hypothesis is Accepted
Margin(%) between selected dairies of Gujarat			
8	There is no significant difference between Quick Ratio between selected dairies of Gujarat	0.0001	Null Hypothesis is Rejected
9	There is no significant difference between Return on Assets between selected dairies of Gujarat	0.0134	Null Hypothesis is Rejected
10	There is no significant difference between Return on Capital Employed between selected dairies of Gujarat	0.0000	Null Hypothesis is Rejected

Conclusion

Since the primary goal of the co-operative milk producers' union is to defend milk farmers from the exploitation of private dairies, co-operative dairies are unable to purchase milk at a lower price to boost profit margins. Co-operative dairies were created by milk producers to protect themselves from private dairies that gave milk producers very low procurement rates and charged milk consumers excessive prices.

In addition to protecting the interests of milk producers, cooperative dairies also ensure that the selling price of milk cannot be suddenly increased to increase profit margins. Cooperative dairies will be unable to compete in today's market because of the competition from private dairies. In today's monopolistic competition environment, co-operative dairies can flourish more through product differentiation (better quality, better packaging, etc.) than through price changes.

As a result, cooperative milk dairies have a limited window of opportunity for financial success. Profitability can be increased by reducing and controlling costs as well as increasing the volume of sales through better quality products, which in turn encourages storage and processing plants to operate at their full or near-full capacity, decreasing the proportion of unutilized or spare capacity and thus reducing per unit fixed costs.

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