Chapter III

REVIEW OF LITERATURE

A number of researchers have worked on the various aspects of sugar industry such as development, problems of the industry and its prospects, labour situation in the industry, management problems, financial structure, government policy and regional planning for sugar industry area, the importance of sugar factories in the rural economy and such other aspects of the industry have also been probed into.

A brief review of the work done in this context is summarized below

Shirodkar (1967)\(^1\) Concluded that the cooperative sugar factories have provided stability to the agricultural income by reasonable and guaranteed price, which has also resulted an increase in sugarcane production. These cooperative sugar factories provide various inputs to the agriculturists. He suggested that the cooperative sugar factories should be established in backward areas so that the backward area can get a chance of it’s all round development since the cooperative sugar factories play the role of agencies for rural development. In his work the impact of cooperative sugar factory on agriculture of the Kolhapur district has been analyzed by the author. The problems relating to organization, finance, raw material, availability have not been dealt with.

Malayadri (1975)\(^2\) stated that the sense of consciousness among people at all the levels has been affected due to the cooperative sugar factory. He has considered the impact of cooperative factory on the pattern of sugarcane cultivation. The effect of the sugar factory on irrigation facilities, mobilization of rural saving, employment in rural areas, labor welfare and growth of rural areas has also been studied.

According to Thaper (1976)\(^3\) some of the peculiar features of the sugar industry are as follows,

a) The industry is seasonal.

b) Duration of season varies from one factory to the other and also from year to year.

c) Sugar content, in cane and its recoveries also varied randomly from one factory to the another and

d) Variation in capital investment.

Apart from the problem of cyclical nature of production of sugar, variations in capital investment and sugar recovery, the sugar industry experiences interstate difference in the cost of production per unit of sugar.
The cost of production per unit as estimated by Pothuwal (1972) in U.P. and Dhanuka (1976) in Bihar varied between Rs. 107.05 and Rs. 270.00 per quintal, the highest and the lowest being in Uttar Pradesh and Bihar, respectively.

Mohite (1976) stated that, the rapid growth of sugar industry has been helpful to a great extent in stabilizing sugar production and in reducing, chronic shortage of sugar in the country. The co-operative form of organization has lent itself on a powerful instrument in the development and mobilization of natural human and financial resources of the state towards sugar industry and has helped in reducing the backwardness of the country by improving the socio-economic conditions of rural areas in the state.

The co-operative sugar factory of 1250 TCD (Tones Crushed per Day) has got the employment potential of 400 permanent workers and 800 seasonal workers in the factory for the harvesting and transport of sugarcane. 6000 male and female, 100 trucks and 800 bullock carts are employed for a period of nearly six months.

Ramesh (1980) stated that the sugar industry in India is the second largest processing industry in the country next to textile only. There are 320 factories producing annually 65.70 lakh tones of sugar. The aggregate assets of the industry are more than Rs. 1300 corers. About 30 million cultivators are engaged in growing sugarcane and supplying the same to sugar factories. The sugar industry disburses about Rs. 800 corers annually towards the sugarcane price. It contributes more than Rs. 300 corers annually to state. It also controls exchanges socio-economic development of rural area. The prosperity of our vast population residing in the villages.

Tupe (1980) studied in detail the impact of the Sanjivani Cooperative Sugar Factory in Ahmednagar district on agriculture, agriculturist, on the lives of agricultural labor, economic condition of factory worker and spread effect of the sugar factory and overall economic change in rural areas. He concluded with the findings that sugarcane being the cash crop, area under sugarcane has increased, the area under irrigation has increased and likewise the change in the cropping pattern and methods of farming have changed. It is argued that the development of agriculture depends on major agro based industries. The real income of the farmer has increased by the author that sugar factory in rural areas has worked as a growth centre.

Mane (1981) stated that sugar co-operatives had blazed trial in efficiency only to accelerate economic improvement of the farmers. There has been increase in
the level of their income saving, investment mostly in productive assets, possession of farm machinery, credit worthiness and employment opportunities.

Anon (1984)\textsuperscript{9} showed that India was perhaps the only country in the world with very big co-operative base in sugar industries. Out of the total installed capacity of 67.87 lakh tones of sugar production, the share of the co-operative sector was 36.68 lakh tones.

Rao Birendra Singh (1985)\textsuperscript{10} said that the licensing policy for setting up new sugar factories on expansion of existing sugar mills would be reviewed soon in the light of 7\textsuperscript{th} five year plan requirement. However, the minister added that the sixth plan policy of giving licenses, first to co-operative sector followed by the public sector and private sector might be continued.

Jain (1987)\textsuperscript{11} revealed that a large number of joint stock sugar mills are concentrated in Uttar-Pradesh. On an average size sugar plant receives cane supplies from as many as about 40,000 growers who have small holding and constitute a significant segment of our rural population. Against, this number of sugarcane growers is much smaller in Maharashtra and Gujrat where the sugar industry is mostly in the co-operative sector. It has to be appreciated that economically backward areas with large concentration of sugarcane growers having small and holding need to be essentially given priority. Whereas in Maharashtra and Gujrat the sugar industry is mostly in the co-operative sector given priority considering in the matter of short term loan for cane development.

Kasar and Tilekar (1989)\textsuperscript{12} indicated that the sugar industry has significant impact on the employment of seasonal migrants in Maharashtra. The share of sugar factory employment was to the extent of 45.51 and 75 per cent in the total employment of an average male, female and bullock pair of the migrant household. The seasonal employment provided by the sugar industry enable the migrant households to increase their income to enjoy slightly better position as compared to the non-migrants under study. Therefore, the policy has been endorsed for the installation of agro processing industries based on local raw produce in rural areas in order to generate employment and income opportunities for the economic development of weaker sections.

Jugale (1994)\textsuperscript{13} concluded that irrespective of the low wages, the workers are being exploited at various levels. Migration from drought to the destination of sugar belt is a continuous phenomenon. Even if the workers refuse to migrate, the CSE will
be in a very difficult position, because at the local level such labor force is not sufficiently available. The CSFS begin their crushing; they guess the rate of migration to their agreement with the contractors of the workers, which is because of the changed industrial relations. By the way the Sugar Industry is swinging because of growing sickness, lack of quality of raw material, changing attitude of the farmers and unfavorable policies towards Sugar Industry.

Mangal Singh (1996)\textsuperscript{14} in his paper viz. ‘Sugar Industry in India An Overview’ discussed industry regulation, development of sugar industry In India, government incentives for promotion of new projects and expansion status of technology and upgradation, etc. From this he concluded that the sugar Industry in India is in rapid phase of growth and is poised to maintain its first position as the highest producer of sugar in the world and should be in the export market soon in sizable way in next future.

Weragoda (1997)\textsuperscript{15} while studying sugar industry development, trends and challenges in Srilanka indicated that the high cost of establishing new factories and the limited availability of suitable land for sugarcane cultivation a hindrance to the expansion of the sugar sector in Srilanka. However, development of the domestic sugar industry would pave the way for the generation of employment and save foreign exchange to a great extent.

While analyzing the rate of the growth in the production of sugar, the present trend of per capita consumption and the annual population growth, it is evident that Srilanka would continue to be a market for sugar producing countries.

Ambhore (2004)\textsuperscript{16} to solve problem of sugar industries both central and state Governments took strong decision to cancel or less excise duty on sugar, to cancel sugarcane purchase tax, to give the subsidy on export, to cancel tax on molasses, etc. The government has also taken decisions to control import of sugarcane from other country and to fewer subsidies on European countries sugar.

Kamat (1965)\textsuperscript{17} studied the management of cooperative enterprise with special reference to sugar cooperatives in Maharashtra and recorded various problems related to finance, raw material, personnel, etc., of cooperative sugar factory and concluded that if managed properly, they can play an important role in rural development.

The Government of India appointed a committee to study the problems relating to inadequate supply of sugarcane to sugar factories in Maharashtra in (1975)\textsuperscript{18} under the chairmanship of Shri S.V. Sampath. The committee recommended
measures for cane development, proper zoning for sugarcane area and some directives in license to new units.

In 1980 the Government of Maharashtra appointed a committee under the chairmanship of Gulabrao Patil, the Reform Cooperator to study the problems of sickness of cooperative sugar factories in Maharashtra. This committee submitted its report in (1983)\textsuperscript{19} and made various recommendations to the government to overcome the problem of sickness of the cooperative sugar factory in Maharashtra. The committee had recommended that state government should give financial help to sick sugar factories in the form of exemption in the cane purchase tax and to take effective steps for cane development. The committee identified the sick cooperative sugar factories from Maharashtra and the reasons of the sickness and made the recommendations to solve the problems of these factories.

The committee which was appointed to make recommendation for the formation of zones for drawl of sugarcane by sugar factories in Maharashtra by the state government of Maharashtra in 1981, submitted its report in (1983)\textsuperscript{20}. Besides recommending specific zones for the factories in the state, the committee recommended that sugar factories should undertake effective steps for cane development to which state government should provide necessary banking.

According to Rao (1981)\textsuperscript{21}, the factors like inability of sugar factory to operate at the rated capacity during the season, quality of the management and over capitalization in cooperative sugar factories in Maharashtra state to become sick.

Hinge (1984)\textsuperscript{22} after studying the problems of sick cooperative sugar factories in Maharashtra recommended that the overall inefficiency in managing the sugar production activity is the root cause of the phenomenon of sickness in the cooperative sugar industry. Suitable measures/punishment may be advocated in order to control the present practices of mismanagement in the cooperative sugar factories.

Singh (1984)\textsuperscript{23} concluded that it is easy to see that there is enough scope for improving the efficiency of sugar factories by introducing instrumentation and controls. However, it is very important to have the right maintenance staff for maintaining instruments in working order otherwise the investment would be lost. An erratic instrument is more dangerous than no instrument at all. Hence, it is imperative that instruments engineers and mechanics are recruited and trained. There is a lot of resistance when any new thing is introduced anywhere, this is only to be expected. It
Review of Literature

is for the top management to support and nurture all modernization returns, so as to increase factory efficiency and productivity.

Srinivasan (1985) concluded that it is a sad and ironic fact that the rapid growth in the country’s sugar production and consumption instead of bringing buoyancy has crippled the viability of many units, the chief villain of sickness is the lack of objectivity on the part of parameters. Managerial deficiencies have multiplied the misery.

Venkatraman (1985) delivered a seminar on achieving uniform recovery throughout the season at Bangalore in which he concluded that to increase the sugar production reduces the cost of production of sugar which will ultimately leads to profitability of the mills and at the same time make the farmer get a good price for his cane, it is necessary that the difference between the peak period recovery and the average recovery for the season should be brought to the minimum which is possible only if the recoveries during the early part and the late part of the season are improved.

Various methods towards achieving the goal such as the part played by the variety, its inherent nature, manipulation of the age of the crop at harvest, selective harvesting, timely application of fertilizer, water management.

Ramchandra Reddy (1988) through his paper in financial management the experience of co-operative sugar factories in Tamilnadu pointed out that procuring sufficient amount of working capital has become increasingly difficult under the credit squeeze policies adopted by the Reserve bank of India working capital, therefore should be managed effectively. The Practice of cash management reveals that the cooperative sugar mills in Tamilnadu carry cash balance to meet their day to day obligations.

Daman (1989) defined the term management as it is the area and science of organizing and directing the resources of an enterprise towards the achievement of its objectives. He also indicated that in a cooperative the management structure as a whole consists of components viz., general membership, elected boards or committees and (casually employed) managers.

Chauhan (1993) indicated the problems and prospects of cooperative sugar mills in Gujrat as regards to managers and workers, the problem of purchase tax on sugarcane based on its prices, shifts in governmental policies on licensing of sugar
Review of Literature

factories, shortage of sugarcane molasses storage and distribution, efficient disposal and by product utilization, delay of cane payment, low sugar recoveries per hectare.

Narasaiah and Jayachandra (1996)\textsuperscript{29} by conducting study on cash management in a co-operative sugar factory exhibited that there must be adequate cash and bank balances to meet day-to-day operations. The amount of cash and bank balances should be raised from long term resources for efficient utilization. For smooth functioning of the factory, it should maintain current ratio above the standard ratio of 2:1. The factory must increase its liquid assets to meet current liabilities. He also stated that, the financial executives should maintain liquidity and profitability more effectively for efficient cash management.

Baviskar (1997)\textsuperscript{30} while studying ‘Sickness in co-operative sugar factories’ indicates that mismanagement is one of the main cause. The performance of the sugar factory is depending on the efficiency and effectiveness of the management. Also there should be positive approach for the overall progress of the factory. Most of the factories are sick due to lack of good management. The impact of decisions taken by management leads to progress or sickness of the factory. It is management’s duty to take only such decisions which are beneficial to the factory particularly purchase producers should be followed strictly. Stores inventory should also be according to the norms.

Patil (2000)\textsuperscript{31} suggested that efforts should be made to motivate the farmers within jurisdiction under cane development activities nurseries at factory site be expanded so that the seed of high yielding variety will be made available to the cultivators. The inputs like fertilizers be provided by the factory at appropriate time and required quantity. Finance for this purpose also be provided and factory management should maintain numbers of labors in the factory according to norms given by Sekhar Singh. It will reduce the expenses on wages and salaries and other activities.

Keerthipala and Thomson (2000)\textsuperscript{32} revealed that the existing cane payment systems adopted by Srilankan sugar companies do not offer incentives for the farm producers to produce high quality cane or for the companies to improve their processing efficiencies no they are designed in split proceed from sugar and by products between farmers and the company in proportion to their economic contributions to the overall cane production and manufacturing process. The authors further developed an alternative formula to overcome these shortcomings, which
increases the cane price for the farmers in three sugar companies and both farmers and companies receive more equitable shares of proceeds.

The Reserve Bank of India in (1961)\textsuperscript{33} conducted the study on profit related to the assets of the companies in the sugar industry for the period 1955-1959. This study revealed that the profitability of the companies increases with the size of assets. The study was conducted under the chairmanship of Shri. Gundurao. He is expert on the sugar industry. In this study, the measures of rehabilitation and modernization of sugar factory have also been brought out. Pittie (1975)\textsuperscript{34} concluded that the production of sugar from newly established units was uneconomical as setting up of new units was highly capital intensive and the maximum capacity utilization was the only solution for overcoming the problems of low returns from new sugar units.

Ferron (1976)\textsuperscript{35} has rightly said that there is a necessity of determining the most economic size of sugar mill in order to safeguard the industry from the problems of diseconomies. The basic consideration in determining the milling capacity of sugarcane mill must, therefore, be illustrated as the basis of production costs and performance figures of factory.

Mittal (1976)\textsuperscript{36} recommended rehabilitation and modernization of sugar factory to improve economic position of sugar factory. He stated that economies of sugar factory can be improved by adoption of new techniques to reduce losses of sugar, labor saving devices, fuel saving devices, addition –of preventive maintenance techniques, reduction in stores consumption, utilization of by products and expansion of capacity.

Phadnis (1976)\textsuperscript{37} while stressing the need for optimum capacity, rightly said that as size of plant increases beyond a certain limit there exist diseconomies of scale due to inefficient management of the plant. If the factory runs at optimum capacity, there will be efficient management which ultimately leads to reduce the cost of production and also to maintain consistently high price to cane growers.

Pawar (1977)\textsuperscript{38} found that the per unit profitability of sugar production was low in the large sized factories as compared to the smaller ones. The large sized factories, however, were at advantage in economizing manufacturing expenses and overhead costs provided the sugarcane price and excise duty remained the same for all the factories.
Kawade (1977)\textsuperscript{39} found that the supplies of sugarcane to the large factories are insufficient in relation to installed capacity thereby resulting into under utilization of installed capacity, low rate of return on capital investment and diseconomies of scale.

Shinde (1981)\textsuperscript{40} stated that the escalation in the cost of plant, machinery and civil workers has been a major source of sickness and a new cooperative sugar factory requires 5 years to break even. Till that time it incurs annually a loss of Rs. 25 to Rs. 40 lakh. The losses accumulated rapidly due to high interest rate and the units fall sick.

Athare (1982)\textsuperscript{41} found that the rate of return on capital investment was comparatively high in large sized sugar factories. In case of small sized sugar factories, the rate of return on capital investment was observed to be less than the market rate of interest even for productive period of 20 years. In case of the medium sized factories, however, it exceeded the market rate of interest provided the productive period remains at 15 years and above.

Waghmare (1993)\textsuperscript{42} while studying performance of Shri. Chhatrapati Cooperative Sugar Factory, Bhavaninagar (Pune) concluded that there was increase in the area, production and recovery percentage of the sugarcane in the jurisdiction of the sugar factory. The sugarcane produced by the members constituted around 70 percent of the total sugarcane crushed by the factory and remaining 30 percent of the total cane crushed was brought from outside of the operational area of the factory to have full utilization of the installed capacity. It resulted in low cost of production of sugar and better prices for sugarcane to the members.

Rao (1993)\textsuperscript{43} concluded that the cost of maintenance has increased at a higher rate of growth than that of growth in sugar production and it is more during 1976-1984. Hence, management and technologists should take necessary steps to rectify the bottleneck so as to improve the efficiency of the industry and to make it competitive in an open market economy.

Dhanuka (1977)\textsuperscript{44} found that the government comes to the rescue of an industry only after it becomes considerably sick and thus the recovery from sickness becomes very difficult and expensive too. The sickness in the industry is due to the defective policy of the government while giving the reasons for making sugar the most costly and increasing the losses of sugar factories he revealed that high stock of sugar in inventory was one of the important reasons for this. Hence, according to him inventory control was one of the important factors in sugar factory.
Poturan (1977)\textsuperscript{45} studied the possibility of bagasse saving for fuel economy and molasses utilization in fermentation industries and as animal feed. He concluded that through utilization of by products, the revenues of sugar estates can be increased significantly.

Manohar Rao (1980)\textsuperscript{46} rightly pointed out that at the current international prices of sugar and molasses, every sugar producing country has a strong reason to convert sugarcane into sugar and molasses to earn foreign exchange required for keeping up the balance of trade. It may be even economical to import crude oil of the foreign exchange earned by export of sugar and molasses. However as the international price of sugar is fluctuating widely and for reducing the dependence on other countries for import of crude oil gradually for political reasons, the sugar producing countries may have to convert the molasses into alcohol and also consider the possibilities of converting a part of the sugar juice into alcohol. He further concluded that it was more economical to convert sugarcane into sugar and molasses and to use molasses as raw material for production of ethyl alcohol. The economies of these activities will, however, largely depend on the international price of sugar, molasses and ethyl alcohol.

Pathak (1981)\textsuperscript{47} indicated that in view of the current shortage of sugar and the relative pricing of sugar and alcohol, it is not practicable to either grow sugarcane for alcohol production or to divert more sugar for the production of power alcohol. The escalating petroleum prices and its global shortage can create economic compulsion in future to put more areas under sugarcane so that large quantities of power alcohol can be produced.

Jain (1996)\textsuperscript{48} indicated that comprehensive use of sugarcane through its by-products and other value added products is one of the principle lines of action that sugar producing countries are attempting these days. India has made a significant leap in this direction.

Baggase, the residue after extraction of juice is rich in cellulose fiber which is a major source of energy and power besides being the major substitute as raw material for wood and bamboo used in the paper and pulp units. There are a number of captive paper plants in operation in many sugar mills with 30 to 50 tones capacity per day. But they have not been found to be economically viable as compared to the normal size paper plants in sugar factories and this trend is catching up. Molasses the other important by-product of the sugar industry is the store-house of organic chemicals.
These chemicals can be produced in medium scale industry capable of quick exploitation vis-à-vis mega units producing similar organic chemicals based on Naphtha.

Vivek Sarogi (1996) while studying ‘Problems and Prospects of the sugar industry’ discussed molasses problems. In this he revealed that the large sugar production in 1995-96 has also created a serious problem of disposal unprecedented stocks of molasses has not been adopted in all the Northern Indian states. There the problem of disposal of molasses stocks has assumed serious proportions. In some instances, molasses tanks have burst last summer resulting in a loss of human lives a part from financial problems. If immediate corrective measures are not initiated, many sugar mills, particularly in North India, may be forced with premature closure because of the non-availability of storage space for molasses. Almost their entire available space is already bulging with large molasses stocks.

Mizerska (2000) revealed that provisions of several recent environmental laws enacted in Poland has influenced on the waste produced by the sugar industry. Chemical analysis showed that various types of waste produced by sugar factories can be used for soil improvements. This waste includes sediments from the fermentation process and from waste water and soil washed of harvested sugar beet.

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