CHAPTER 1
INTRODUCTION

1.1 NEED AND SIGNIFICANCE OF THE STUDY

In the light of new economic policy focusing on globalization, privatization and liberalization the financial analysis assumed an increasingly important role as a scientific tool for appraising the real wealth of an enterprise, its performance and its pitfalls. Financial analysis is defined as “the process of discovering economic facts about an enterprise on the basis of an interpretation of financial data”\(^1\). Financial analysis also seeks to look at the capital cost, operational cost and operating revenue. The analysis decisively establishes a relationship between the various factors of an enterprise and helps in improving the enterprise activities. It also serves as a common measure of value for obtaining a clear cut understanding about the enterprise from the financial point of view.

An analysis of various financial tools provides an important basis for valuing securities and appraising managerial programmes. Financial analysis is vital in the interpretation of financial statements. It provides an insight in to the important areas of management viz. Return on Investment and Soundness of the Company’s financial position.

Financial data provided by the accounts department of the concerned units caters the needs of internal and external users and the same is valuable for the analysis. The data is made available in the form of accounting data which may be manifested as financial and accounting statements. A financial analysis reveals where the company stands with respect to profitability, liquidity, leverage and an efficient use of its assets. Financial reports provide the framework within which

business planning takes place. They are the key through which an effective control of a business enterprise is exercised. It is the process of determining the significant financial characteristics of an enterprise.

Financial analysis may be external or internal. The external analysis is performed by creditors, stakeholders and investment analysis. The internal analysis is performed by various departments of an enterprise. Analysis of financial statements has become very significant due to the widespread interest of various parties in the financial result of a business enterprise. In recent years, the ownership of capital of most public enterprise has become broad-based. A number of parties and bodies including creditors, potential suppliers and credit institutions like banks, industrial finance corporations, potential investors, employees, trade unions, important customers, economists, investment analysts, taxation authorities and Government have a stake in the financial results of an enterprise. Various people look at the financial statements from various angles. A number of techniques like comparative statement, common size statement, trend analysis, funds flow statements, cash flow statement and ratio analysis have been developed to undertake analysis of financial statements in order to reach conclusion about the financial health, profitability and efficiency of an enterprise and also to compare an enterprise with other similar undertakings. The technique of ratio analysis is the most important tool of financial analysis. It helps in comparing the performance of various industries and judges their financial soundness. Financial analysis deals not only with the financial aspects of the industries but also with its operational aspects. As such, it is necessary to undertake such an analysis in the case of sugar industries located in the north Karnataka region consisting of Belgaum, Bagalkot and Bijapur districts of the case study area.
1.2 ROLE OF SUGAR INDUSTRIES

1.2.1 Global and Indian Perspective

Sugarcane is one of the important crops grown in few states of India. The main objectives of sugar industry are agricultural development, industrialization and socio-economic development in India.

Sugar is one of precious consumer goods which is having greater demand amongst other consumer goods in the world. Sugar can be produced from sugarcane, beet and fruits. About 60 percent of sugar production in the world is from sugarcane and 40 percent from the beet and fruits. But in India, sugar is mainly produced from sugarcane. India is the original home of cultivating sugarcane and manufacturing of sugar. India is the largest consumer of sugar and second largest producer of sugar in the world. Sugar industry holds significant place in the India economy. Sugar industry is India’s second largest industry, next to cotton -textile. At present, 634 sugar industries are operating throughout India. Out of total factories, 62 are Public Limited companies, 254 are Private sugar industries and 318 are Co-operative sugar industries. The total capital invested in this industry is estimated at Rs. 3147 billion. This industry has a turnover of Rs.700 billion per annum which considerably helped in improving the nation’s economy and has substantially contributed Rs. 22.5 billion to the Central and State exchequer as tax, cess and excise duty every year.

In India nearly 45 million cultivators are today engaged in growing sugarcane. Sugar industry is providing subsistence to sugarcane growers and their families. Nearly 3.5 million skilled and unskilled workers are employed in this industry. There are about one million university researchers engaged in research of sugarcane. This has led to the establishment of a good net work of sugarcane research stations throughout the country where some of the world’s most improved varieties of sugarcane have been developed and are now cultivated in most of the cane growing areas. Consequently 4.39 million hectares area was
under sugarcane cultivation and yield of sugarcane per hectare was 62.5 tonnes in India during 2008-09.

Sugar production was 259.36 lakh tones in India during 2008-09. Production of 24.30 million tones of sugar in 2010-11. Although the Government had estimated a domestic consumption of 22.00 million tones of sugar every year, the off take will be around 21.10 million tones only. India can use 1.50 million tones under Open General License (OGL), India would be saddled with 6.70 million tones of sugar stock. It is not possible that India will not return to the importer's camp. From 2012-13, India is expected to re-join net exporters, although by that time the freight advantage of Indian sugar in the middle East and South Asian markets may be severely eroded by a widely projected raise in ocean freight rates. However, during the peak surplus season (2013-14), an export availability of about 4 million tones can be still expected.

India the home place of sugarcane has thus developed as top producer of cane sugar in the world. Sugar industry is also indirectly responsible for the employment of a large number of people in sugar trade, subsidiary industries, transport and industries supplying stores and other materials to the sugar industry. This shows that sugar industry in India occupies the place of pride in the Indian economy. It has a very important role to play in changing the rural economy. Thus India has made tremendous development in different sectors like education, technology, health, industry and so on. The role of sugar industry in economic development has been increasing day by day.

There are 94 countries in the world having 2146 sugar mills producing sugar from the sugarcane. The world production of sugar was estimated at 1481.22 lakh tones in 2003-04 which increased to 1624.97 lakh tones in 2008-09. Thus world production of sugar has increased nearly about 10.5 times during the last 6 years. During the year 2011-1, the world production of sugar was 1672.60 lakh tones. It can also be noted that production of sugar in India has ranged from 217.02 lakh tones in 2003-04 to 259.36 lakh tones in 2008-09 and an average
production of sugar during the said period was 186.44 lakh tones. Indian production of sugar increased during the said period under 14.45 percent. Its share in world production of sugar is 12.75 percent. This shows that India ranks second in production of sugar in the world. In case of other countries, an average production of sugar during the said period under study was 121.39 lakh tones in Pakistan, 56.13 lakh tones in Mexico, 123.84 lakh tones in China, 67.84 lakh tones in Thailand and 23.91 lakh tones in South Africa respectively. It can be seen that India in the world showed an increasing trend in the production of sugar during the period under study next to Brazil. Production of sugar in Brazil has ranged from 259.56 lakh tones in 2003-04 to 322.90 lakh tones in 2008-09 and an average production of sugar during the said period was 297.49 lakh tones. Brazil production of sugar increased during the said period by 34.18 percent. Production of sugar in Brazil was 455.29 lakh tones and Indian sugar production was 281.17 lakh tones during the year 2011-2012.

1.2.2 Sugar Factory Complexes

In the process of Sugar production, the waste materials like Bagasse, Press Mud and Molasses are found. These waste materials have been found to be of immense use for production of valuable Industrial By-products. For obtaining the same as commercial products, sugar industries have to set up various complexes such as bagasse based industries, press mud and sugarcane wax industries, molasses based industries etc, as their adjuncts, which help considerably in the industrial development of rural areas. Setting up of industries using by products will generate more employment opportunities in the rural areas where sugar industries are usually located. These production units can help the sugar industries in getting additional financial returns; bring down the cost of production and prevention of pollution. The various sugar factory complexes are:

1.2.2.1 Bagasse based Industries: Bagasse is the fibrus of the cane stalk after crushing and extraction of juice. Bagasse is used as a fuel for generating steam. It
is used in production of craft paper, writing paper, printing paper, newsprint, tissue paper, cardboards and manufacture of furfural.

1.2.2.2 Sugarcane Trash Industries: It can be used as fuel in boiler as well as for production of oxalic acid. Good compost can be obtained by using bacterial culture. Cane trash can be used as organic fertilizer and are valuable as fodder for cattle.

1.2.2.3 Molasses based Industries: Molasses is used for production of alcohol by fermentation of yeast. Chemicals like acetic acid, acetone, butyl alcohol, ethylene citric acid can also be produced from molasses by suitable treatment. Carbon dioxide liberated in the fermentation process can be used for preparing soda water, dry ice, foundries etc. Methane gas can be generated from distillery effluent. Spent ash and Pmc have been used effectively in preparing bio-earth, very useful organic manure. Molasses is used in distilleries to manufacture rum, ethyl alcohol, rectified sprit etc.

1.2.2.4 Press Mud and Sugarcane Wax Industries: The sugarcane juice is filtered thorough vacuum filters and the residual waste material is known as press mud. Press mud is used in agriculture as manure, used as animal feed and to prepare tooth powder, board chalk and metal polishing powder. Cane wax is used for preparing wax emulsion and used for increasing shelf life.

1.2.2.5 Sugar Industry Power Generation: Steam generated at high pressure is used to produce power. Generated power is partly used by the factory and surplus power is supplied to government though grid system to get additional income to the factory.

Sugar mills have immense potential to develop large number of industrial complexes providing the profits from the sugar produced are well managed and utilized. The by-products will help to increase profitability of each such factory. So this should be done on a large scale. There are different types of industries based on by-products of sugar industry in India. There are 4 large scale and 55 small scale bagasse based paper plants in India. Tamilnadu Newsprints and Paper
Ltd (TNPL), Mysore Paper Mills Ltd, Bhadravati Paper Mills Ltd, and Seshasayee Paper and Boards Ltd are the large scale paper plants. Amongst which TNPL is the Indian’s prestigious unit. There are 315 distilleries in India. Amongst them 150 distilleries are attached to sugar industries and 165 distilleries are independent. Most of the distilleries have a daily alcohol production capacity of 30,000 liters and total production of about 13 billion liters of alcohol per annum. They produce alcohol only from molasses but not from cane juice. 150 plants in India produce chemicals based on ethyl alcohol, 12 plants produce yeast, 45 distilleries produce compost, 2 plants produce citric acid, 3 plants produce lactic acid, 3 plants produce ephedrine and several plants produce cattle feed from molasses.

By producing waste materials like molasses, pressmud and bagasse into value-added products, more income is generated by the sugar industry and a part of it can be passed on to the sugarcane growers as an extra payment for sugarcane and will generate more employment opportunities.

1.2.3 Rural Development Activities

Generally, Sugar mills are located in the rural parts of India for obtaining fresh supply of sugarcane. Before establishing the sugar industries, there are no educational, medical, recreational and other facilities. Hence the rural population usually migrates to urban areas in search of these facilities. Even for cultivation of their land, they do not get adequate manure, pesticides, good seed material, irrigational facilities etc. Due to these reasons, rural population remains depressed and continued in poverty for years together. But sugar industries had been set up and act as ‘nuclei’ for the development of rural parts of India. They are like oasis in the desert for the consolation and survival of the rural population.

Generally, every sugar mills have established primary schools, secondary schools, Technical training centers, nursing colleges and polytechnics. In addition to these, some co-operative sugar mills in the state of Karnataka have set up Degree College, medical college, engineering colleges for improving the
educational facilities not only for factory workers but for the entire rural population in the industry area. They provide transport facilities for children for higher education at distant places from the industry and for people to the nearest towns, cities and ambulances for the sick.

Sugar industries provide full fledged 20 to 200 bed hospital with latest equipments and expert doctors and technicians. Sugar industries are encouraging women to organize the Mahila mandals. They have created many facilities for learning tailoring, dress making, preparation of pickles, spices, sweetmeets, namkins, lizzat papads, shrikhand etc. Sugar industries have set up departmental stores or co-operative stores to sell all the goods produced by the mahila mandals as well to provide the daily requirements of all the families. Besides fertilizers, pesticides, agriculture implements etc, they are also sold in these stores at reasonable prices. The Mahila co-operative credit society's provides finances to all the economic and commercial activities in and surrounding factory area. Many sugar factories have established other activities like poultries, Dairy farms and milk chilling processing units. By developing of these activities, the employment opportunities have further increased in the rural areas. As a result, urban population is migrating to the area with sugar factories for employment. All these activities are the greatest contribution of the sugar industry to India, particularly for neglected rural parts of India.

1.2.4 Growth of Sugar Industries in Karnataka

The main objective of sugar industries is the welfare of farmers through agriculture and cane development. Karnataka state ranked third with respect to total number of factories next to Uttar Pradesh and Maharashtra. The Co-operative and Private Sugar Industries are playing a pivotal role in the development of Karnataka. Sugar Industries occupies an important position on the Industrial map of the Karnataka state. As against 55 sugar factories in 2008-09, at present 64 organized sugar factories are operating throughout Karnataka. Out of total
factories, 3 are Public limited companies, 33 are Private sugar industries and 28 are Co-operative sugar industries.

It can be noted that production of sugar in Karnataka has ranged from 14.32 lakh tones in 2003-04 to 15.36 lakh tones in 2008-09 and an average production of sugar during the said period was 18.44 lakh tones. Karnataka production of sugar increased during the said period to 14.45 percent. Its share in Indian production of sugar is 12.75 percent. Production of sugar in Karnataka during the year 2011-12 was estimated at 30 lakh tones. This shows that Karnataka ranks 3rd in production of sugar in India. Karnataka stands 4th in the country in the cultivation of sugarcane. The sugar industries in Karnataka are providing direct employment for about 27520 persons, in addition to a very large number of workers engaged in sugarcane growing and other related occupations. It is estimated that the Government has been getting direct and indirect revenue to the extent of Rs. 98 crores every year. Karnataka sugar industry has contributed a great deal to India’s total level of sugar production and thus has helped the country to meet its demand for sugar.

Karnataka Government has set up the Karnataka Sugar Institute (KSI) which has emerged as a center for education and training for sugar technology. The Karnataka Sugar Institute also provides important support to the sugar industry in Karnataka for research and development in the various aspects of sugarcane processing and production.

1.2.5 Growth of Sugar Industries in North Karnataka

The Private and Co-operative sugar factories in North Karnataka region are playing role of catalyst in the process of Socio–Economic development of rural areas. Out of 64 sugar industries, 42 are operating in north Karnataka. 23 are Private sector and 19 are Co-operative sector. It can be seen that production of sugar in north Karnataka has ranged from 8.12 lakh tones in 2003-04 to 11.16 lakh tones in 2008-09 and an average production of sugar during the said period was 12.14 lakh tones. North Karnataka production of sugar increased during the
said period to 56.45 percent. Its share in Karnataka production of sugar is 71.75 percent. The production of sugar in north Karnataka was 14.80 lakh tones during the year 2011-12.

North Karnataka is situated towards South-West part of India. North Karnataka is drained by Krishna River and its tributaries the Bhima, Ghataprabha, Malaprabha and Tungabhadra. There are 30 districts in Karnataka. Out of which 13 are in north Karnataka region consisting of Belgaum, Bijapur, Bagalkot, Bidar, Bellary, Gulbarga, Yadagiri, Raichur, Gadag, Dharwad, Haveri, Koppal and Uttara Kannada District (Karwar). Belgaum stands first in sugarcane production followed by Bagalkot and Bijapur districts. As a result, a number of sugar factories have been developed in these districts. These districts are known as Sugar districts in north Karnataka. So they are called as the ‘Sweet Districts’. There are 17 sugar factories in Belgaum district, out of which 11 sugar factories in co-operative and 6 sugar factories in private sector. There are 11 sugar factories in Bagalkot district, out of which 1 is in co-operative and 10 are private sector. There are 3 sugar factories in Bijapur district, out of which 1 is co-operative and 2 are private sector. These three districts hold a place of pride in Karnataka state in production of sugarcane, sugar and sugar recovery.

1.3 STATEMENT OF THE PROBLEM

The present study “Financial Analysis of Sugar Industries in North Karnataka – A Comparative Study” intends to analyze the financial aspects of Private and Co-operative sugar industries located in north Karnataka region. The term Financial Analysis refers to “the process of determining financial strengths and the weakness of an enterprise by establishing strategic relationship between the items of the balance sheet, profit and loss account and other operative information”.2 The main aim of financial analysis is to diagnose the information

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contained in financial statements so as to judge the profitability and financial soundness of the firm. Just like a doctor examines his patient by recording his body temperature, blood pressure and so on before making his conclusion regarding the illness and before giving his treatment, a financial analyst analyses the financial statements with the tools of analysis before commenting upon the financial health or weakness of an enterprise. There are many tools, amongst which Ratio Analysis is one of the important tool.

A ratio is known as a symptom like blood pressure, the pulse rate or the temperature of an enterprise. It is with the help of ratios that the financial statements can be analyzed more clearly and decisions can be made from such analysis. Financial analysis is essential to bring out the mystery behind the figures in financial statements. In this context, an attempt is made to study analysis of financial statements of sugar industries in North Karnataka in order to reach conclusion about the financial health, profitability and efficiency of sugar industries and also to compare private sugar industries with co-operative sugar industries. This helps to determine the significance and meaning of the financial statement data so that forecast may be made of the future earnings, ability to pay sugarcane price and debt maturities both current and long term, profitability of a sound dividend policy. This study is linked to a technique of x-raying the financial position as well as the process of sugar industries. This study helps in improving the financial process of the sugar industries. The problem was selected for the research as many gaps have been identified in the research studies conducted earlier in this area. The present study is a modest attempt to examine the financial performance of sugar industries and to fill the gap of research literature pertaining to financial analysis of sugar units.

1.4 REVIEW OF LITERATURE

Literature is a source of self – enlightenment and inspiration to the researchers. Review of research studies serves as a link between the old and the new, between the known and unknown, between the already investigated and to
be investigated. A review of literature helps the researcher to clearly understand the aims and objectives of the problems which he has chosen for the research. The research study on Sugar Industry in India has attracted great attention of large number of researchers. But Research studies on financial analysis of sugar industries in India, in general and in specified areas in particular is limited in numbers, even though the industry expended with great stride especially since last two decades. They are mostly in the nature of case studies of either a specific Co-operative factory or a private factory or a couple of them in a particular area or a sample of a few factories. The literature surveyed for this work includes the books, thesis, articles, journals, magazines etc., have been made use of and a few selected works relevant for this study are reviewed here under:

Nikam (1986) in his study on “Financial Strength of Sugar Co-operatives – A Ratio Analysis Approach” has analyzed the financial strength of Co-operative Sugar factories in Aurangabad district of Maharashtra state through ratio analysis technique. The author has used current ratio and acid test ratio for measuring short-term financial strength and debt-equity ratio and fixed assets-net worth ratio for measuring long term financial strength of sugar Co-operatives. He suggested that the Co-operative units were financially unsound as compared to Private sector units.³

Minraj and Gopalan (1987) in their paper on “Financial Management of a Co-operative Sugar Mills” have analyzed the financial performance of Dharmapuri District co-operative sugar mill in Tamil Nadu. By calculating the different ratios, they have identified some key implications for improving operational efficiency in financial affairs.⁴

Biradar Patil (1990) has carried out research on the study of “Co-operative Sugar Factories in Belgaum District”, in which he has attempted to

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analyse the working of sugar Co-operatives and their socio-economic impact on rural area. He revealed that lack of Co-ordination between engineering and manufacturing staff and technical inefficiency were responsible for inefficient working of sugar factories. He suggested that sugar Co-operatives have played a significant role in bringing socio-economic change in the rural area.5

Joshi (1991) has made “Financial Analysis of Co-operative Sugar Mills in Kolhapur District, Maharashtra by using various Financial Ratios”. He examined performance of the sugar factories in respect of their financial management and assessed on the liquidity, solvency, efficiency and profitability ratios. The study revealed that group II B factories were better placed in liquidity and efficiency, group I in solvency and group II A in profitability. His major finding was that sugar mills were heavily dependent on borrowed capital rather than owned capital for establishment and expansion. He recommended for maintaining sound ratio between owned and borrowed capital and efficient management of available funds to reduce the interest burden and attain maximum financial efficiency.6

Reddy Ramachandra (1992) has focused on “Financial Management in Sugar Cooperatives in Tamil Nadu” regarding formation of capital structure, cost of capital, capital budgeting, working capital management, profit management etc. He used ratio analysis technique for studying capital structure and working capital position. He found that working capital position of sugar co-operatives was poor due to lack of professional management. He suggested that self-sufficiency in funds should be attained through professionalized management for improving the financial health of the mills.7

Jayachandra and Narasaiah (1992) have studied the “Cash Management in Kovur Co-operative Sugar Factory Ltd., Nellore in Andhra Pradesh with the help

of Ratio Analysis Technique”. They revealed that the liquidity and solvency of the co-operative factory were poor and unhealthy. They suggested to increase cash and bank balance and other liquid assets either by reducing inventory proportion in current asset or raising funds from long term sources for maintaining sound and healthy liquidity and solvency of the factory.8

Attwood (1992) in his study on “Raising Cane -The Political Economy of Sugar Industries in Western India” has observed that control over the management of the factory allows the controlling farmers to influence the allocation of revenues of the factory between prices paid to growers, retained earnings and contributions to numerous local charitable institutions in which these farmers also retain considerable controlling interests. There are numerous sources of tension between large and small growers concerning the nature of these allocations. However the relation between them is described by most observers as harmonious particularly in contrast to the antagonistic and tense relationship between factory and growers in Uttar Pradesh.9

Herekar (1993) has carried out a comparative study in which he made an attempt to appraise the “Financial Performance of Sugar Industries in Belgaum and Kolhapur Districts by applying Ratio Analysis and Correlation Analysis Techniques”. He has also tried to disclose the sickness in the sugar industry with the help of Altman’s Z - score model. His major finding was that the profitability of sugar industry in Belgaum district was better than that of Kolhapur district. Professionalization of management widening owner’s equity in capital structure and efficient control over inventory were some of his suggestions for streamlining the performance of sugar industry.10

Salunke (1993) in his study on “Performance Appraisal of Sugar Industries in Sangli District” has examined past and present position of sugar industries. He analyzed technical performance, cane development activities, cane supply position, infrastructure and other developmental activities of sugar co-operatives in Sangli district. He concludes that Maharashtra holds a place of pride on the sugar map of the country. He recommended that factory should prepare proper cane development programmes, motive the members to increase the area under sugarcane and generate its own funds for implementing cane development programme. The factory should crush the cane within eight hours after harvesting so as get maximum sugar recovery. The factory should improve their milling efficiency, install new and latest equipments and train the workers properly.¹¹

Nikam (1995) has carried a study on “Management of Cost and Productivity of Co-operative Sugar Industries in Solapur District”. He made analysis of cost of production and productivity with the help of percentages and certain productivity ratios. He opined that the terms production and productivity have misunderstood by the authorities. His conclusion was that management of cost had become the bigger problem for Co-operative sugar mills. He suggested that the management should set standards for cost elements and fix responsibilities for each department for better management of cost and productivity of sugar mills.¹²

Hanchinamani (1996) has made study on “Financial Analysis of Co-operative Sugar Factories in Belgaum District by using Ratio Analysis Technique”. He revealed that the financial position of co-operative sugar mills was unsatisfactory as various financial ratios were unfavorable. He has also found that debt-equity ratio was high in all co-operative sugar mills mainly because of financing of fixed assets with borrowed capital. He suggested that the

mills should mobilize funds from members in the form of additional shares or fixed deposits to strengthen their working capital position.\textsuperscript{13}

Vilas (1998) has analyzed the “Financial Performance of the Selected Sugar Factories by employing Ratio Analysis for the period from 1979-80 to 1995-96”. He used different financial ratios viz, liquidity ratios, solvency ratios, turn over ratios, efficiency and profitability ratios, financial strength ratios and fixed assets ratios to evaluate the performance of selected private, co-operative and public sector factories in Karnataka. The study found that lowest gross ratio in private sector sugar industries indicating higher net profits and negative profitability ratios in co-operative sugar factories.\textsuperscript{14}

Gaur (1999) has studied the “Working and Financial Viability of Sugar Industry with the help of some Selected Financial Ratios”. He opined that Co-operative sugar mills should operate at optimum level for attaining higher productivity.\textsuperscript{15}

Billur (1999) has studied on the “Staffing Progress in the Ugar Sugar Works Ltd., Ugar Khurd (Belgaum District)”. He has made an attempt to study the background of the factory and person who caused the establishment of the factory at Ugar Khurd. He has dealt with various problems of the personal development. He recommended for recruitment and placement of professional men in manufacturing process for improving performance of the mill.\textsuperscript{16}

Mane (2001) in his study on “A Study of Economic Input on the Farmers in Sugar Co-operative Area of Maharashtra” has analyzed the impact of Sugar Co-operatives on the member-farmers in the selected sugar Co-operatives in

Maharashtra. He found that there was a good increase in their levels of income, savings, investments, employment and self employment opportunities for their family members.\(^{17}\)

Hurakadali (2002) has studied “The Impact of Bank Finance to Sugarcane Growers in Belgaum District” and has discussed bank finance facilities to the sugarcane growers. He opined that the sugar industry has not only improved the standard of living of cane growers, but also made them financially sound.\(^{18}\)

Power (2002) has made an attempt to “Appraise of Personal Policies and Practices in Co-operative Sugar Mills in Belgaum District”. He focused on appraisal of personal policies. He recommended for recruitment policies and placement policies of professional technocrats in the manufacturing process for improving performance of the sugar mills.\(^{19}\)

Kalatippi (2002) has made an attempt to study the “Cost Management in Co-operative Sugar Mills in Belgaum District”. He has focused on cost analysis, cost planning, cost control, cost audit and cost management practice in Co-operative sugar mills. His concluded that cost management had become the bigger problem for Co-operative sugar mills. He suggested that the management should set standard for cost elements and fix responsibilities for each department for better cost management.\(^{20}\)

Kodag (2003) in his study on “New Challenges before Co-operative Sugar Industries in Maharashtra – A case study of Sangli district”, has focused on scenario of Sugar industries in Maharashtra, analysis of problems and new


challenges such as low recovery rate, pricing problem of sugar cane, mismanagement and problems in sugar exports. He found that the Co-operative sugar factories in Sangli district have made positive impact on the Socio-economic conditions of the rural farmers. They play an important role for the development of Co-operative banks, credit societies, irrigation societies and departmental stores. He opined that there is need to control and reduction in production, processing cost and administrative expenses. He suggested that Sugar Co-operative has to do production of by products such as Alcohol unit, Power Generation and Ethanol production units to get additional income to the sugar industries and to cope up with new challenges.21

Jayabal (2003) in his article on “The Challenges of the Indian Sugar Industry” has concluded that the inefficiency and uneconomic nature of production in sugar mills, low yield and short crushing season, high price of sugarcane and heavy excise duties levied by the Government etc., are responsible for high cost of production of sugar in India. The price of Indian sugar is considerably higher than the world price of sugar.22

Palamichamy (2004) in his study on “Administrative Challenges in Sugar Industry” has expressed the view that apart from reducing the working expenditure, the sugar units should also be allowed to diversify their operations to increase the revenue. By-products of sugar mills viz biogas, molasses and press mud should be gainfully utilized for increasing the revenue of the units. There is scope for co-generation of electricity by sugar units and increase the revenue. The author has stressed the need for production of ethanol a byproduct of sugar mills which could be mixed with petrol as approved by the Central Government.23

Namasivayam, Anbuselvam and Kanaga (2005) have made study on “Emerging Trends in Sugar Industry”. They opined that from an era of scarcity of sugar, India moved on to the state of surplus. However, sugar industries in India are not equipped to handle the higher level of production for their economic well-being. The twin objectives of agricultural development and industrialization in India could be achieved only by the successful operation of sugar industry.24

Lokhande (2005) in his study on “Indian Sugar Industry in Post Reforms Era: A Critical Look” has analyzed that in the era of globalization, sugar industry needs more competitive edge which can be infused by way of modernization, enhancing productivity and manufacturing excellent quality sugar at competitive prices. Sugar industry needs quality management at every level.25

Majumdar and Ghosh (2006) in their study on “Sugar Industry – Recent Trends and Outlook” have mentioned that considering the healthy prospects for by products like ethanol and power, the overall outlook for the industry remains positive. They have observed that overall integrated sugar mills besides enjoying greater stability in their revenue streams would be in a superior position to capitalize the expected buoyancy.26

Patil (2006) in his study on “The Economics of By Products in Sugar Industry - A case study of a few Sugar Units of Belgaum District” by using appropriate statistical tools like average and percentage opined that sugar industry discharge so called wastes like bagasse, molasses and press mud are treated to convert them into value added products. More income is generated by

sugar industries and a part if it can be passed to the sugarcane grower and brings more revenue to the Government in the form of Taxes.27

Ganesan (2007) in his article “A Study on Commercial Efficiency of Tamil Nadu Cooperative Sugar Mills” focused that Tamil Nadu cooperative sugar mills faced problems of inefficient asset utilization, low productivity of resources, poor performance of debt management and heavy debt interest burden. He finally concluded that the levy sugar price is not the only cause for the losses incurred by the Tamil Nadu cooperative sugar mills.28

Jugale (2008) in his booklet on “Rehabilitation of Sugar Co-operatives – The Crisis and Remedies” opined that the Co-operative sugar factories have been a source of economic upliftment of farmers’ far decades together. The factories have contributed a lot in employment generation and also providing for education in rural areas. The credit to sugar factories in recent past has posed some challenges before the banking sector and also before the government. The industrial sickness of the sugar units has been a cause of concern and many remedies have been suggested for improving the health of the sugar factories in Maharashtra”.29

Revathy (2008) in her article on “Sugar Industries in India: An Overview”, Southern Economist has opined that India is expected to remain a major global sugar producer and has advantage of favorable climate for growing sugarcane. There is also adequate manpower and training facilities to ensure its efficient performance. Use of information technology has further assisted in the efficient management of sugarcane procurement and mill operations’.30

Dr. APJ Abdul Kalam, Former President of India (2009) in his speech on “The Mission: Vibrant Sugar Industry in the inauguration of 70th Annual Convention of Sugar Technologists’ Association of India at Udaipur” has expressed that one of the key characteristics of sugar Industry in India is the wide fluctuation in annual production of sugar. We have peak installed capacity of 28 million tones and our actual production ranges from 14 million to 28 million tones. Such a situation creates wide fluctuation in demand supply gap leading to continuous uncertainty among sugarcane producers, sugar factories and the sugar consumers. Many times unmet gap is filled through import of raw or white sugar from countries like Brazil and such situation will be problem to farmers, sugar producers and consumers.31

Ramaiah (2009) in his study on “Maladies of Indian Sugar Industry-A Remedy” opined that Sugar industry is the second largest industry in India, next to textiles. Sugar Industry manufactures sugar from cane sugar. Sugar is an essential food commodity. It contributes considerably to the Central and State exchequers. It provides employment to lakhs of personnel and it helps immensely for the socio-economic development of millions of rural population, particularly cane growers in the country. An industry of such significance and importance needs nurture and support for progress and development. Instead, the industry is unfortunately riddled with number of problems and maladies, leading the industry to ill health and sickness. He suggested a remedy which is likely to lead our sugar industry to health and prosperity.32

Borhade (2009) in his study on “Labour Productivity of Sugar Industry in Maharasta” has concluded that India has been known as an original home of sugar and sugarcane. The cooperative sugar industry accounted for a lion’s share in terms of the number of mills and quantum of sugar production not only in

31 Dr. APJ Abdul Kalam, Former President of India (2009): “The Mission: Vibrant Sugar Industry”, Cooperative Sugar, 41 (1)
Maharashtra but also in India. However, after making efforts to a large extent the cooperative sugar industry could not achieve the estimated target. Productivity has a big role to play in increasing production per unit of input. It is the measure of how well resources are brought together in an organization and utilized for accomplishing a set of results. It is the highest level of performance with least expenditure of resources. Increase in production must be accompanied by reduction in the cost of production. Higher productivity ensures greater stability to the concern and help to take expansion projects in changing environment. The cost of labour in the manufacture of sugar is quite a vital proportion. About 30 to 40 per cent of the total earning goes towards the payment of salary. The labour productivity in sugar industry is very low. There are also great variations in the level of labour strength between factories to factory. The actual staff strength in most of the cooperative sugar factories is high. The sugar factories recorded excess employee strength as compared to the staffing pattern for cooperative sugar factories decided by committee appointed by Commissioner of Sugar, Maharashtra.33

Padmanabhan (2009) in his article on “Production of Sugar in India– an Analytical Study” has expressed his view that Sugarcane is one of the most important commercial crops of the country and the sugar industry occupies an important place in the economy of our country. Sugarcane crop provides raw material to over 25 industries and sugar Industry is one of the largest agro based processing industries, responsible for socio-economic development of rural mass and national economy of our country.34

Gurumurthy (2010) in his article on “Indian Sugar Industry- The Decade Past and the Decade Ahead” has revealed that the Indian sugar Industry has to meet the sugar demand of the decade ahead and it has to adopt Mantra of

increased cane yield and uniform increase in cane yield across every sugar mill’s command area and the country as a whole.\textsuperscript{35}

Yogish and Hulikar (2011) in their article on “Indian Sugar Sector – Status and Policy Options” have analyzed that India has now emerged as the second largest sugar producing country with around 20% of share of the world’s sugar production. Sugar industry is the second largest agro-based industry in the country contributing much to the rural economy. Nearly 3.5 lakh workers are employed around 600 sugar mills in India. Government controls all aspects of sugar business and the sugar policy is highly politicized. They have discussed the status of sugar sector with policy options.\textsuperscript{36}

Makandar and Purnima (2011) have made a study on “Sugar Industries in India: An Overview”. Their study revealed that Sugar production is poised to rebound in future as potentially strong recovery in sugar cane, with the financial condition of the sugar mills strengthened by high prices for free-sale sugar in 2009, growers may be more responsive to price support policies announced during 2009-10. Taking all factors into consideration, the Indian sugar industry is poised for rebound in the coming fiscal.\textsuperscript{37}

Patil (2011) in his article on “Liquidity Management: A Case Study of Godavari Bio-Refineries” has opined that liquidity is a pre-requisite for the survival of a firm. Even a very high degree of liquidity is not good as funds will be unnecessary tied up in current assets and thereby hampering the profitability of the firm. Hence a sound financial management policy seeks to maintain adequate liquidity in order to meet its short term obligations as and when they become due without impairing profitability.\textsuperscript{38}

Srinivasa and Mangala (2012) in their study on “Sugar Industry in India” have observed that there is growth trend in the sugar factories in India. But, sugar production was drastically declined from 2001-02 to 2008-09. The non-remunerative and unfair statutory minimum prices of sugarcane from recent years. To boost the sugar industry in India, the Central and State governments have to relax the controls on sugar industry and they have to fix a remunerative cane price to encourage the sugarcane cultivation.39

It has been observed from the review of literature or research work that many have studied the financial analysis of sugar industries in India in general and specified area in particular and a few studies are concentrated on the impact of financial condition on development of sugar industries. The researchers also offered suggestions for development of sugar industries in India and their study area. However, a comprehensive study on the financial analysis of sugar industries in North Karnataka region has not been documented by any of the researchers. The present study is an attempt to fill this gap with particular reference to a few selected private and co-operative sugar factories situated in Bagalkot, Bijapur and Belgaum districts of North Karnataka region under study.

1.5 OBJECTIVES OF THE STUDY
The following objectives have been formulated for the purpose of the present study:

❖ To study the trends and patterns of share capital, fixed assets, current assets, current liabilities, investment and borrowings by Co-operative and Private sugar industries;

❖ To evaluate the financial performance of the Co-operative and Private sugar industries;

• To assess the profitability and economic sustainability of the Co-operative and Private sugar industries;

• To explore the problems faced by Co-operative and Private sugar industries in management of administration and financial aspects and

• To offer policy suggestions for sustained development of sugar industry in India.

1.6. HYPOTHESES OF THE STUDY

• Liquidity position of Co-operative sugar industries is higher than that of Private sugar industries.

• Average share capital, reserve fund, owned funds, current assets, fixed assets, gross income and net profit per unit of Private sugar industries is higher than that of Co-operative sugar industries.

• Average expenditure per unit of sugar production is lower in Private sugar industries as compared to Co-operative sugar industries.

• Financial management in Private sugar industries is more efficient than that of Co-operative sugar industries.

1.7. RESEARCH METHODOLOGY

1.7.1 Nature and Source of Data

This study is sample study of three Co-operative and three Private Sugar Factories from North Karnataka region. Two units from Belgaum district, three units from Bagalkot district and one unit from Bijapur district are selected for study. For the present study, the data is collected from secondary sources such as annual reports, balance sheet, income statements etc. Secondary data for study was collected from the sample co-operative and private sector sugar industries. The data base for the financial analysis was obtained through said published sources. Personal discussions have been also made with the officials concerned of the sugar industries for collection of additional and supplementary information to support the annual reports. Besides these, other pertinent information has been
obtained from the relevant research studies, books, magazines, Sugar Journals, Sugar India Year books, District Statistical Reports and Directory of the Indian sugar factories.

1.7.2 Study Area

According to the High Power Committee for Redressal of Regional Disparity headed by Dr Nanjundappa Report 2002, Karnataka state has been classified into two parts i.e. Northern part of Karnataka and Southern part of Karnataka on the basis of socio-economic development. North Karnataka part consists of 13 districts, amongst which 3 districts viz. Belgaum, Bagalkot and Bijapur have been selected for the present study. These districts were purposefully selected keeping in view the rural nature of these districts. About 70 % of the population of these districts depends upon agriculture. Most of them engaged in growing sugarcane. Due to growth and expansion of sugar industries, they provide subsistence to sugar cane growers and their families. An area under sugarcane cultivation and the yield per hectare in these districts are the highest in the state. A maximum 55.85 % of cropped area is under cultivation of sugarcane in these districts. The percentage wise share of these districts in the total sugar production of Karnataka was 68.48 %. These districts have the Lion’s share in the production of sugar in the state. There are 31 sugar factories located in these districts, out of which the study confines to two sugar factories in Belgaum district, three sugar factories in Bagalkot district and one sugar factory in Bijapur district.

This study focuses on financial analysis of selected sugar factories for comparative study of Co-operative sugar factories and Private sugar factories in order to study the financial health, profitability and efficiency of these sugar
factories selected for the study. The sugar factories selected for the study are shown in Table 1.1.

### Table 1.1

**List of Sample Sugar Factories in North Karnataka Selected for the Study**

<table>
<thead>
<tr>
<th>Name of the Sugar Factories</th>
<th>Capacity</th>
<th>District</th>
<th>Year of Establishment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-operative Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) Sri Doodaganga Krishna Sahakari Sakkare Karkhane Niyamit, Chikodi (SDK)</td>
<td>5500 TCD</td>
<td>Belgaum</td>
<td>1974-75</td>
</tr>
<tr>
<td>2) Nandi Sahakari Sakkare Karkhane Niyamit, Krishnanagar, Hosur (NSM)</td>
<td>5500 TCD</td>
<td>Bijapur</td>
<td>1992-93</td>
</tr>
<tr>
<td>3) Ryatar Sahakari Sakkare Karkhane Niyamit, Ranna Nagar, Timmapur (RSSK)</td>
<td>5000 TCD</td>
<td>Bagalkot</td>
<td>1998-99</td>
</tr>
<tr>
<td>Private Sector</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1) The Ugar Sugar Works Ltd., Ugar Khurd (USW)</td>
<td>15000 TCD</td>
<td>Belgaum</td>
<td>1943</td>
</tr>
<tr>
<td>2) The Godavari Sugar Mills Ltd., Sameerwadi (GBR)</td>
<td>15000 TCD</td>
<td>Bagalkot</td>
<td>1972-73</td>
</tr>
<tr>
<td>3) Sri Prabhulingeshwar Sugar &amp; Chemicals Ltd., Siddapur (PSCL)</td>
<td>10,000 TCD</td>
<td>Bagalkot</td>
<td>1999</td>
</tr>
</tbody>
</table>


### 1.7.3 Period of the Study

The study is spread over a period of six years commencing from 2003-04 to 2008-09. For the purpose of analysis, the financial information offered by sample sugar industries from 1st April 2003-04 to 31st March 2008-09 have been only taken. However, latest information will be included wherever required and made available.

### 1.7.4 Analysis of Data

In order to get the inferences, the data collected were properly classified, tabulated and analyzed with the help of statistical techniques like percentages, ratios, average, annual growth rate, compound growth rate, figures, graphs, charts, maps and representations have also been made to make the data easily understandable. The methodology for the study has been spelt out at appropriate places in the respective chapters of the study.
1.7.5 Financial Tools or Techniques Employed

Keeping in view the objectives of the study, the data collected from the secondary sources were subjected to financial tool/technique of Ratio Analysis to evaluate the financial performance of selected sugar factories. Ratio analysis is one of the widely used tools of financial analysis. It is defined as the systematic use of ratios to interpret the financial statements so that the strength and weakness of a firm as well as past and present financial performance can be judged. The various ratios employed in the study are liquidity ratios, solvency ratios, activity ratios and profitability ratios.

1.8. IMPORTANCE OF THE STUDY

The importance of the study is to analysis the financial statements of selected Co-operative and Private Sugar Industries in North Karnataka region in order to reach conclusion about their financial health, profitability and efficiency. This helps to determine the significance and meaning of the financial statement data so that forecast may be made of the future earnings, ability to pay sugar cane price, debt maturities either current and long term, profitability or a sound dividend policy. This study is also important to judge the earning capacity, performance efficiency, financial position, ability to pay of selected sugar industries under study.

1.9. LIMITATIONS OF THE STUDY

The study is restricted to only six sugar factories from Belgaum, Bagalkot and Bijapur districts of North Karnataka region. Three Co-operative and three Private Sugar Factories have been selected for this study. The Co-operative Sugar Factories viz. Shri Doodaganga K.S.S.K.N, Chikkodi (SDK) from Belgaum district, Nandi S.S.K.N, Krishnanagar (NSM) from Bijapur district and Ryatar S.S.K.N (RSSK) from Bagalkot district, the Private Sugar factories viz. The Ugar Sugar Works Ltd, Ugar khurd (USW) from Belgaum district, Godavari Bio refineries Ltd (GBR) from Bagalkot district and Sri Prabhulingeshwar S & C Ltd,
Siddapur (PSCL) from Bagalkot district have been taken in to consideration for the present study which are working for more than ten years.

The financial standard data are not exact and have therefore to be treated with great caution. Financial statements are generally based on historical or original cost and the findings drawn may not be generalized. While comparing the ratios of a particular sugar factory with those of other factories, the difference in methods of accounting operation and financing between the sugar factories should be recognized.

1.10. ORGANISATION OF THE THESIS

The thesis is organized into seven chapters: Chapter 1 presents the introduction, objectives of the study, review of literature, methodology, source of data, hypotheses of the study, limitations of the study and organization of the thesis. Chapter 2 deals with the conceptual framework for financial analysis focusing on the meaning, types of ratios, significance of financial analysis and conceptual diversity. Chapter 3 focuses on the socio-economic profile of the study area, i.e., Belgaum, Bagalkot and Bijapur districts of North Karnataka region. In chapter 4, the detailed profile of sugar factories under study is given. It includes the growth and historical profile of sugar factories, manufacture of by – products and socio-economic activities of concern factories. Chapter 5 provides a comparative study relating to trends and patterns of expenditure of private and co-operative sugar industries. Chapter 6 is in respect of a comparative analysis of performance of private and co-operative sugar industries relating to liquidity ratios, leverage ratios and profitability ratios. Last chapter presents a summary of important findings of the study, policy suggestions to increase competitiveness of sugar industry in the context of globalization and conclusion.

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