

CHAPTER - III
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-:- ORIGIN AND DEVELOPMENT OF SUGAR INDUSTRY -:-

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3.1 INTRODUCTION :

Fruits and sugar containing vegetables must have been one of man's earliest sources of sweetstuff. To attempt, however, to give more detailed information on, or even to hazard a guess as to, which type of fruits first provided man with sweet substances is an impossible task. Nevertheless, it would seem that those plants which form the main source of sugar traded today were not among the most commonly known early suppliers of sweet products as man could not have made use of the juice of the cane or the palm until he had developed the necessary tools (Noel Deerr, 1949). Evidence provided in the reports by early Spanish conquistadores indicates that Mexican Indians used cornstalks and a plant called maguey to obtain sweet substances, while Indian tribes in the North-Eastern part of the United States and adjacent areas in Canada were known to use maple syrup or maple sugar as sweetener.

Apart from fruits and plants, honey is most certainly the oldest source of supply of sugar known to primitive man. Rock paintings of the neolithic period found in a cave near Valencia, Spain, picturing a man robbing a store of wild honey, indicate that man had already acquired sufficient intelligence to make use of the bee's work.

3.2 HISTORICAL PERSPECTIVES :

3.2.1 World :

The first sugar factory erected in the New World reproduced at least partially, the units of those existing in the Canary Islands in Madeira and Andalusia, though adapted to enable them to cope with the difficulties encountered in dealing with native, labour and other problems of a local nature. Despite these innovations however, the development of sugarcane plantations and sugar mills remained an expensive enterprise requiring large amounts of capital. Moreover, shortage of capital became one of the main reasons for the relatively slow development of the sugar industry in the New World and an important cause of frustration of several private initiatives.

Cuba :

The development of the sugar industry in Cuba was considerably slower than in Hispaniola (first manufactured some sugar in the Hispaniola with the help of a hand operated wooden seesaw type of mill trying to imitate the work performed by the sugar mills in the Canary Island in 1505), despite the fact that sugarcane was introduced to Cuba as early as 1512 by Velazquez, who brought it from the Hispaniola. The first actual record of sugar production appears in 1576 when three

factories located near Havana were reported producing concentrated juice cast in the form of flat cakes ('panes abiertos'). But the foundation of sugar industry of Havana really dates from the end of the sixteenth century and is associated with the governorship of Maldonado, who took the necessary measures to grant loans for the development of the sugar industry (Deerr, 1949). The limited water supply forced the sugar mills to rely heavily on horse power, an element which prevented the industry from expanding at faster rate in its early period. Subsequently, however, sugar plantations were moved toward the Las Villas area where the existence of many rivers with abundant and continuous water flow made the use of hydraulic power in the sugar mills possible, thus establishing the basis for the development of Cuba's modern sugar industry.

Labour shortage and the Cadiz Merchant's monopoly over sugar and slave trade kept the expansion of the Cuban sugar industry at bay during the first half of the eighteenth century. In 1762, however, the Cuban sugar industry received an unexpected stimulus. Having overcome its main problems, the Cuban sugar industry expanded at an impressive rate during the second half of the eighteenth century.

Finally, the expansion of the sugar industry in Cuba was further stimulated by the highly remunerative export prices that sugar producers enjoyed during the latter part of the

eighteenth century. As a result of the combined effect of these factors, Cuba entered the threshold of the nineteenth century as one of the greatest sugar producers in the world.

Mainland America :

The introduction of sugar industry to Mainland America began with the expedition of Hernan Cortes to Mexico in 1519, followed by that of Pizarro to Peru in 1533 and of Mendoza to Buenos Aires in 1545. In their march through continental Spanish America the Spaniards carried with them the cane and founded an industry which was to have great influence in the economic life of the part of the New World. The development of the sugar industry in Mexico was relatively fast and by 1534 sugar plantations were reported in the area around Santiago Tuxtla, in Veracruz, and the first shipment of sugar to Spain took place in 1539.

In Colombia, sugarcane was first introduced by Sebastian de Belakszar in 1514, who planted it in the Canca Valley, where it flourished around the city of Cali. The first sugar factory were erected on the bank of the Amaine river. While Garland quoting Juan Salinas Loyola would say that it was in the valleys near Piura, settled by Pizarro in 1531, that the sugar industry first acquired importance.

Brazil :

It was not until 1532 when the first large Brazilian sugar mill was actually built in Sao Vicente (coastal area of

the present state of Sao Paulo), one of which functioned until the beginning of the seventeenth century.

The existence of abundant rivers flowing through all seasons of the year, soon led to the development of the use of hydraulic power to operate the sugar mills and the consequent changes in the Sicily, Madeira and the Canary Islands which had been originally installed in Brazil, underwent a series of technological innovations which led to a new type of mill. The first news about the use of axles (called palitos) in Brazilian mills goes back to the third axle was introduced at the beginning of the 17th century (Geplacea,1981). This innovation gave rise to an important increase in the yield estimated at one third since the three rollers or cylinders were covered with iron plate and horizontal cylinders began to be used.

The discovery of mineral wealth in the province of Minas Gerais in the late seventeenth century led to migration of labour and a decline in sugar production (Deerr,1949).

The West Indies :

Dutch invasions to Brazil and the subsequent occupation of the Northeast by the Dutch between 1630 and 1654, were largely driven by their interest in the reported profits of the sugar industry. The introduction of sugar production in Barbados, for examples, was the result of the relationship thus established. Barbados producers went to Brazil to learn about the farming of

sugarcane. They bought sugar mills in the Brazilian Northeast and transported them to their island. Ligon, a contemporary historian and sugar planter of Barbados, mentioned some most industrious men who went to Fernambock (now known as Pernambuco), in Brazil, to learn how sugar was made and brought some plants to Barbados (Richard Ligon, 1657). When the Dutch withdrew from Brazil, many Brazilians and Portuguese who had collaborated with them during the occupation, could no longer remain in their homes in the Northeast, and were forced to emigrate. They ended up in Jamaica, Guadeloupe, Martinique, and Santo Domingo, taking their experience in the planting of sugarcane and the production of sugar with them. It was from that moment on that the sugar economy of the Caribbean took a huge leap forward.

3.2.2 India :

The sugar industry is the second largest agrobased industry in India next to textile. Though the New Guinea and its neighbouring islands in the South Pacific are not widely believed to be the natural home of sugarcane, sugar was first produced in India as early as 400 B.C. when the process had become generally known. Noel Deerr (1949) mentions that the earliest datable mention of sugarcane is 325 B.C. when it is recorded by Nearchus, the Greek recorder in Western India. In his words, "The production of sugar and syrup was known in India perhaps a few centuries before the Christian era and certainly by 400 A.D."

The sugar as a sweetening agent was known to India since the times of Atharva-Veda, the sacred book of Hindus, which is said to be of the origin between 5000 and 1000 B.C. The reference is relating to the sugarcane which was used for making the jaggery, a type of sugar. The references are also found regarding the sugarcane and sugar in the various other literature relating to the religion in this country.

Geographically the Indian subcontinent entirely lies to the immigate North of equator and hence the climatic conditions in this country are suitable for sugarcane cultivation in nearly all parts of the country. Efforts to manufacture sugar from sugarcane on commercial lines were made only at the beginning of the twentieth century and the industry flourished in India during this century only.

The scientific multiplication and breeding of the sugarcane undertaken by those scientists from the variety which they found in Saran district, resulted in evolving many new varieties of sugarcane (Kharche,1989). Bihar in India therefore can be said as the progenitor of hundreds of sugarcane varieties which are now grown in the world.

The first sugar factory in India was established in the year 1784 at Sooksugar which was privately owned. This factory was started by a cultivator, Croftes. This was followed by starting the second sugar factory in 1791 in Bihar by L.T. Patterson. Thereafter the effort was made by

Mr. Edward Campbell to start the sugar factory at Trichinapalli in Madras province. But he could not succeed. However, Robert Campbell, during the same period, succeeded in establishing the sugar factory in the same area. Mr. Robert Campbell advanced the theory that a sugar factory cannot succeed unless it has its own sugarcane farm. This, he felt because the sugar factory had to depend on sugarcane cultivators who were interested in converting their sugarcane into jaggery than supplying it to the sugar factory. This idea was adopted by the private capitalists who started the sugar factories during that period. Though India is known to be the ancient home of sugarcane, the efforts to start the processing of sugarcane to manufacture sugar by Modern Vacuum Pan process were made only in the beginning of twentieth century. The sugar industry did not make much progress till 1932, when the then British Indian Government granted protection to sugar industry for the period of 14 years. The first attempt to start the sugar factory in Bombay province was made in 1919 at Haregaon (Taluka - Shrirampur, District - Ahmednagar) and the Belapur Sugar Factory was established. Subsequently various sugar factories were established in the country in private sector till the period of independence. The protection granted by the Government of India to sugar industry in 1932 gave impetus for starting large number of sugar factories in the country. Till 1938-39, there were 139 sugar factories in India, and the number increased to 385 in 1990-91. The progress of sugar industry in India for the last 40 years is indicated with the help of Table 3.1

**Table 3.1 : Statewise number of sugar factories
in operation in India.**

Sr. No.	States	1950 to 1951	1955 to 1956	1960 to 1961	1965 to 1966	1970 to 1971	1975 to 1976	1980 to 1981	1985 to 1986	1991 to 1992
1	Andhra Pradesh	7	10	12	19	19	20	27	31	32
2	Assam	-	-	1	1	1	1	1	1	2
3	Bihar	29	28	28	29	28	28	28	23	28
4	Goa	-	-	-	-	-	1	1	1	1
5	Gujarat	-	-	2	3	5	8	13	13	14
6	Haryana	-	-	-	-	3	3	5	8	10
7	Karnataka	1	3	2	9	11	17	23	22	27
8	Kerala	1	1	1	3	3	3	3	2	2
9	Madhya Pradesh	7	5	5	5	5	6	7	8	8
10	Maharashtra	15	15	27	32	41	55	77	88	97
11	Nagaland	-	-	-	-	-	1	1	1	1
12	Orissa	1	1	1	2	2	3	2	3	4
13	Punjab	1	4	6	8	6	6	8	10	17
14	Pondichary	-	-	1	1	1	1	1	2	2
15	Rajasthan	2	3	2	2	3	3	3	3	3
16	Tamil Nadu	12	5	8	14	15	17	21	24	31
17	Uttar Pradesh	62	67	69	71	71	77	92	101	105
18	West Bengal	1	1	2	1	1	2	2	1	1
	Total India	139	143	174	200	215	252	315	342	385

Source : Compiled by Candidate.

The number of sugar factories in production increased from 139 in 1950-51 to 385 in 1990-91. The growth of cooperative sugar factories during this period has been from 1 to 220. The number of cooperative sugar factories as on 31-12-1991 constituted almost 57 percent of the total number of sugar factories in the country. The sugar production in the country during 1955-56 was of the order of 18.34 lakh tonnes which has increased to 120.47 lakh tonnes in 1990-91. The share of cooperative sugar factories in total production of sugar has increased from bare 1.2 percent in 1955-56 to 60.38 percent in 1990-91.

3.2.3 Maharashtra :

It has already been stated that the first factory in Maharashtra was established in 1919 in private sector which was started by the British Company at Haregaon, in Ahmednagar district. The Walchandnagar Industries Limited established their Walchandnagar Sugar Farm in the year 1930 and started its sugar factory. In 1930 the Government of India appointed Tariff Commission to examine the needs of protection to the sugar industry. The commission recommended production protection for a period of 14 years to the sugar industry. Besides, Government of India adopted a favourable policy and provided incentive to the industry. It has resulted in establishing of 12 sugar factories in private sector in Maharashtra by the end of second world war. The private sector sugar factories developed their own sugarcane farms, adopted modern cultivation practices and sown the seeds of sugarcane of improved variety (Kharche, 1989).

No effort was made to organise the cooperative sugar factories in the old Bombay state which is a part of the Maharashtra State now till 1947. It was only in 1948, the first cooperative sugar factory was established in Ahmednagar district at Pravaranagar. The establishment of cooperative sugar factory at Pravaranagar in 1948 was itself a very good beginning and thereafter many cooperative sugar factories are developed in the State of Maharashtra.

The yield of sugarcane per hectare in the State of Maharashtra is quite high as compared to the yield in the other states except in Tamilnadu. In 1990-91, the yield of sugarcane per hectare in Maharashtra State is of the order of 86.5 tonnes as compared to 55.8 tonnes in Uttar Pradesh and 103 tonnes in Tamilnadu. As a matter of fact during 1982-83 season the record yield of sugarcane per hectare in Maharashtra State was of the order of 96.3 tonnes which were highest rank in the country in respect of sugar industry (Kharche, 1989).

The number of sugar factories rapidly increased in Maharashtra after Industrial Policy Resolution of 1956. As on December 1991 there were 138 sugar factories licensed of which 97 were in operation. It is interesting to note that not a single sugar factory came up in private sector in Maharashtra after independence. As a matter of fact there is a trend to convert the private units into cooperative sugar factories. This is mainly because of the success of

farmers cooperative sugar factories in Maharashtra, which has enthused cane growers from the areas of the private sugar factories to form the cooperative society of their own with an objective of undertaking manufacturing of sugar by themselves. The first attempt to convert private sugar factory into cooperative was made in 1968, which became successful and in the process, the Gangapur Sugar Mills Ltd., (District-Aurangabad), a privately owned sugar factory had been taken over by the Gangapur Sahakari Sakhar Kharakhana Ltd., in 1968. However, another effort to cooperatives the Ravalgaon Sugar Farms Ltd., in 1972-73 had failed. Recently in 1985, the Kolhapur Sugar Mills, Kolhapur has been taken over by Chh.Rajaram Sahakari Sakhar Karkhana Ltd., a cooperative society of the cane growers. The process of cooperativisation of the Walchandnagar Sugar Factory Ltd., and its taking over by the Indapur Sahakari Sakhar Karkhana Ltd.,, Sakharvadi and the Godavari Sugar Mills Ltd., Laxmivadi, the sugar factories privately owned by Somaiyes were also in the process of cooperativisation in 1985. Looking to this trends one can imagine the faith the cultivators from Maharashtra have in cooperative movement.

It would be observed that the Maharashtra State has the largest number of cooperative sugar factories as compared to any other states in the country.

The Maharashtra State emerged as a leading state in the country in the production of sugar. It has the highest production

of sugar in the country as compare to any other state. The higher productivity of the sugar industry in Maharashtra as compared to all India average is also noteworthy. There is also higher recovery of sugar obtained by sugar factories in Maharashtra which was between 10.71 percent to 11.15 percent as compared to all India average of 9.66 percent to 10.59 percent.

Out of the total number of sugar factories (138) in Maharashtra, 97 percent are established in cooperative sector. Out of these, 41 sugar factories in cooperative sector were in the process of erection in the year 1991.

3.3 ROLE OF COOPERATIVE SECTOR IN THE DEVELOPMENT OF SUGAR INDUSTRY :

Before the advent of the first cooperative sugar factory in the state in 1948, it was not uncommon in year of abundance of cane, for the large number of cane growers to go begging from factory to factory pleading with the owners to accept their cane and selling it at whatever miserable prices the owners desired. The farmers failed to get even the bare cost of cultivation for their produce, and found themselves impoverished beyond imagination. The gul prices also were fluctuating very violently leaving the cane growers at the mercy of the unscrupulous trade (Mohite, 1974). As a result of these privations, a group of enlightened farmers in Ahmednagar came forward to create some processing

facilities to process their cane which is a highly perishable product. Thus came into existence the first cooperative sugar factory which was erected and commissioned after overcoming initial difficulties some of which were almost insurmountable. The aim of this society was to pool the produce (sugarcane) of its members, process it (into sugar), sell it and pay to the members a pooled price after deducting the processing and marketing costs. These are the essential principles of any cooperative processing society, let it be a sugar factory, a mechanized gut making unit, an orange processing factory, a fishing-cum-canning society. In the case of the cooperative sugar factory, all the activities like collection, processing, and marketing are organically linked together. In addition to these, credit also has been linked in an integrated manner with the sugar factory. Enhanced limits of crop finance are given to members of cooperative sugar factories for two reasons, namely, the cultivation practices and hence the output per acre is more in case of these member cultivators, and the recoveries of the credit are assured through a system of deductions from the final cane price.

The success of the first cooperative sugar factory (Pravaranagar) created tremendous enthusiasm amongst the sugarcane growers in the state to organise more and more cooperative sugar factories. These cooperative sugar factories in the state have brought about a change in the cropping pattern and through the introduction of better varieties of

cane have succeeded in improving the quality of sugarcane substantially. The cane yield in their areas can proudly claim to have attained the highest recovery among all types of sugar factories. Alongwith the technological achievements they have also infused in the atmosphere, the other powerful social and economic forces, so that the cooperative sugar factories in the state today have come to be regarded as effective spring-boards for achieving rural development.

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