CHAPTER II

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INTRODUCTION

In the world more than 75 countries are involved in sugarcane production. India has made remarkable forward strides in sugarcane and sugar production. Sugarcane is cultivated in about 2 percent of gross cropped area and its value is estimated to be 7 per cent of the total value of agricultural production in India. It is reported that about 35 million growers are engaged in sugarcane cultivation. In India sugarcane is cultivated on the irrigated lands in almost all states except Himachal Pradesh. The total area under sugarcane in Tamilnadu is 263 thousand hectares in 2000. The estimated production is 2336 thousand tonnes i.e., about 10.5 per cent of total production in the country. The sugar industry is the second largest amongst the agro based processing industries in the country. It has a great bearing on the socio-economic base of the Indian rural economy. There are about 427 sugar factories. These factories receive cane supplied from 35 million cane-growers and about Rs.5000 million is paid to them as cane price. The total production of sugar is about 15.0 million tonnes. The installed crushing capacity of sugar mills in Tamilnadu is about 12.00 lakh tonnes i.e., 10 per cent of the total canes crushed in India.

REVIEW OF STUDIES

Several individuals, institutions and expert committees have conducted studies and made observations on cooperative sugar mills. Apart from the analysis of the working of the sugar mills in a few sugarcane regions, they have also probed one or other issues pertaining to the functioning and the impact of such mills on their command area. To know how far the ground is already
prepared, to find out lacunae therein and to pinpoint the other issues for research especially w-r-t operative management, a review of literature is attempted in this chapter.

**CATEGORY OF STUDIES**

A survey of studies on the subject shows a marginal coverage of the following aspects:

(i) Feasibility studies
(ii) General working/functioning/role
(iii) Benefits/Services
(iv) Impact/positive efforts
(v) Capacity utilisation
(vi) Policies/strategies
(vii) By product use
(viii) Attitude of cane growers, their loyalty aspects etc.,
(ix) Financial, profitability aspects
(x) Mill Labour/personnel aspects
(xi) Price aspects
(xii) Factors responsible for success or otherwise.

For the purpose of review, the available literature is classified under the above categories and reviewed hereunder.

**FEASIBILITY STUDIES**

The committee on cooperative processing appointed by the NCDC and warehousing board has observed the feasibility of forming cooperative sugar mills in the context of promoting sugarcane marketing and linking of production loan with product marketing. Their report has provided a brief historical perspective of sugar mills in India and the share of cooperative sugar
mills in total sugar production (i.e., 53.9 per cent). It has also offered suggesting w-r-t planning and organisation of sugar factories in cooperative sector, method of meeting block and working capital requirements and nature of business operation to be carried on (NCDC, 1961).1

Starting of sugar mills influence rural, entrepreneurships and pave way for social change and economic development. The Sugar Enquiry Commission formed by Government of India has pinpointed the significance in the establishment of cooperative sugar mills in the sugarcane belts of Maharashtra State. The setting up of cooperative sugar mills in that state has also nucleus for social and economic development of their command area. They have also helped to develop a new class of rural entrepreneurs (Sugar Enquiry Commission, 1965).2

The uses of computer and EDP have penetrated deep into all sectors and in all types of industrial establishments. In this context, one individual researcher has observed that the expansion of the organisation at all levels has added many complications. Therefore a basic frame work of system design and strategy for computerisation of sugar cooperatives is a sine-quo-non. The possibilities for the use of computers are very vast in sugar units. Therefore selection of an appropriate software and hardware for all the sugar factories is uniformly desirable. Such a measure is bound to improve the Information Technology network in sugar factories. (Chattopadhya, 1994).3


GENERAL WORKING/FUNCTIONS/ROLE

A study on the working of Salem District Cooperative Sugar Mills at Mohanur was made by an individual researcher. He has observed the growing importance in the successful working of cooperative sugar mills. A brief account of the general working of the selected unit with special reference to its pattern of membership, capital structure, extent of benefits derived by the member-growers and production and marketing of sugar and by products are examined in this case study (Krishnamurthy S., 1970).4

Another case study on the role of Wamanagar Cooperative Sugar Factory in Maharashtra State has focused attention on its functioning with reference to the enhancement of sugarcane area, supply of seeds, fertilizers, credit, technical guidelines in planning, operation, guidance in water management, soil treating facility, cane maturity survey, harvesting, transportation facilities etc., (Taimni, 1978). The role of this unit in the provision of irrigation facilities through lift irrigation societies, its plays a vital role in the extension of socio economic benefits like Education, Health, Departmental stores, Dairy and Poultry, through appropriate cooperatives. The need for bringing additional land under sugarcane, modernisation of sugarcane production and assurance of reasonable returns for sugarcane growers is also stressed in this study (Taimni K.K., 1978)5.


5 Taimni, K.K., Role of Cooperation in Rural Development – Case Study of a Sugar Cooperatives, Cooperative Perspective, Vaikunthmelata National Institute of Cooperative Management, Pune, No.1, Apr-June, 1978.
The operation/function and performance of Hutatma Kisan Ahir cooperative Sugar Factory, Walva was studied by a few Research scholars (Joshi etc., 1992). They identified that there was over utilisation of the crushing capacity of that sugar factory. There was an increase in the area, production and productivity of the sugarcane over the years in the jurisdiction of the sugar factory. The sugarcane produced by the members constituted more than 60 per cent of the total sugarcane crushed. Its utilisation capacity had increased to 140 per cent. Such a higher capacity utilisation resulted in low cost of production of sugar and better prices for sugarcane supplied by the members. 

The cooperative sugar factories have a good potentiality to help the sugarcane growers. So the government has moulded its policies to give licence to new sugar mills in favour of cooperatives, which produce about 60 per cent of the sugar production in the country sugar mill have an important role. The cooperative sugar factories are ahead of the public and private sector units in production efficiency. There is a scope for more achievements through more professionalisation i.e., management through professionally trained personnel (Bajanlal, 1989).

The role of cooperative sugar factory and agricultural development in the Ganga Nagar region in Kothapure District of Maharashtra was studied by an individual researcher (Patel Rajendran, 1985). He observed that the Panchaganga Cooperative Sugar Factory Limited had emerged as nucleus of decentralised agro economic development and acted as a catalytic agent of

socio-economic transformation of the rural communal area. The benefits of Cooperative Sugar Factory were reacted mostly to the small farmers. This factory has introduced various programmes for cane development, promotion of irrigation and allied facilities, development of dairying, farming for Harijans and grants for sugarcane cultivation, social forestry etc. All these helps have paved way for the agricultural development in its command area.8

The sugar cooperatives of Maharashtra benefited the rich and influential local farmers. The cooperatives were used as instruments by the members, who being politically strong enough to ensure better price for their produce and easy availability in inputs like fertilizers and pesticides. Even many high posts of the factory were offered to these members and their relatives. Their members contributed a strong political lobby in the state politics. They were even capable of organising peasant movement which benefited rich farmers and the sugar cooperatives (Jim Matson, 1982).9

**STUDIES w-r-t BENEFITS/SERVICES**

The economic benefits of a cooperative sugar mills in Maharashtra region were analysed by a researcher (Karachi 1977) in quantitative terms. This study has observed that the sugar factory under cooperative sector of 1250 TCD capacity has created an employment potential of 400 permanent workers and 800 seasonal workers in the factory itself. For the harvesting and


transporting of sugarcane 600 male and female casual labourers; 100 truck and 800 bullock carts were employed for a period of nearly six months.\textsuperscript{10}

The theoretical as well as practical advantages of cooperative sugar mills in its command area are highlighted in another study (Mahalingam.S. 1980). The actual benefits derived from the cooperative sugar mills, the remunerative prices to the farmers and consequent changes in their cropping pattern, additional employment opportunities in the area and development of their industrial and business activities in and around cooperative sugar mills are also narrated in this study.\textsuperscript{11}

Maharashtra is considered to be a cooperatively developed state in India. The specific benefits of cooperative sugar mills in this state were studied by an investigator terms for the success of H.C.Sharma. There were about 92000 cooperatives of all kinds with a membership of 2.3 crores. There were 116 factories registered under the Cooperative Societies Act and among them 90 factories were under production with a membership of 7.5 lakhs of which 6.9 lakhs were cane growers. Hence the sugar coops in Maharashtra had established a sound organisational structure. Various ancillary units such as super markets, paper factories, distillery plants, cooperative dairying, cooperative poultry etc.,

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were also developed. Efficient leadership contributed for the development of cooperative sugar mills and their main benefits to people. (Sharma, 1991).  

Cooperative sugar factories provided knowledge on variety of canes, application of fertilizers, plant protection management and field preparation etc., to farmers (Pandya, 1994)  

"Economic Advancement of Women from Rural Area through Sugar Cooperatives" was examined in a study (Pawar, 1988). It was reported that out of the total 98 sugar factories in Maharashtra 18 (13 cooperatives and 5 private) sugar factories located in Ahmednagar District. All the works like the preparation of land, keeping sugarcane seeds in the farrons, weeding, application of fertilizers, harvesting, loading etc., were done by women were praiseworthy because of their efforts the rural Ahamednagar District. It further observed that these members voluntarily agreed for a deduction of some amounts per tonnes of cane supplied i.e., not refundable deposit which is used for the development of educational institutions, medical, communication and other facilities.  

The irrigation and agricultural development through cooperative sugar factory were also studied in another study (Deshmukh, 1987). This study was w.r.t. Warana Sugar Factory in Kolhapus. This cooperative factory was set up with 100 MT per day in 1955 and subsequently raised to 300 MT per day.

There were more than 10060 members in June 1986. Agricultural Development largely depended on the availability of irrigation facilities, because water is the key input for cultivation. The factory took over 7 sick cooperative lift irrigation schemes. The factory also had an independent agricultural development department and a separate irrigation department. For the agricultural development this factory provided assistance helps for the execution of wells, supply of seeds, supply of balanced fertilizers, green maturing, supply of cake, establishment of Gobar gas and bio gas plants and also implemented a sugarcane pilot project.  

**IMPACT STUDIES**

The Political and economic developments consequent to the introduction of sugar industry in Maharashtra was also examined (Baviskar, 1980). Apart from a descriptive account on the general working profile of cooperative sugar factory in Kopargam Taluk of Maharashtra State, the researcher has examined the development in the context of provision of stable and better output to member growers and also examined cooperative vis-a-vis policies. The operation of varied political factors in acquiring leadership in cooperative and interlocked leadership in political organisation and cooperatives with special reference to cooperative sugar mills were also achieved.  

Warana Nagar Cooperative Sugar Factory area has reported impact of this factory on the sugarcane average increase, development of allied activities like dairying, poultry keeping, credit programme etc., through appropriate

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cooperatives. The effort of cooperative sugar factory in the direction was found to be positive (Devadhar, 1978).\textsuperscript{17}

The impact of sugarcane pilot project of a sugar cooperative, on the farmers and their farming in relation to their agro economic and social development was examined in another study (Mane 1985). The sugarcane pilot project scheme was reported to be very popular among the farmers. It helped to increase the yield levels of sugarcane but only among 45 per cent of the farmers that too big farmers were participating in this scheme. The services of input supply, sugarcane seeds, credit, technical guidance were mostly availed by the big farmers followed by small and medium farmers. Insufficient irrigation, self sufficiency of some of the big farmers were the main reasons for non participation in this pilot project by the remaining farmers. The impact was noted to be uniform for all the farmers. However the farmers from the nearer villages were benefited more from this pilot project than those from the further villages was not influenced.\textsuperscript{18}

The positive effects of Krishna Cooperative Sugar Factories were also examined in terms of increase in standard of living, improved medical facilities, literacy development, income and employment generation. For example over 34 years a lot of developments were taken place in the area due to the adoption of improvement methods of cultivation, use of modern agricultural implements, increased use of fertilizers, adoption of new technology, massive irrigation schemes, undertaken by sugar factory and development of network of

\textsuperscript{17} Devadhan, Y.C., Socio-Economic Change in Sugar Factory Area (A case study of Kihi Village), Cooperative Perspective, VAMNICOM, Pune, Vol.13, No.2, July-Sep., 1978.

\textsuperscript{18} Mane, P.M., Impact of Sugarcane Pilot Project on the Farmers in a Sugar Cooperative Area of Maharashtra, The Maharashtra Cooperative Quarterly, Vol.LXV VIII, No.4, April, 1985, p.298.
roads in the area. In addition to pay higher prices to the cares developmental activities such as medical care, having schemes – infrastructure development, cultural programes etc., The factory also brought changes in the total outlook of the people which was very conducive for further development of the Krishna Cooperative Sugar Company and no prosperity of the area (Bala Subramaniam, 1991).¹⁹

The role of cooperative sugar factories in sugar production and in the capacity utilisation were also reported (Sukh Ram, 1989). They were one of the key instruments for initiating and promoting rural development. They offered remunerative prices to the farmers, then enabled reasonable returns to the industry and made suppliers adequate quantities of sugar at reasonable prices both for PDS and free sale in the market for the millions of consumers.²⁰

Sugar cooperatives made significant impact on Rural Entrepreneurship (Kadvkar, 1988). It was found that about 50 per cent of the cane growers were engaged in poultry and truck/tractor operation/hiring. The youths would like to start the business but their visions were limited and they were not familiar to the facilities and guidance. There was scope to tap entrepreneurial talent.²¹

A case study on the Performance of Shri Chhatrapathi Cooperative Sugar Factory, Bhavani Nagar (Pune) revealed that the sugar industry was a leading industry for development of the rural area (Waghmare, 1993). Because of this

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²⁰ Sri Sukh Ram (Minister of State for Food and Civil Supplies) AGM, National Federation of Cooperative Sugar Factories NCDC Bulletin, April, 1989.

industry the whole scenario of certain rural areas around sugar factories underwent a phenomenal change. There was an increase in the area, production and recovery percentage of the sugarcane in the selected cooperative sugar factories. The members' supply of canes constituted around 70 per cent of the total cane produced.\textsuperscript{22}

**STUDIES ON CAPACITY UTILISATION**

Capacity utilisation refers to the problem of cane shortage during season which was found to be a major cause responsible for the under utilisation of the capacity in the cooperative sugar mills in Punjab and Haryana. Delay in transportation and cane diversions to the alternative crushing units, plant inefficiency and miscellaneous causes had affected capacity utilization in cooperatives. (Kenal Raj Dawan, 1990).\textsuperscript{23}

Making a cooperative sugar complex industrially self sufficient in the context of capacity utilisation was important. The author examined the capacity utilization during different reasons (Samikop, 1991).\textsuperscript{24}

**STUDIES ON PRICES**

The problem and prospects of development of cooperative sugar industry in India were examined by a researcher (Marathe, 1995). He observed that the sector of sugar industry was likely to face many problems under the

\textsuperscript{22} Waghmare, Performance of Shri Chhatrapati Cooperative Sugar Factory, Bhavani Nagar (Pune) – A case Study, The Maharashtra Cooperative Quarterly, 1993, p.16.

\textsuperscript{23} Kewal Raj Dawan, Determinants of Capacity Utilisation in the Cooperative Sugar Mills in Heryana at Punjab, Indian Cooperative Review, New Delhi, April, 1990, p.358.

New Economic Policy (NEP) and so the prospects of development of cooperative sector of sugar industry would be affected in future in India. The cooperatives were essentially an organisation of persons with limited resources. According to him the initial support of the government in equity participation, guarantees to financial institution and incentive schemes were essential.

Sugarcane price as well as sugar price are very sensitive issues which guide the working of sugar factories to a very great extent. The dual control on sugar factories in the sense that the factories have to give certain percentage of their production as well as levy sugar for public distribution system at much before the actual cost of products and balance quota for sale in the few market at prices determined by the supply and demand factors. The price of sugarcane is influenced by the State Government in the interest of cane-growers while the sugar price is influenced by the Government of India in the interest of consumers. In this context the author had offered following suggestions.

- Financial support by government
- Management in the hands of growers
- Democratic leadership
- Cooperative Management in the hands of professionals (Maratha, 1995.)

STUDIES ON THE USES OF BY-PRODUCTS

The main by products of the sugar industry are bagasse, molasses and press cake/press mud. The other by-products which are less commercial value are sugarcane trash, sugarcane tops, boiler ask and effluents. Though many by-products could be produced only a few products is commercially possible and

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financially viable. Bagasse is the fibrous residue left after sugarcane is crushed in the factories to extract the juice. It is used as a captive fuel in the sugar industry to raise steam as well as for heating and concentrating of sugarcane juice. The cellulose-contained bagasse could be used for the better products like paper, board, rayon etc., Only when sugar factories spare it from the traditional use as a captive fuel. (Manohar Rao, 1989.)

**STUDIES ON THE ATTITUDE OF CANE-GROWER MEMBERS, THEIR LOYALTY ETC.,**

The factors affecting the sugarcane grower-members' loyalty towards a cooperative sugar mill were identified by another individual study (Vijayakumar, K.A. 1980). The investigator has observed that the remunerative price and seasonal cutting of canes without much delay had motivated member-growers to send their sugarcanes to cooperative sugar factory. This study has reported that attractive prices by private mills, seasonal market price, rise for native sugar and jaggery etc., had induced sugarcane growers to direct their harvested canes to cooperative sugar mills.

An empirical study conducted in South Gujarat has observed that the sugarcane is the major source of sugar in Gujarat and also in India. About 209 sugarcane growers of different size groups were interviewed. A majority (i.e., 57.90 per cent) has exhibited a positive attitude towards the cooperative sugar factory. The relationship between the attitude of cane growers and the extent of adoption of sugarcane production technology was noted to be insignificant. The respondents reported that services rendered by the factory to the members

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were better. This study has concluded that according to the opinion of the members, the cooperative sugar factory has played a crucial role in the boosting up of production and productivity of sugarcane crop and this in future has induced the technological change in sugarcane cultivation.  

**STUDIES ON FINANCIAL/CASH MAINTENANCE ASPECTS, PROFITABILITY, ETC.**

Profitability and its determinants in the sugar industry in Punjab and Haryana on sector wise were analysed in a Ph.D. thesis (Kamal Raj Dawar, 1988). Higher cane recovery has helped to have significant profitability in all the sectors. The size of unit has a negative influence upon profitability in both Punjab and Haryana. Past profitability has showed a significant influence upon current profitability in the cooperative as well as private sugar industry. Input proportion has a moderate influence upon profitability that too in the cooperative sector in Punjab only. Improvement in recovery and avoidance of abnormal expansion can go a long way in improving profitability ratio into sugar industry in Punjab and Haryana according to this researcher.  

The liquidity i.e., cash balance aspect as a part of financial management was also studied by the other researcher (Narasaiah and Jayachandra, 1994). The cash of Kovur Cooperative Sugar Factory's cash and bank balances were low when compared to current assets. There must be adequate cash and bank balances to meet day to day operation. Thus the selected factory had maintained the current ratio below the standard ratio of 2:1. Whenever the

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29 Kawal Raj Dawar, Determinants of Profitability in the Sugar Industry in Punjab and Haryana : A Sector-wise Analysis, Indian Cooperative review, April, 1988, p.325.
creditors demanded to repay their loans, they factory was not in a position to repay the amount.

The occupational mobility pattern was examined in a study conducted in Kolhapur area of Maharashtra State (Jugale, 1994). This study has observed that the migration of workers (cane cutters and Bullock cart workers) from drought to the destination of sugar belt was a continuous phenomenon. More than 2,00,000 workers were migrated irrespective of the low wages and exploitation at various levels. In the absence of such migrants the cooperative sugar factory would be in a difficult position, because at the local level such labour force was not sufficiently available. Of late, the cooperative Sugar factories are refusing to make a direct agreement with the contraction who supply workers, due to the changed industrial relation, growing sickness of unity, lack of quality of raw-materials, changing attitude of farmers, unfavourable government policies towards sugar industries etc.

Personnel Management w-r-t manpower planning was also examined (Singh, 1985). The manpower, management and machines (3 MS) are the three important wings of an industrial organisation. They are supplementary to one another. The manpower planning and development is the only process by which the industry can provide the right number of people and right kind of people at the right places and at right time for doing things for which they are economically most useful. No method or programme of manpower planning

30 Narasaiah and Dr.K.Jayachandra, "Cash Management in Cooperative Sugar Factories Limited, A Case study, "Indian Cooperative review, NCUI, New Delhi, July 1994.

and development would be successful as expected if it is not supported by top management and individual concerned are not conscious of its importance. So suitable environment within the organisation should be created. The manpower development would be taken up through the following ways.

⇒ Every employee should have work-consciousness of his work.
⇒ Adequate opportunities for career development.
⇒ Adequate and effective communication should prevail at all levels.
⇒ Recognition for their efforts made.32

STUDIES ON POLICIES, STRATEGIES, ETC.,

The development of cooperative sugar industry policy implication and strategies were also studied (Ravi, 1996). This researcher has observed that the share of the cooperative sector in total sugar production was 1.2 percent in 1955-56 and it has increased to 57.5 per cent in 1993-94. More than 56 per cent of sugar factories are under the umbrella of cooperatives. In the context of the growth of sugar production in India, the author has analysed the implications of sugar policy on the development of sugar sector and suggested more diversification as a major remedial measure for removal of sickness in the industry.33


A SUM UP

The foregoing review of studies on cooperative sugar mills has revealed that mainly the general working, benefits and services were covered. Most of them are descriptive case studies and confined to one or other cooperative sugar factories in the Maharashtra State. But empirical evidence based studies on the actual operative management of cooperative sugar mills in Tamilnadu are not so far done. The application aspects of such functional management concepts to these large scale processing units in the cooperative sector is also yet to be studied in depth. The current study fills up this lacunae.