

**PRODUCTION AND FINANCIAL ASPECTS OF
THE CO-OPERATIVE SUGAR FACTORY :**

**A CASE STUDY OF THE MALEGAON
CO-OPERATIVE SUGAR FACTORY LTD.**

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CHAPTER I

SUGAR INDUSTRY: THE BACKGROUND AND CO-OPERATIVE MOVEMENT IN SUGAR INDUSTRY

1.1 Importance of Sugar Industry to National Economy in India

Sugar farming and sugar industry hold special importance in the agricultural development and economy of India. Sugar industry is the largest among the processing industries having 338 factories spread all over the country. In the cropping pattern it occupies an area within 1.5 to 2 per cent of the gross area cultivated. The various aspects of the special importance of sugar industry in India can be summarised as follows.

1) Next to textiles, sugar industry is one of the major agro-based industries, influencing the development of agriculture in India.

2) Sugarcane is a crop mainly of the tropical region, although in India it is grown on a much larger scale even outside this region.

3) It is estimated that about 20 million people are directly involved in the industry.

4) With the development of sugar industry there are a number of by-products which are available for utilisation in allied industries. For example,

utilisation of molasses for alcohol and bagasses for paper making.

5) The industry has a special advantage of having a very large market at home. And apart from the self-sufficiency of sugar requirement in the country a part is exported to earn the foreign exchange so essential to build up other industries.

Besides the above, there are several other ways the sugar industry is likely to be a great boon for development of agriculture in the rural areas. About 2.5 million farmers supply sugarcane to sugar factory. The labour employment directly and indirectly in the sugar industry was estimated to be 3 million people in season.

The districts in which more than five factories have been established. During the past 20 years have undergone phenomenal change in the surrounding areas from the point of view of agricultural, educational, cultural and economic progress in various ways.

Aptly speaking sugar industry is acting as lead industry for the economic uplift of many rural areas in India. For this purpose it may be relevant to have an idea of development of the sugar industry in different parts of the world where it has worked successfully in the past.

1.2 Historical Background of the Sugar Industry in India

The Indian sugar industry is one of the oldest industries in the country. In fact, India is considered as the original home for sugarcane.

About 327 B.C. when Alexander the Great invaded India, he and his soldiers were the first Europeans to see sugarcane in India. However, it was about 700 A.D. that the sugarcane was actually cultivated there.* It was between the fourth and sixth centuries that the art of sugar making was discovered in India.

Starting of Sugar Factories in India

Noel Deerr in his book on the History of Sugar Vol.I (1940) has stated that the first privately owned sugar factory in India was started in 1784 by a civilian, Croffes, at sook-sugar, an estate on Hugli opposite Bandel and now submerged in Hugli. Croffes obtained a contract to supply rum to the company's marine service and the concern was prosperous till 1795.

Next attempt was made in 1791 by Lt. John Patterson, who approached the company for a loan and obtained Rs.25,000 for the establishment of a plantation and sugar factory in Bihar.

Subsequent attempt was made in Madras by W.I.

* Noel Deerr, History of Sugar, Vol.I, 1940.

Colley, who built in 1815 a factory in My Sork, which cost Rs. 44,000 and made annually 300 tons of sugar.

In 1902 a factory was erected at Ottur in Bihar by the Indian Development Company. This ended in failure due to plantation of tropical types of cane and outbreak of cane rotting disease. These were followed by factories in 1904 at Rosa and 1905 at Pursa owned by W. E. Dixon. By 1920 there were 19 sugar factories in India.

1.3 Growth of the Sugar Industry in India

The modern process of making sugar using the direct vacuum pan came into existence some time in 1932. In the mid-twenties a number of sugar mills came into existence in U.P. and Bihar. At that time Javanese sugar was miling the Indian market, and Indian mills were unable to compete with the rate at which the Javanese sugar was available. Therefore, the matter relating to protection to the Indian sugar industry was referred to the Tariff Commission and as a result the Sugar Industry Protection Act was passed by the Indian Legislature in 1932 under which protection was granted to the indigenous sugar industry. Within a period of four years of the protection the country became almost self-sufficient in respect of sugar.

The growth of sugar industry after receiving tariff protection was phenomenal, as may be seen in Table 1.1.

Table 1.1 : Growth of Sugar Industry (Working Unit) in India (before Independence and after Independence)

Year	Total number of factories	Of which co-operative
(A) Before Independence		
1931-32	32	-
1934-35	130	-
1940-41	148	-
1945-46	145	-
(B) After Independence		
1955-56	143	2
1960-61	174	34
1965-66	200	55
1970-71	215	73
1975-76	252	103
1980-81	315	149
1985-86	341	186

Source : 1) Cost Audit in Sugar Industry, January 1977.

2) Co-operative Sugar, Vol.18, February 1987.

From Table 1.1 it is observed that the growth of sugar industry in India shows consistently and rapidly increasing trend in the period of before and after independence. Before independence in 1931-32 there were 32 sugar factories in India which increased upto 145 in 1945-46.

After independence tremendous progress is shown in the growth of sugar industry in India. In 1955-56 there were 143 sugar factories in India, out of which only two sugar factories belonged to cooperative sector. But in 1960-61 total number of sugar factories were 174 i.e. net increase in number of sugar industries is 31 from 1955 to 1960. In cooperative sector net growth is 32 sugar factories. After 1970-71 there is significant progress seen in cooperative sector. In 1970-71 total number of sugar factories were 215 out of which 73 were in cooperative sector. In 1985-86, 186 cooperative sugar factories were established and in total number of sugar factories were 341. Among the states Maharashtra has occupied a leading position in cooperative sector of sugar industry. Therefore it may be necessary to give a brief account of cooperative movement in this field.

1.4 Sugar Industry in Maharashtra

Maharashtra is a high potential tropical region in India. Sugar industry in Maharashtra is an important

agro-industry. The sugarcane productivity in Maharashtra is the highest in the country and perhaps in the world as well. The figures available with the Sugarcane Breeding Scientist of the Indian Council of Agricultural Research shows that the per hectare productivity in Maharashtra is 196.3 tonnes as compared to that of Tamil Nadu with 88.8 tonnes.

1.5 Cooperative Sector in the Sugar Industry

Maharashtra has made an admirable and noteworthy progress in the sphere of cooperative movement especially after independence. By far the success achieved in the last 35 years in organising the cooperative sugar factories is outstanding, the original idea of starting cooperative sugar factories; for which due credit must be given to the voluntary efforts of the farmers of the Ahmednagar district.

Sugar Cooperative Movement

Cooperative sugar factories in India are a post-independence phenomenon. Although four such factories were set up between 1933 and 1935, three of them in Andhra Pradesh and one in U.P. but only one factory that could survive after independence was one at Etikoppak in Andhra Pradesh. Actually the involvement of the government in the cooperative sugar factories

on a large scale began in 1954. But the idea of co-operative sugar factories was not unknown before 1954. In fact launching of the scheme of the cooperative sugar factories in that year can be directly traced to the success of the idea of Pravaranagar in the Bombay State during 1948-54. The credit for the scheme should go to the Pravaranagar Cooperative Sugar Factory established in 1948.

Events Leading to Cooperative Ventures

The idea of the cooperative sugar factory gathered momentum immediately after the Second World War in the district Ahmednagar.

Conference in Bombay (1946)

The conference was based on a firm belief that the farmers were now in a position to collect the necessary share capital for the cooperative sugar factory and manage it successfully. The draft scheme proposed that government should convert the existing private factories into cooperative ones and should hand over the lands rented on lease by the private factories to the owner farmers.

The Scheme

The aims and objects of the scheme and the co-operative sugar factories mooted by this conference

are as follows.

Objectives of Establishment of
Cooperative Sugar Factories

1) To increase productivity and profitability of agriculture.

2) To reduce inequalities and exploitative relationship in the agricultural sector by helping the small and weak.

In the words of draft prepared by the conference itself,

"The underlying idea of the whole scheme is to keep the agriculturists masters of their own lands, to make them use their hereditary skill and long standing experience and increase the general production of agriculture, to raise their standard of living, to satisfy the growing needs of the country and to increase the national wealth."

The phase of development of cooperative sugar factory in Maharashtra started with the establishment of Pravaranagar Cooperative Sugar Factory at Loni in the year 1948 under the inspiration and guidance of Prof. D. R. Gadgil and Shri. Vikhe Patil. This has given a unique position to the sugar industry as it becomes a focal point for the socio-economic progress of the rural undeveloped area.

The large scale movement of the cooperative sugar factories that was launched in 1954 had its origin in the decision of the Planning Commission to increase the output of the sugar industry in order to cater to the increasing consumption of sugar in the country. Thereafter government had published twelve areas in the deccan canal tract that were found suitable for the establishment of sugar factories. The success of this cooperative factory created keen interest and confidence among the sugarcane growers of the Maharashtra State. The state government also recognised the importance of the sugar industry in the economy of Maharashtra.

1.6 Role of Cooperative Sugar
Factories in Maharashtra

The cooperative form of organisation has been instrumental in bringing about significant changes in the economic structure of Maharashtra in general and of rural Maharashtra.

Most of the cooperative sugar factories in Maharashtra have started schools, colleges, technical institutions, as well as activities of area development like various irrigation schemes.

For the development of cooperative sugar industry the government has adopted a progressive and liberal policy which is characterised by the following:

a) Government adopted a liberal policy of licensing for establishing sugar factories in Maharashtra State in cooperative sector.

b) Arrangement of term loans from term lending institutions.

c) Participation of State Government in share capital.

d) Strong institutional support by the National Cooperative Development Corporation for cooperative processing industry including cooperative sugar factories.

1.7 Economic Development of Area

Cooperative sugar factories have undertaken the scheme for introduction and development of subsidiary industries such as dairy, poultry in their areas, with the assistance of Bharatiya Agro Industries Foundation. The Pravara, Shriram, Malegaon (Tal. Baramati), Sanjiwani, Kopargaon, Panchaganga, Yeshwant (Akluj), Niphad, Dutta factories have organised centres for extending assistance and technical advice for cattle breeding and medical aid.

Apart from this, the cooperative sugar factories in Maharashtra have provided gainful seasonal employment to the rural masses. The cooperative sugar factories have sponsored a given undertaking to the financial institutions for extension of assistance for purchase of trucks, tractors and also in some cases given money to

deserving educated unemployed with a view to enable them to raise capital for such employment. The Krishna, Malegaon, Chhatrapati and Terna factories have also provided tyre-bullock carts to the harvesting and transport labourers resulting in the increase of earnings of beneficiaries.

Cooperative sugar factories have taken part in the scheme of extension of subsidy to marginal farmers of scheduled caste and Neo-Buddhas in 1982-83 an extended government assistance of Rs. 145 lakhs to 11,866 marginal farmers of scheduled castes. The Pravara, Sanjiwani Sahakari Sakhar Karkhana have also undertaken the scheme for rehabilitation of defaulting agriculturists by providing agricultural inputs on credit to enable them to undertake cultivation.

The cooperative sugar factories in Maharashtra have been playing the role of lead industry for the development of areas by taking up various by-product industries like paper plant, distilleries etc. The various industries for manufacturing the items required for sugar factories like engineering and chemical items are also developing in the area of the cooperative factories. This creates the forward and backward linkage in the process of industrial development. The multiplier effect of the development of these industries in the rural area may have also to be taken into consideration

while judging the place of the cooperative sugar factories in the process of socio-economic development. Sugar factory therefore has to be viewed not only as sugar factory but also as a lead industry for development of the rural area and as a growth centre.

1.8 Growth of the Sugar Cooperative Factory in Maharashtra

With the modest start of organising one factory under cooperative sector in 1948, the movement gathered momentum as the years went by and more and more factories were established in the cooperative sector not only in Maharashtra but also in India, as shown in Table 1.2.

Table 1.2 : Growth of Sugar Cooperatives in Maharashtra

Year	Total number of sugar factories	Of which cooperative
1950-51	14	1
1955-56	14	2
1960-61	27	14
1965-66	33	21
1970-71	41	30
1975-76	55	45
1980-81	77	67
1985-86	88	80

Source : 1) Cooperative Sugar, Vol.18, February 1987.
2) Directorate of Sugar, Maharashtra State, Pune (Unpublished).

Table 1.2 shows there has been consistently growth in cooperative sector in Maharashtra State. In 1950-51 and 1955-56 there were only two cooperative sugar factories in Maharashtra. In case of Maharashtra particularly after 1960-61 tremendous growth in cooperative sector has been seen. In 1960-61, 27 total sugar factories of which 14 were established in cooperative sector, in 1970-71 30 cooperative factories out of 41 total sugar factories. In 1975-76 45, 1980-81 67, and in 1985-86, 80 sugar cooperative factories were established. It shows there is a considerable development in cooperative sector elsewhere in the country as in Maharashtra.

1.9 Area under Sugarcane in Maharashtra

Out of total cultivable area of about 210 lakh hectares in Maharashtra, net irrigated area is about 21 lakh hectares. Nearby about 3.95 lakh hectares were under sugarcane in 1982-83 which constitutes about 18.9 per cent of net irrigated area or 1.98 per cent of the total cultivated area.

It is observed from Table 1.3 that harvested area of sugarcane in Maharashtra has increased from 0.65 lakh hectares (in 1950-51) to 2.92 lakh hectares (in 1984-85). Actually the area under sugarcane has more than quadrupled within a period of three and a half decades.

Table 1.3 : Area under Sugarcane in Maharashtra

Year	Area under sugarcane (in lakh hectares)
1950-51	0.65
1960-61	1.55
1970-71	2.17
1980-81	2.56
1982-83	3.26
1984-85	2.92

Source : Cooperative Movement at a Glance in Maharashtra State 1986.

The rapid rise in the area under sugarcane in Maharashtra is partly due to efforts put in by cooperative sugar factories during the last three decades. The various major and minor irrigation projects completed by the government largely helped the development.

Since decrease in harvested area under sugarcane is observed in 1979-80 due to drought conditions (i.e. 2.22 lakh hectares), whereas in 1982-83 highest harvested area was under sugarcane (i.e. 3.26 lakh hectares) and it goes on decreasing upto 1984-85 (2.92 lakh hectares).

1.10 Sugar Production in Maharashtra

Out of total sugar production in India more than

33 per cent is contributed by Maharashtra, particularly by cooperative factories (Table 1.4).

Table 1.4 : Sugar Production from Sugar Cooperatives in Maharashtra

Year	Sugar production (in lakh tonnes)
1955-56	1.8
1960-61	2.97
1970-71	7.83
1980-81	18.77
1985	21.21
1986	22.09

Source : Cooperative Movement at a Glance in Maharashtra State 1986.

Sugar production from cooperative sector in Maharashtra has increased from 1.8 lakh tonnes in 1955-56 to 21.21 lakh tonnes in 1985. Total sugar production in 1985 was 23.89 lakh tonnes of which 83 per cent sugar production has been contributed by cooperative sector. From 1970-71 the production of sugar from cooperative sector has increased more than two and half times compared to 1970-71. Maharashtra has occupied considerable and remarkable place in the production of sugar in cooperative sector.

1.11 By-products and By-product Based Industry

Diversification of sugar industry by undertaking by-product based project has been practically an accepted need. More and more factories are coming forward to establish distillery units which may be the better solution for disposal of molasses. Presently there are 27 distilleries in the state with a capacity to distil 2,550.90 lakhs litre of rectified spirit per annum. Out of these 22 distilleries are in operation. Some co-operative sugar factories have also installed alcohol based chemical industries for example the Acetone plants, Hydric acid plant, Oxalic acid plant.

To sum up, it can be said that the cooperative sugar industry in Maharashtra is playing an important role in the process of rural development and in creating large rural employment. The Sugar Enquiry Commission has rightly observed that "in Maharashtra the setting up of cooperative sugar factory has acted as a nucleus for social and economic development of the area around and has helped to develop a new class of rural entrepreneurs".

To be apt speaking, it is acting as a lead industry for the economic uplift of the rural areas in Maharashtra.

Objective of the Study

Cooperative sector in sugar industry in the State of Maharashtra has played significant role in rural area development. It is leading industry for the development of rural areas by various by-product industries such as paper plant, distilleries.

Therefore, the critical analysis of the cooperative sugar factory would enable us to identify the performance, the deviation and the cause for variations in productional and financial pattern. Therefore, the study involves the following main aspects.

- i) Productional aspect of the factory,
- ii) Financial aspect of the factory,
- iii) Its achievement in area development

Main Objectives of the Study

The main objectives of the study are as follows.

- 1) To trace briefly the development of cooperative sugar industry in India and also Maharashtra.
- 2) To study the working performance of the factory.
- 3) To study the productional aspect of the factory.
- 4) To study the resources of the factory and to analyse and examine the financial statements with the help of ratio analysis.

5) To ascertain the impact of the factory on various aspects of rural development.

Scope of the Study

Keeping the objection of the study in view of its broad scope is detailed as below.

The first chapter begins with the introductory aspects such as importance, objectives, scope and methodology of study.

The second chapter gives in detail the organisational set up, membership, growth and position of the factory.

The third chapter deals with production aspects of the factory.

The fourth chapter takes up the discussion of policies and procedure adopted by the factory in raising resources.

An analysis and interpretation of financial statements of the factory is made in fifth chapter.

Sixth chapter gives the idea of playing role in socio-economic development of the factory and seventh chapter belongs to the conclusion & suggestions of the study.

Methodology

There can be only one approach, namely collection of primary and secondary data. In order to collect the reliable data, annual reports from the years 1974-75 to 1985-86 were secured from the general office of the factory. The statistical statements prepared by the

factory for the purpose of annual general meetings, also proved to be a base for examining the changing trend in its working, necessary personal discussions which were held with factory officials about certain matters are also taken into account.

Use of library books was also made in examining the growth and development of the movement and also the legal provisions of the various acts controlling the activities of the factory.

Financial statements are analysed not only to study the financial position of the factory, but also to include the evaluation of the factory performance against various standard ratios.

Limitations of the Present Study

This study is undertaken as a part of the partial fulfilment of the degree of Master of Philosophy in economics and it has following limitations.

1) The study is mainly concerned with working of the selected factory.

2) The period of the study is limited to ten years that is from 1975-76 to 1984-85. However, it is ensured that such limitations would not affect the utility of the study.

CHAPTER II

THE MALEGAON COOPERATIVE SUGAR FACTORY LTD. : THE BACKGROUND

2.1 Brief History of the Malegaon Coperative Factory Ltd., Shivnagar (Tal.Baramati)

Upto 1914 the sugarcane farming made considerable progress but the fall in gur prices brought this progress to an end. The gur price situation led to the decline in the area under sugarcane farming. Cultivators became less interested in taking advantage of the canal water and hence the collection of water revenue decreased. In order to explore the cause and to find a solution, government appointed a committee. In 1954 the committee recommended the establishment of sugar factory in the area.

In 1954, when press note was issued by the Government of Maharashtra, some political leaders of the taluka came together. The leaders had applied for a sugar factory mentioning the two main objectives, (1) to establish co-operative sugar factory of small farmers by organising them, and (2) to utilise the land for sugarcane cultivators.

A cooperative sugar factory was promoted by late Shri D. G. Shembekar and late Shri S. M. Taware. The factory was registered in the year 1955 and started its

production within two and half years of its registration.

2.2 Location of the Factory

The Malegaon Cooperative Sugar Factory Limited, Shivnagar is situated in the revenue boundary of village Malegaon Bk. (Tal. Baramati, Dist. Pune). It is just six kilometres away from Baramati town.

Registration of the Society

This society was registered in the year 1955 under Bombay Cooperative Societies Act. The date of registration is 24th February 1955, Reg.No. G.266.

2.3 Administrative Set Up

The Board of Management consists of:

1) 18 members elected by and amongst 'A' Class members.

2) One member elected by 'B' class members.

3) One member from weaker sections.

4) One member from Scheduled Castes.

5) One nominee of central financing agency.

6) One nominee of Registrar of Cooperative Societies (State Government's nominee).

7) One member coopted as expert by the Board of Directors in consultation with the central financing agency and Directorate of Sugar, Maharashtra State.

8) Two members from workers nominated.

9) One Managing Director.

The Managing Director is the Chief Executive, Head who looks after the day to day working of the society subject to the control of the Executive Committee.

Cooperative year is reckoned from 1st October upto 30th September and the annual general meeting of the society is to be held within five months from the close of the cooperative year.

The chart showing the main functionaries of the officio staff is as given below.

Officer Staff .

Managing Director

Secretary	Office Superintendent
Chief Engineer	Chief Chemist
Agri. Officer	Chief Accountant
Civil Engineer	Labour & Welfare Officer
Medical Officer	Chief Sugarcane Development Officer
Security Officer	Accountant
In-charge Store Keeper	Legal Adviser

Auditor

Local Auditor

Bankers

- 1) The Poona District Central Cooperative Bank Limited, Pune
- 2) The Maharashtra State Cooperative Bank Limited, Bombay
- 3) State Bank of India, Baramati
- 4) Central Bank of India, Baramati

2.4 Capital Investment

The original crushing capacity of the machinery was 1000 tonnes per day which was subsequently increased to 2500 tonnes per day from the season 1973-74. The total investment towards capital cost as on the day of starting for 1000 tonnes cane crushing capacity was Rs. 102.52 lakh which included the cost of plant and machinery, civil construction works etc.

For the revised capacity capital was raised by taking loan from IFCI (Rs. 85 lakhs) and from IDBI (Rs. 50 lakhs).

2.5 Share Capital

The authorised share capital of the society is Rs. 100 lakhs divided into the following three classes of shares.

- a) Rs. 92 lakhs divided into 18,400 shares of Rs. 500 each classed as producer share, issued to 'A' class members only.

b) Rs. 2 lakhs divided into 400 shares of Rs. 500 each classed as ordinary shares issued to 'B' class members only.

c) Rs. 6 lakhs divided into 1200 fully paid up shares of Rs. 500 each classed as redeemable preference shares issued to Maharashtra State Government.

Face value of each share Rs. 500 which is collected on calls as shown below:

Entrance fee	Rs. 5/-
Application money	Rs. 100/-
First call	Rs. 200/-
Second call	Rs. 200/-

The paid up share capital of the society in September 1985-86 was Rs. 64,14,578.87.

2.6 Objectives of the Factory

The main objective of the factory is to establish and run the sugar factory, purchase sugarcane from members and non-members and manufacture sugar and other by-products. Its aim is to protect overall economic interest of the cane growers, in general, and the farmer members of the factory, in particular, and to take action for their all round socio-economic development.

The Area of Operation

The area of operation of the factory lies between Distributory No. 17 and Distributory No. 26A of the Nira Left Bank Canal. It comprises 15 villages and the sugarcane acreage is about 7000 acres. Besides this area of operation factory gets more sugarcane for its crushing from other villages of Maharashtra.

About 80 per cent of sugarcane acreage is situated within an average distance of seven miles radius from the factory. This has facilitated easy supervision and has reduced the cost of transportation of sugarcane to the factory.

CHAPTER III

PRODUCTION ASPECTS OF THE MALEGAON COOPERATIVE SUGAR FACTORY LIMITED

3.1 Average Cane Crushing Capacity and Total Number of Crushing Days

The capacity of any sugar factory is determined by total cane crushed per day or average rate of cane crushed per day. Because sucrose percentage in the cane is the other factor to determine the capacity but it is a variable parameter.

As we are concerned with the study of 'growth pattern' of Malegaon Sahakari Sakhar Karkhana Ltd. it is important for us to observe the total cane crushed and average cane crushed per day in the factory during the period from 1975 to 1985. The relevant data are given in Table 3.1. Actual capacity of the factory is determined by total cane crushed by the factory per day or average rate of cane crushed per day, and it is calculated by

$$\text{Average cane crushed per day} = \frac{\text{Total cane crushed in season}}{\text{Total number of crushing days}}$$

Table 3.1 : Cane Crushed, Total Number of Crushing Days and Average Crushed Per Day

Year	Total cane crushed (M.Tonnes)	Total number of crushing days	Average cane crushed per day (tonnes)
1975	289888.785	163	1792.30
1976	387124.770	187	2081.55
1977	374334.690	188	1991.93
1978	363616.855	178	2042.79
1979	195566.990	106	1844.97
1980	246160.720	128	1923.13
1981	425892.135	180	2366.06
1982	449100.099	195	2306.02
1983	357603.524	160	2235.19
1984	346113.625	152	2277.19
1985	371723.150	162	2294.58

Source : M.S.S.K.Ltd. Annual Report 1975-1985.

From Table 3.1 it is observed that maximum total cane crushed in the factory is 449100.099 M.T. in the year of 1982-83, and also in the same year the number of crushing days recorded is the highest (i.e. 195). The lowest crushing days recorded are in the year of 1979-80 (106 days).

When we take into consideration a decade (1975-1985), it is observed that the parameters like total cane crushed, number of crushing days average cane crushed per day are not steady.

Availability of cane for crushing depends on area under cultivation and production of sugarcane per acre. These two parameters are positively related to total cane crushed and ultimately to total sugar production.

From Table 3.1 it is observed in the seasons of 1979-80 and 1980-81, there was less availability of sugarcane and cane crushing days (195566.990 M.T. and 106 days and 246160.720 M.T. and 128 days respectively) on the contrary these parameters are observed to be maximum in the year 1982-83. (449100.009 M.T. and 195 days) whereas these again decreased in years after 1982-83. The reason is the decreased production of sugarcane per acre. The graph (See appendix) shows increasing trend of sugarcane production per acre from 1975 to 1978. The decline in the average production is in the season 1979-80. Due to this there is decrease in availability of cane for crushing, as well as total crushing days. There has been increase in total cane crushed in the season 1981 and 1982 and ultimately increase in cane crushing days. There has been decrease in these parameters from the season 1983 and onwards.

Thus the production of sugarcane per acre affects the availability of sugarcane to the factory which ultimately affects total number of crushing days. Factory can also get the sugarcane from outside farmers. (Those who are not members of the factory which is called 'Gate Cane').

In summary, we can say that though the factory has increased its daily crushing capacity it is necessary to increase area under cultivation as well as production of sugarcane per acre. For this factory has to supply fertilizers and hybrid seed cane under 'no profit no loss' basis to cane grower members. (Table 3.2).

3.2 Sugar Recovery

It is very important to study the sugar recovery while studying the growth pattern of any sugar factory as it affects the total sugar production as well as sugar production per ton of sugarcane. The per cent of sugar recovery is directly proportional to the sugar production. It can be stated as

* "Total sugar product in tonnes per tonne of sugarcane."

It can also be written as

$$\text{*Percentage of recovery} = \frac{\text{Tonnes of sugar}}{\text{Tonnes of cane}} \times 100$$

* James C. P. Chen., Hand Book of Sugarcane, p. 27.

Table 3.2 : Comparative Data of Average Sugarcane Production and Number of Crushing Days of the Malegaon Cooperative Factory 1975-1985

Year	Average sugarcane production (M.Tonne) (Per Acre)	No. of crushing days
1975	42.90	163
1976	45.80	187
1977	48.50	188
1978	47.30	178
1979	39.00	106
1980	39.87	128
1981	43.77	180
1982	40.86	195
1983	35.17	160
1984	36.46	152
1985	37.38	162

Source : M.S.S.K.Ltd. Annual Reports 1975-1985.

The sugar recovery is affected by the following factors.

1) Quality of Cane

The fibre percentage of cane is important in this aspect. As fibre percentage increases recovery

decreases because the excess fibre content interferes in crystallisation process. Therefore, quality of cane depends upon fibre percentage in cane.

Diseased cane also leads to decrease in the percentage of recovery.

2) Harvesting Condition

If the cane is harvested before the maturation or over maturation the recovery will remain less. After the maturity, degradation of cane sets in which results in less recovery percentage.

3) Storage Condition

If the harvested cane is stored more than 24 hours, percentage of recovery will be less. So the harvested cane should be crushed within 24 hours.

4) Drought Condition

Due to less water availability during drought condition there will not be proper and full growth of sugarcane which will result in less recovery, ultimately affecting the production.

Table 3.3 shows fluctuation in the average sugar recovery of the factory. After the peak average recovery of 11.45 in 1976, the recovery was decreased in the next 3 years. The lowest average sugar recovery is recorded in the season of 1979 (i.e. 9.63 per cent). Thereafter

Table 3.3 : Trend in Sugar Recovery of Malegaon Sahakari Sakhar Karkhana Limited

Year	Average sugar recovery (in percentage)
1975	11.24
1976	11.45
1977	10.81
1978	10.78
1979	9.63
1980	11.18
1981	11.20
1982	11.01
1983	11.25
1984	11.27
1985	11.31

Source : M.S.S.K.Ltd. Annual Reports 1975-1985.

it has shown increasing trend. After 1980, there has been an increasing trend in average sugar recovery of the Karkhana. As we have seen factors determining the average sugar recovery in 1979, it is observed that average sugarcane production per acre was very low compared to other years. Due to this in the same year sugar recovery remained very low i.e. 9.63. But

after this year sugar recovery shows a steady increase upto 1985-86.

The factory has taken various types of programmes regarding increase in cane production as well as quality of cane such as:

1) Sugarcane Pilot Project

In this project Karkhana provides loan and supplies fertilizers to cane grower members to increase the production of cane per acre.

2) Soil Survey Laboratory

The factory itself has a soil survey laboratory to test and analyse soil of cane growers and thereby giving them guidance as to what type of fertilizer they should use in their farm including supply of molasses as one of the best fertilizer in their farm.

3) Water Supply Scheme

Factory has adopted various types of water supply schemes like Lift Irrigation Scheme within the area of factory.

These schemes have helped to increase area under cultivation, quality and sugarcane production per acre. After 1979, it is observed that average sugarcane production per acre has an increasing trend. This has also contributed to increase in average sugar

recovery of the factory.

3.3 Trends in Sugar Production

The growth pattern of any sugar factory can be studied by observing trends in sugar production and sugar recovery.

There are different grades of sugar according to their grain size such as 29C, 29D, 29E, 30B, 30C, 30D, 30E. Grain size affects the crystallisation of sugar and extraction of the sugar from the syrup. As the grain size will be the smaller more will be the extraction of sugar from the syrup. This results in the reduction of sugar molasses.

Sugar production is affected by area under sugarcane cultivation, total cane production and quality of sugarcane as well as percentage recovery of sugarcane. If more sugarcane is utilised for the production of the gur and Khandsari then there will be less availability of sugarcane for sugar production (Table 3.4).

With the help of existing cane crushing capacity and availability of sugarcane from cane growers, factory has been trying to produce more and more sugar, since its first crushing season commenced on 25.11.1957.

Table 3.4 shows that factory has increasing trend in the production of sugar, except the year 1979-80 and 1980-81.

Table 3.4 : Trend in Sugar Production ; With the Comparative Data of Area under Cultivation, Average Sugarcane Production Per Acre and Sugar Recovery

Year	Sugar production in qtls.	Area under cultivation (hectare)	Average sugarcane production per acre (M.T.)	Sugar recovery (in percentage)
1975	3,26,600	1856.8	42.90	11.24
1976	4,43,627	1671.31	45.80	11.45
1977	4,03,931	1947.00	48.50	10.81
1978	3,93,526	1944.00	47.30	10.78
1979	1,88,089	1522.40	39.00	9.63
1980	2,73,085	2049.60	39.87	11.18
1981	4,77,660	2706.40	43.77	11.20
1982	4,93,841	2750.30	40.86	11.01
1983	4,07,325	2835.00	35.17	11.25
1984	3,91,177	2644.11	36.46	11.27
1985	4,19,777	2698.84	37.38	11.31

Source : Annual Reports of Malegaon S.S.K.Ltd. 1975-1985.

Total sugar production in 1975 was 3,26,600 quintals which has increased by 93,177 quintals in 1985-86. The highest production of sugar was recorded in 1982 which was 4,93,841 quintals.

Total sugar production of the factory is related with area under sugarcane cultivation, average sugarcane production per acre and as well as sugar recovery obtained by factory during the each season.

It is observed from Table 3.4 that factory area under sugarcane cultivation of the factory shows fluctuations season to season. In 1975 area under sugarcane is 1856.8 hectares which decreased by 185.49 hectares in 1976. Nevertheless sugar production has increased by 1,17,027 bags in the season of 1976. It is due to increase in sugarcane productivity in 1976, which is 45.80 M.T. per acre as compared to 42.90 M.T. in 1975. Moreover, in the season of 1976 factory has the highest sugar percentage recovery (i.e. 11.45 per cent) as compared to 11.24 per cent in 1975. As recovery of sugar increases sugar production also increases.

Another reason for increase in sugar production is that the factory received sugarcane also from outside the area of the factory which is called gate cane to the tune of 1830.4 hectares. It means that total sugarcane available for the season of 1976 is 3501.71 hectares (1671.31 from cane grower members within the area of factory plus 1830.4 hectares from outside area). Besides per acre sugarcane production and percentage of sugar recovery show the increase in total sugar production.

Table 3.4 again shows decreasing trend of total sugar production from 1977 to 1980, eventhough area under sugarcane and average sugarcane production has increased compared to season 1976. The reason is that average sugar recovery has declined from 1977 to 1979 (i.e. 10.81, 10.71 and 9.63 respectively). As we have observed the season of 1979-80 has recorded minimum not only in sugar production but also in area under sugarcane, average sugarcane production per acre and average sugar recovery. It is due to drought conditions in that particular region.

After 1980 (upto 1983) there is positive relationship between sugar recovery, area under sugarcane, average sugarcane production per acre and sugar production produced by the factory. Area under cultivation of sugarcane and production of sugar recorded highest in the season of 1982 (which was 4,93,841 sugar bags and 2750.30 hectares area under sugarcane cultivation). As compared to other years in the decade 1975-85 (except the years 1979 and 1980) area under sugarcane cultivation has decreased but average sugar recovery has increasing trend. Therefore, it shows the increasing tendency of the sugar production. Another reason is that factory was trying to get sugarcane from outside the area and as well as non-members within the area of factory.

In conclusion, it can be said that total sugar production is directly and indirectly affected by the sugar recovery, average sugarcane production, area under cultivation as well as availability of sugarcane from non-members within the area of factory and gate cane.

1) If area under cultivation within the area factory increases, more and more sugarcane can be available to the factory which ultimately increases sugar production.

2) Variations in sugarcane production per acre/M.Tonne and in sugar recovery affects the variations in total sugar production of the factory.

3) After 1981, factory has obtained increasing trend in the recovery of the sugar which can be rated as "Good" compared to other factories in Maharashtra.

Average sugar recovery in Maharashtra State in 1980-81 - 11.07 per cent, 1981-82 - 10.7 per cent, 1982-83 - 10.98 per cent, 1983-84 - 11.15 per cent, 1984-85 - 11.13 per cent whereas Malegaon S.S.K.Ltd. has 11.20 per cent to 11.31 per cent in the period 1980-81 - 1984-85 which can be said to be 'Good' compared to other factories.

4) After 1982 average sugarcane production has declined and area under cultivation has also declined as compared to 1982-83. It was mainly due to increase in cost of production per acre of sugarcane. It was also

affected by the other factors, such as farmers preference to cultivate grapes instead of sugarcane, which give more returns than sugarcane. Another reason is that sugarcane requires adequate water supply throughout the cultivation. Recently it has become costlier to get adequate water supply from wells as well as from canals.

5) Percentage of sugar recovery depends on quality of the sugarcane available to factory for crushing in the season. And the quality of sugarcane depends on various factors such as type of seed, cane, adequate water supply, fertilizers and pesticides used by the farmers.

3.4 Production Cost of the Sugar

Sugar industry is a seasonal industry and sugar can be produced only when the basic raw material viz. sugarcane is ready for harvesting. Sugarcane is perishable. Sugarcane can be used for alternative purpose apart from the manufacture of sugar, like manufacture of gur and khandsari. The quantity of cane that a sugar manufacturer can attract during the crushing season depends upon the competitive users and price offered by them.

Another peculiarity of the sugar industry is that being seasonal in nature, the fixed expenses in the manufacture of sugar, like depreciation, interest, salaries

of managerial personnel etc. have to be observed by the production during the season. There is also little or no scope for diversification of production to run the factory during off season. While consideration of the cost of sugar production, it is one of the important factors which affects the price policy of sugar by sugar industry, as well as ultimately cane growers policy. Cost of production of sugar is the sum of total, all expenses incurred in the production of sugar.

Cost of Structure of Sugar

Cost of sugarcane constitutes about 70 per cent of the fair price of sugar. It includes the basic price of sugarcane, provision for purchase tax and other local taxes, cane cess and cooperative society's commission. Cost of sugarcane is also related to the recovery factor. Transport cost of sugarcane is generally included in the delivered price of cane.

Conversion cost which includes wages and salaries of personnel, stores and fuel consumed, repairs and maintenance expenses, overhead and depreciation less credit for molasses constitutes 22 per cent of total fair price. The balance represents return on equity, interest on borrowing and bonus to employees.

Average Cost of Sugar Production of
Malegaon S.S.K.Ltd.

Average cost of the sugar (per tonne of sugarcane) is calculated by the factory by two ways.

1) One is cost of sugar production per tonne sugarcane excluding price of sugarcane which is paid to the cane growers.

2) Second is cost of sugar production per tonne sugarcane including price of sugarcane.

Table 3.5 shows fluctuation in average production cost of sugar in the seasons 1975-76 to 1985-86.

There is no uniform trend throughout the reference period. However, in the five year period from 1981 the average cost, excluding the price of sugarcane has been steadily increasing.

1) Cost of Sugar Production Per Tonne
Sugarcane (Excluding Price of the
Sugarcane)

In 1975-76 it was Rs. 105.25 which has increased upto 182.13 in 1985-86. It has decreasing trend from the seasons 1976-77 to 1978-79 i.e. Rs. 98.46 to 83.00. After the year 1981 it has continuously increasing trend.

**Table 3.5 : Average Production Cost of Sugar of
Malegaon Sahakari Sakhar Karkhana Limited**

Year	(Rupees)	
	Cost of sugar production per tonne sugarcane Excluding price of sugarcane	Including price of sugarcane
1975-76	105.25	240.41
1976-77	98.46	239.91
1977-78	94.81	212.58
1978-79	83.03	217.82
1979-80	149.86	324.54
1980-81	163.33	425.25
1981-82	126.62	362.85
1982-83	134.65	357.80
1983-84	162.30	417.57
1984-85	173.42	474.20
1985-86	182.13	504.36

Source : Annual Reports of Malegaon S.S.K.Ltd. 1975-1985.

**2) Cost of Sugar Production Per Tonne
of Sugarcane Including Price of
Sugarcane**

Average cost of sugar production including the price of sugarcane varies year to year. The price which is paid to the cane grower is included in cost of sugar production.

Table 3.5 shows increasing tendency of cost of sugar production including price of sugarcane. It was Rs. 240.41 in 1975-76 which has increased upto Rs.504.36 in 1985-86. One of the reasons for increase in the cost of sugar production is that increase in sugarcane price which factory has to pay to cane growers.

There are many factors which affect the cost of sugar production. These factors are as follows:

1) Recovery

Recovery is the ratio of sugar produced to the cane crushed. The quantity and the maturity of cane crushed will determine the recovery. The cost of sugar produced by the two factories with same capacity will be different, if the recovery is different.

Recovery varies from unit to unit and within the same unit from year to year. While the minimum cane price fixed by the government from time to time is based on recovery of 8.5 per cent, the actual price paid is adjusted pro-rata to the variation in the recovery percentage. Recovery depends again on the agricultural practices followed in the area.

2) Duration

Which is the number of crushing days of say 22 hours per day. The availability of cane within a reasonable distance from the sugar factory and the

competitive demand in the area determine the duration. It is also dependent on the ability of the sugar factories to attract cane at price in preference to the competitive users of sugarcane like gur and khandsari manufactures..

The cost of sugar produced in the factories with identical capacity will be different, if the duration of crushing in a season varies. Longer the duration, higher will be the production of sugar which will result in lower cost due to distribution of fixed cost over a larger volume of production.

3) Capacity of Production

The installed capacity of the sugar plant and the actual utilisation of the installed capacity have a bearing on the cost of production.

The economic capacity of sugar factory is placed at 1250 tonnes of cane crushed per day. The higher installed capacity, the capital cost per tonne of sugar production is likely to be lower. The better the capacity utilisation, the lower the fixed cost per tonne of sugar produced.

4) Age of the Plant

The age of the plant determines its efficiency in operation. It also has impact on depreciation and

return on capital employed. While older plant will have lower depreciation and capital employed. It will also have lesser efficiency in operation. New plants will have a higher impact on depreciation and capital employed and at the same time its operational efficiency will be much better.

5) Process Employer in the Production of Sugar

While consideration plant will have higher cost of production, sulphitation plants will have comparatively lower cost of production. At the same time, the extra cost of carbonisation is generally offset by the higher realisation from the sale of sugar of superior grade.

CHAPTER IV

FINANCIAL ASPECTS : THE MALEGAON COOPERATIVE SUGAR FACTORY LIMITED

Resources of the Factory

Introduction

It is essential for any type of cooperative sugar factory to mobilise the resources. There are two types of resources for cooperative sugar factories viz.

1) Internal resources : which consists of paid up share capital and various types of resources and

2) External resources comprising various types of deposits and borrowing for the higher financing agencies. In this chapter the resources mobilisation of the Malegaon Cooperative Sugar Factory more particularly in the period from 1975-76 to 1985 has been studied.

4.1 Authorised Share Capital

The authorised share capital is the maximum limit upto which the factory can collect the capital from the grower members. It is indicated in the by-laws of the factory and any change in this must be made by the general body only and such change is effective only after the approval from the competent registering authority. The

authorised share capital is divided into a number of shares. The value of each share is also mentioned in the by-laws and is approved by the competent authority.

The authorised share capital of the Malegaon Cooperative Sugar Factory is Rs. 100 lakhs divided into the following three classes.

a) Rs. 92 lakhs divided into 18400 shares of Rs. 500 each classed as producer share, issued to 'A' class members only.

b) Rs. 2 lakhs divided into 400 shares of Rs. 500 each classed as ordinary shares issued to 'B' class members only.

c) Rs. 6 lakhs divided into 1200 fully paid up shares of Rs. 500 each classed as redeemable preferential shares issued to Maharashtra State Government only.

The face value of each share is Rs. 500 which is collected on calls as shown below.

Entrance fee	Rs. 5
Application money	Rs. 100
First call	Rs. 200
Second & final call	Rs. 200

4.2 Paid-up Capital

The sold out authorised share capital is the paid up capital of the factory. The management of the factory

has linked up the proportion of shares to sugarcane acreage in the ratio of one share for every half acre as has been laid down in by-law No. 11A. A maximum limit of 50 shares per individual member is fixed with the view that the benefit accruing from the factory should go to a fairly large number of agriculturalists.

The position of the Malegaon Cooperative Sugar Factory according to the paid up capital was as below:

Table 4.1 : Growth of Membership and Paid-up Capital of the Malegaon Cooperative Sugar Factory

Year	No. of members	% to total No.	Paid up capital	% to total paid up capital
1975-76	4010	7.67	60.631	9.70
1976-77	4480	8.57	61.471	9.84
1977-78	4631	8.86	62.464	10.00
1978-79	4722	9.03	63.110	10.11
1979-80	4827	9.23	63.494	10.16
1980-81	5029	9.62	63.920	10.23
1981-82	5652	10.81	60.337	9.66
1982-83	6067	11.60	62.043	9.93
1983-84	6307	12.06	62.878	10.06
1984-85	6533	12.50	64.145	10.27
Total	52258	100.00	624.543	100.00

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

It will be observed from Table 4.1 that during the year 1975-76 the membership increased by 7.67 per cent while in the subsequent decade the growth rate was 12.50 per cent so far as the paid up capital is concerned it increased by 9.70 per cent in the year 1975-76, while in the subsequent decade the growth rate was 10.27 per cent. The growth depends upon the enrolment of new members.

4.3 Working Capital Requirements

The Malegaon Cooperative Sugar Factory borrow for their working capital requirements from Pune District Central Cooperative Bank (PDCC), Industrial Development Bank of India (IDBI), United Commercial Bank (UCO Bank). The working capital is provided by sanctioning clean cash credit, hypothecation and pledge credit. Besides, accommodation is also procured by the factory to meet their off-seasonal expenditure by borrowing special clean cash credit.

Table 4.2 shows the position of the paid up capital in the working capital of the Malegaon Cooperative Sugar Factory.

Thus in general, the norm of 10 per cent is not achieved. This is mainly because of the fact of proportionately abnormal increase in the working capital of the factory.

Table 4.2 : Place of Paid-up Capital in the Working Capital of the Factory

(Rs. in lakhs)			
Year	Paid up capital	Working capital	% of the paid capital to working capital
1975	60.631	257.306	23.56
1976	61.471	314.530	19.54
1977	62.464	361.740	17.26
1978	63.160	163.336	38.66
1979	63.494	69.762	91.01
1980	63.920	74.089	86.27
1981	60.337	285.038	21.16
1982	62.043	495.351	12.52
1983	62.878	154.1008	40.80
1984	64.145	54.9391	116.75

Source : Annual Reports of the Malegaon Cooperative Factory Ltd. 1975-1985.

4.4 Reserves

There are various types of reserves which are created by the factory, out of profits. As such, creation of reserve is a continuous and slow process. These reserves are as per the provision of section No.65 of the Maharashtra State Cooperative Act some of these reserves are created out of the net profit of the

factory, while some of these are created before arriving at the net profit by arranging to profit and loss account. Such reserves are also created with a specific purpose. The Maharashtra Cooperative Society Act 1960 has laid down norms regarding the percentage of the net profit to be allotted to the statutory reserves and divided equalisation fund only. Though we find a number of reserves in the balance sheet of the Malegaon Cooperative Factory Ltd.

Following are the important ones (1) Statutory reserve fund, (2) Dividend equalisation fund, (3) Capital redemption reserve fund, (4) Building fund, (5) Education fund, (6) Investment reserve allowance and (7) Molasses storage fund etc.

The statutory reserve fund is an important reserve, which is having first charge on the net profit. In addition to the amount transferred from net profit, amount such as entrance fees of the members, any unclaimed amount, and all indivisible profits are transferred to this reserve.

Table 4.3 shows the position of own funds in the paid up capital of the factory.

It is observed that the paid up capital has always been more than own funds. In 1975 the percentage of the own funds to paid up capital was 95.38 which decreased upto 59.14 in 1984-85. The position of the own funds remained around Rs. 52 to 60 lakhs within 1975 to 1982 years,

but it decreased in 1983 and 1984. But the paid up capital shows increasing trend and remains more than own funds of the factory.

Table 4.3 : Place of the Own Funds in the Paid-up Capital of the Factory

Year	(Rs. in lakhs)		
	Own funds	Paid up capital	% of the own funds to paid up capital
1975	57.834	60.631	95.38
1976	55.850	61.471	90.85
1977	52.896	62.464	84.68
1978	54.913	63.160	86.94
1979	58.380	63.494	91.94
1980	60.203	63.920	94.18
1981	59.895	60.337	99.26
1982	55.596	62.043	89.60
1983	30.766	62.878	48.92
1984	37.937	64.145	59.14

Source : Annual Reports of the Malegaon Cooperative Factory Ltd. 1975-85.

Table 4.4 shows the growth of the reserves in the factory.

It will be observed from Table 4.4 that during the year 1975-76, the reserves increased by 19.01 while in the

Table 4.4 : Growth of Reserves of the Factory

(Rs. in lakhs)			
Year	Total re- serves	Own fund	% to own funds
1975	10.998	57.834	19.01
1976	11.133	55.850	19.93
1977	11.918	52.896	22.53
1978	12.103	54.913	22.04
1979	12.224	58.380	20.93
1980	13.276	60.203	22.05
1981	12.408	59.895	20.71
1982	13.095	55.596	23.55
1983	13.276	30.766	43.15
1984	13.420	37.937	35.37

Source : Annual Reports of the Malegaon Cooperative Factory 1975-85.

subsequent decade the growth rate was 35.37 per cent. The growth depends upon the net profit. There is regular increase in the amount of net profit of the factory.

4.5 Deposits

The place of deposits in the activities of the factory is significant. The factory can compulsory

collect deposits from grower members and non-members also. However, there are restriction in respect of collection of the deposits from the grower members. The factory is collecting compulsory following types of deposits.

- 1) Non-refundable deposits deducted from cane price,
- 2) Fixed deposit deducted from cane price,
- 3) Non-members refundable deposits, and
- 4) Other deposits

The performance of mobilisation of the deposits could be seen from Table 4.5.

It is observed that there has been an increase in total deposits from 180.383 lakhs in 1975-76 to Rs. 494.367 lakhs in 1984-85. The increase in terms of deposits is comparatively more as it showed a continuous increasing trend.

4.6 Capital Investment

Fixed Assets

These assets are acquired and help permanently in the business and are used for the purpose of earning profits and are called 'Fixed Assets'. The factory has acquired and purchased following fixed assets, out of its share capital, reserves, deposits and profits.

Table 4.5 : Trend in Deposits of the Malegaon Cooperative Factory Ltd.

(Rs. in lakhs)

Year	Type of deposits				
	Non-re-fundable deposits deducted from cane prices	Fixed deposits	Non-members refundable deposits	Other deposits	Total deposits
1975-76	130.880	28.456	18.547	2.499	180.383
1976-77	140.452	33.731	18.547	1.558	194.290
1977-78	151.349	48.232	18.547	1.910	220.040
1978-79	161.799	61.870	9.929	4.633	238.229
1979-80	168.809	82.950	2.752	44.969	299.479
1980-81	173.982	106.967	4.894	28.051	313.895
1981-82	179.395	117.951	7.956	30.589	335.870
1982-83	184.749	121.222	11.373	49.059	364.403
1983-84	189.392	128.876	17.181	74.811	410.261
1984-85	198.977	187.983	47.232	65.393	494.364

Source : Annual Reports of the Malegaon Cooperative Factory 1975-85.

These are as follows.

- 1) Land
- 2) Productive fixed assets
 - a) Factory building

- b) Molasses storage tank
- c) Milling plant
 - 1) Preparation of cane, cane leveller, fiberizer, crushers
 - ii) Evaporation and boiling plant,
 - iii) Cooling, curing and drying plant,
 - iv) Steam & power plant,
 - v) Power plant
- d) Other machinery and equipments
- e) Tools and implements
- f) Laboratory and equipments
- 3) Fixed assets other than productive fixed assets
 - 1) Building
 - ii) Housing scheme
 - iii) Furniture & dead stock
 - iv) Office equipment
 - v) Vehicles
 - vi) Library
 - vii) Printing press
 - viii) Telephone installation

4.7 Investments

There are various types of investments, which are made by the factory in various schemes announced by the Government of Maharashtra. These are as follows.

1) Government debentures and national savings bonds, deposited to Excise Department and Tahasildar Office, Baramati.

2) Purchased shares of the cooperative societies.

a) Pune District Central Cooperative Bank Ltd.

b) Maharashtra State Cooperative Bank Ltd.

c) Maharashtra State Cooperative Marketing Federation Ltd.

d) District Cooperative Motor Transport Ltd.

e) Indian Farmers' Fertilizer Cooperative Ltd., New Delhi.

f) National Heavy Engineering Cooperative Society Ltd.

g) Maharashtra State Sugar Industry Development Cooperative Federation Society Ltd.

The above-mentioned fixed assets and investments are purchased and created by the factory, out of its share capital, reserves, non-refundable deposits and profits. Table 4.6 shows the growth of fixed assets and investments of the factory.

It will be observed from Table 4.6 that during the year 1975-76 the fixed assets increased by 11.81 per cent, while in the subsequent decade the growth rate was 10.00, so far as the investment is concerned it increased by 3.37 per cent in the year 1975-76, while in

Table 4.6 : Growth of Fixed Assets and Investments of the Factory

Year	(Rs. in lakhs)			
	Fixed assets		Investment	
	Fixed assets	% to fixed assets	Investments	% to investment
1975	327.201	11.81	2.442	3.37
1976	296.762	10.72	3.692	5.09
1977	274.268	9.91	5.243	7.23
1978	252.826	9.14	5.503	7.59
1979	242.031	8.75	7.768	10.72
1980	262.867	9.49	8.770	12.10
1981	282.315	10.19	9.780	13.49
1982	270.406	9.77	10.749	14.87
1983	283.040	10.22	9.255	12.77
1984	276.881	10.00	9.255	12.77

Source : Annual Reports of the Malegaon Cooperative Factory Ltd. 1975-1985.

the subsequent decade the growth rate was 12.77 per cent. The growth depends upon the compulsory savings.

The management increased crushing capacity in the year 1973-74 of the machinery from 1000 m.tonnes to 2500 m.tonnes per day; for this purpose the factory

had spent Rs. 2.60 crores. The amount was raised as below.

1) Loan from Industrial Finance Corporation	Rs. 85 lakhs
2) Medium term loan from P.D.C.C. Bank Ltd.	Rs. 60 lakhs
3) Medium term loan from I.D.B.I.	Rs. 50 lakhs
4) From factory funds	Rs. 50 lakhs
5) Issue of new shares	Rs. 15 lakhs

Total	Rs. 260 lakhs

CHAPTER V

FINANCIAL ASPECTS : AN ANALYSIS AND INTERPRETATION OF FINANCIAL STATEMENTS

5.1 Meaning and Kinds of Accounting Ratios

Meaning

Ratio may be defined as 'a number of expressed in terms of another number'. It shows relationship of one figure with another figure. For example, current ratio shows relationship of current assets with current liabilities. The relationship may be expressed as a quotient, a rate or a percentage.

Kind of Ratios

Basically ratios are of the following kinds.

- 1) Balance sheet ratio or financial ratios
- 2) Revenue statement ratios
- 3) Combined ratios

However, accounting section may be also classified as below.

- 1) From the view point of certain tests to be satisfied.

- a) Test of liquidity
 - b) Test of profitability
- 2) From the view point of nature of according ratio
- a) Liquidity ratio
 - b) Profitability ratio
- 3) From the view point of importance
- a) Primary ratio
 - b) Secondary ratio

5.2 Various Ratios

1) Current Ratios

Current ratio shows the company's ability to meet its maturing current obligations. In other words, the ratio indicates the relation between the current assets and current liabilities. The formulation for the ratio is as follows:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

where

- 1) Current assets include the following. Cash in hand or at bank, marketable securities which may immediately be converted into cash, stock, sundry debtors, bills of exchange (B/e) and prepaid expenses etc.

2) Current liabilities which normally include the following. Bills of exchange, sundry creditors outstanding and accrued expenses, income tax payable and bank over draft etc.

Table 5.1 : Current Ratios

Year	Current ratio
1975	2.12 : 1
1976	2.30 : 1
1977	2.38 : 1
1978	1.81 : 1
1979	1.85 : 1
1980	1.88 : 1
1981	2.21 : 1
1982	2.81 : 1
1983	2.00 : 1
1984	2.40 : 1

Source : Annual Reports of Malegaon Cooperative Factory 1975-1985.

With reference to the standard of 2:1 for this ratio, finance position is satisfactory. The current ratio which was 2.12:1 in 1975-76 has slightly come

down in 1978-79 to 1.81:1 in 1979-80 1.85:1 and in 1980-81 1.88:1 compared to the standard of 2:1 expected for the current ratio, the actual ratio for the year 1978-79 to 1980-81 is very close. So current ratios for 1975-76 to 1977-78 and 1981-82 to 1984-85 are favourable. Financial position has deteriorated in 1978-79 to 1980-81 as compared to 1975-76 to 1977-78 and 1981-82 to 1984-85. The liquid position of the factory is very satisfactory, as current liabilities are covered more than two times by current assets.

2) Quick Ratio

Quick ratio is also called 'Acid Test Ratio'. It shows the relationship that exists between the liquid assets and liquid liabilities. The formulation for the ratio is as follows.

$$\text{Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

where

1) Liquid assets mean cash in hand and at bank, sundry debtors, securities, bills receivable, current assets like prepaid expenses and stock are excluded from liquid assets.

2) Liquid liabilities normally include the following sundry creditors, bills payable, income tax

payable and outstanding expenses. Bank over draft is excluded from liquid liabilities.

Table 5.2 : Quick Ratio

Year	Quick ratio
1975	.24 : 1
1976	.32 : 1
1977	.17 : 1
1978	.14 : 1
1979	.20 : 1
1980	.65 : 1
1981	.27 : 1
1982	.36 : 1
1983	.55 : 1
1984	.93 : 1

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

Generally, one to one (1:1) is referred to as a rule of thumb standard of liquidity. Quick ratios of the years 1975-76 were .24:1 which does not appear to be good enough. The position has further deteriorated for the year 1976-77 to 1984-85. It shows a definite

weakening trend in solvency position. It is owing to a disproportionate increase in the value of stock.

The main cause of this deterioration is stock piling and reduced rates. So efforts should be taken to reduce the size of stock and increase the value of sales to make an improvement in the liquid position of the factory.

3) Stock Turnover Ratio

It is also known as inventory turnover ratio. It helps in determining the liquidity of a firm in as much as it gives the rate at which inventories are converted into sales and then into cash. It assists the financial manager in evaluating inventory policy, finding out the reasonableness of such a policy at a given level, to avoid any danger of over stocking as a prelude to the effective utilisation of the resources of the firm.

Inventory ratio can be calculated by the following formula.

$$\text{Inventory Turnover} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock (Inventory)}}$$

Hence cost of goods sold + opening stock + purchases + manufacturing cost - closing stock.

Average inventory means average of opening and closing stock.

$$\text{Average Inventory} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

The impression that can be gathered is that higher the inventory turnover ratio, the better it is so far the business, because it indicates greater sales with the same inventory. A low inventory turnover ratio may reflect dull business.

Table 5.3 : Stock Turnover Ratio

Year	Stock inventory ratio
1975	309.16
1976	319.07
1977	1.17
1978	320.97
1979	24.27
1980	286.59
1981	3.23
1982	1.99
1983	220.54
1984	5.46

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

The impression that can be gathered is that higher the inventory turnover ratio, the better it is so far the business, because it indicates greater sales with the same inventory. A low inventory turnover ratio may reflect dull business.

This ratio has sharply come down from 320.97 times. In 1978-79 to 1.17 times in 1977-78 showing less turnover of inventory in 1977-78. The stock has become slow moving so reasons for stock piling should be ascertained and efforts should be made to reduce the size of inventory so that quick ratio may also improve.

Long Term Solvency Ratio

1) Debit to Equity Ratio

Debit to equity ratio is also known as 'External Internal Equity Ratio'. The formula for the ratio is as below.

$$\text{Debit to Equity Ratio} = \frac{\text{External Equities}}{\text{Internal Equities}}$$

Is it Debt

Where external equities represents outsiders funds while internal equities represents shareholders funds. According to debit to equity ratio may also be calculated as follows.

$$\text{Debit to Equity Ratio} = \frac{\text{Outsiders Funds}}{\text{Shareholders Funds}}$$

Shareholders funds : Shareholders funds include all types of capital and reserves and surplus.

Outsiders funds : Outsiders funds include current liabilities any long term liabilities.

This ratio is very useful for analysis of long term financial condition. Normally, the acceptable standard for this ratio is 1:1 (100 per cent). This ratio signifies the excess of the proprietors funds over outsiders funds and hereby indicates the soundness of the financial structure of the business. From the long term point of view the position is not unfavourable as

Table 5.4 : Calculation of Debit to Equity Ratio

Year	Debit to equity ratio
1975	5.11 : 1
1976	6.35 : 1
1977	6.72 : 1
1978	5.71 : 1
1979	4.52 : 1
1980	4.65 : 1
1981	7.80 : 1
1982	1.03 : 1
1983	9.67 : 1
1984	7.67 : 1

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

debit to equity ratio is quite satisfactory, despite the fact that it has gone down in the next few years, and interest charges are fairly covered through in this respect also.

2) Ratio of Fixed Assets to Proprietors Funds

This ratio is found out as below.

$$\text{Ratio of Fixed Assets to Proprietors Funds} = \frac{\text{Book Value of Fixed Assets}}{\text{Proprietors Funds}}$$

This ratio indicates the relationship between the ownership funds (shareholders funds or net worth) and fixed assets. When the former is higher than the latter and there are no other current assets it shows that a part of the net working capital is supplied by the shareholder. On the other hand, if the fixed assets are in excess of the proprietors funds it shows that fixed assets are partly owned by outside creditors or in other words, a part of the fixed assets has been financed out of creditors money. Thus very high ratio reflects over investments of shareholders funds in fixed assets.

In case of industrial undertakings, standard set for this ratio is 1.85:1. This ratio is higher than standard set for this ratio. Thus, very high ratio reflects over investments of shareholders funds in fixed assets.

Table 5.5 : Calculation of Fixed Assets to Proprietors Funds Ratio

Year	Ratio of fixed assets to proprietors funds
1975-76	2.75 : 1
1976-77	2.51 : 1
1977-78	2.36 : 1
1978-79	2.13 : 1
1979-80	1.98 : 1
1980-81	2.11 : 1
1981-82	2.34 : 1
1982-83	2.29 : 1
1983-84	3.01 : 1
1984-85	2.70 : 1

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

This ratio is calculated to find out the extent to which fixed assets are financed out of long term funds. One of the cardinal principles of financial management is that long term requirements should be financed totally out of long term funds. In other words fixed asset sector should not be more than one. If this ratio is more than one, it means that some short term funds are used for long term purposes. From this

point of view fixed assets ratio of 3.01 indicated that factory has been injudicious in financing its long term requirements.

3) Ratio Current Assets to Proprietors Funds

The ratio shows percentage of shareholders funds invested in current assets. This ratio should be used in conjunction with a ratio of fixed assets to proprietors funds. If ratio of current asset to owners funds is higher than that of fixed assets to proprietors funds, it is an indication of the financial strength of the company.

The formulation for this ratio is as follows.

$$\text{Ratio of current assets to proprietors funds} = \frac{\text{Current Assets}}{\text{Proprietors Funds}}$$

Table 5.6 shows ratio of current assets to shareholders funds is higher than that of fixed assets to proprietors funds. It is an indication of the financial strength of the factory.

Profitability Ratio

1) Gross Profit Ratio

This ratio is calculated by dividing the gross profit by net sales and is usually represented

Table 5.6 : Ratio of Current Assets to Proprietors Funds

Year	Ratio of current assets to proprietors funds
1975	3.03 : 1
1976	4.68 : 1
1977	4.88 : 1
1978	4.21 : 1
1979	2.77 : 1
1980	2.88 : 1
1981	5.87 : 1
1982	8.50 : 1
1983	7.34 : 1
1984	5.78 : 1

Source : Annual Reports of the Malegaon Cooperative
Factory 1975-1985.

as a percentage. Ks per formula

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

Gross profit ratio plays an important role in two management areas. In finance area, this ratio serves as valuable indicator of the firm's ability to utilise effectively outside sources of funds. In

marketing area, it helps in shaping the price policy of the firm. This ratio is of particular importance in all such trades where there is a fixed mark-up. There is no set standard. For gross profit ratio it is usually different for different types of industry and also for different unit within the same industry.

Table 5.7 : Gross Profit Ratio

Year	Ratio (%)
1975-76	9.17
1976-77	9.49
1977-78	4.87
1978-79	10.70
1979-80	5.30
1980-81	6.74
1981-82	9.98
1982-83	11.89
1983-84	6.02
1984-85	6.97

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

The gross profit ratio increased in 1975-76, 1976-77, 1978-79, 1981-82 and 1982-83. An increase in the percentage may be due to an increase in sale price of goods without a corresponding increase in the cost of goods sold, decrease in cost of goods sold without a corresponding decrease in the sale price of goods.

A decrease in the percentage may be due to a decrease in sale price of goods without a corresponding decrease in the cost of goods sold and increase in the cost of goods sold without corresponding increase in the sale price.

2) Net Profit Ratio

Net profit is obtained by deduction all operating and non-operating expenses from the gross profits and as such represents net profit margin. It is determined by dividing the net income after taxes for the period by net sales and measures the profit per rupee of sales. It may be calculated as follows.

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100$$

This ratio takes into account income from operating as well as investment. It is very helpful in evaluating operational efficiency of the business. This ratio must be adequate enough to give reasonable return

to the investors having regard to the risks of business.

Table 5.8 : Net Profit Ratio

Year	Ratio
1975-76	.35 : 1
1976-77	-
1977-78	-
1978-79	-
1979-80	-
1980-81	-
1981-82	.25 : 1
1982-83	1.13 : 1
1983-84	-
1984-85	-

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

This ratio indicates the profitability and efficiency of the business. So far as, this faction is concerned, out of ten years only three years factory had earned net profit. In the remaining years the management of the factory invested lot of funds in fixed assets.

3) Rate of Return on Equity Share Capital

This ratio is calculated by dividing the net profit by the paid up amount of equity share capital. It is usually expressed in percentage as below.

$$\begin{array}{l} \text{Rate of Return of} \\ \text{Equity Share} \\ \text{Capital} \end{array} = \frac{\text{Net Profit}}{\text{Equity Share Capital}} \times 100$$

This ratio serves the following purposes.

1) It examines the earning capacity of equity share capital.

The earning capacity of a firm can be compared with that of another with the help of this ratio.

3) It reflects the character of the management, the probable demand for the company's products, industrial conditions and so on.

This ratio indicates the earning power of the funds invested in the business by the proprietors (Table 5.9). The percentage of return appears to be very satisfactory and therefore, the shares will have a good marketable value. But in the years 1975-76, 1981-82 and 1982-83 the factory earned profits. Therefore, for the remaining year ratios are not calculated.

Table 5.9 : Rate of Return on Equity Share Capital

Year	Ratio (%)
1975	5.30
1976	-
1977	-
1978	-
1979	-
1980	-
1981	5.46
1982	2.80
1983	-
1984	-

**Source : Annual Reports of the Malegaon Cooperative
Factory 1975-1985.**

CHAPTER VI

ROLE OF THE MALEGAON SAHAKARI SAKHAR KARKHANA LIMITED SOCIO-ECONOMIC DEVELOPMENT THROUGH COOPERATION

6.1 Introduction

Cooperative sugar factory in Maharashtra does not remain only as a cooperative production unit but also takes upon itself the role of agency of development. It becomes the agency for implementation of various important programmes such as 20 point programme, social welfare programme and other programmes of socio-economical development. The cooperative sugar factories in Maharashtra have started schools, colleges, technical institutions, as well as activities of area development like minor irrigation project, percolation tank etc. Bandharas have also been taken up by the sugar factories. There is a massive plan of providing gohar gas plants in the rural area and promotion of social forestry.

The Malegaon Sahakari Sakhar Karkhana Limited has also undertaken various programmes such as sugarcane development programme, lift irrigation scheme, supply of fertilizers, cattle breeding programme, gohar gas plant and educational facilities.

Baramati Taluka of Poona District in Maharashtra before 1960, was a piece of barren land devoid of any vegetation and scarcely populated. To-day, after 25 to 30 years, one can see this silent piece of land, which could have been the best possible abode of out-laws and criminals, buzzing with life and full of purpose. The basis force or moving spirit responsible for this transformation and development of the entire taluka has been the establishment and successful working of the Malegaon S.S.K.Ltd. and the dynamic leadership of this cooperative enterprise,

A cooperative sugar factory, when established in rural setting, does not only ensure sufficient production of sugar, but also ensures integrated all round development. It is the nucleus around which a chain of socio-economic activities take place resulting in better living standard for the lower sections of society. It catalyses the urge of a person to work and give his best by providing opportunities for the same.

In the period 1950-54, the sugarcane farmers of this area impressed by the success of Pravara Cooperative Sugar Factory in Ahmednagar district thought of establishing a cooperative sugar factory. It was decided that this cooperative factory will follow the cooperative principles of open membership, democratic control on the

basis of one man one vote, cooperative education and co-operation among cooperatives.

This factory, apart from financial gains, provides all types of services to its members so that its members do not depend upon outside agency for various inputs or other necessities connected with their farming, families or area in general.

The following schemes have been sponsored by the factory for the benefit of its members.

1) Soil Survey Laboratory

In order to bring home the modern scientific knowhow for efficient agriculture the factory has established a soil survey laboratory where the soil samples are collected and analysed. The analytical reports mention the measures to be taken by the concerned agriculturists as also advice regarding doses of fertilizers to be used by agriculturists.

2) Procurement of Fertilizers

Taking into consideration the urgent need of fertilizers to the agriculturists the factory procures substantial stock of fertilizers and distributes it to its members. The factory has introduced the scheme of distributing first doses of fertilizers on one month's credit to all the farmers to increase the productivity

of land under the sugarcane cultivation, factory helps to get fertilizer to farmer by giving financial guarantee to the societies providing fertilizer.

Table 6.1 shows increasing trend in providing fertilizers to cane grower members. In 1975-76, 144.9 M.Tonnes fertilizer was provided by the factory which has increased 2170.00 M.Tonnes in 1985-86.

3) Lift Irrigation Scheme

Distribution of irrigation block to the agriculturists was not enough. It was necessary to organise lift irrigation scheme in order to bring home the benefit. Factory, therefore, organised lift irrigation schemes costing Rs. 16.5 lakhs which provide the water facility to 1700 acres.

During the year 1975-76 six such a schemes were sanctioned of which three were completed in the same year, and three in the next year. During the year 1982-83 eight schemes were sanctioned which were completed in the year 1983-84, and in year 1985-86 twelve schemes were sanctioned and completed. Thus the factory has worked for bringing land under cultivation fully irrigated (Table 6.1).

4) Pilot Project Schemes

Maharashtra Government has introduced a

Table 6.1 : Facilities Providing by the Factory to Cane Grower Members

Year	Providing fertilizers to cane growing members (M.Tonnes)	Lift irrigation schemes		Sugarcane (Acre)	Pilot project scheme total members participated	Artificial insemination giving to the cows	Housing schemes within factory area (for weaker section people)	
		Sanctioned	Completed or in progress				Sanctioned	Completed
1975	164.9	6	3	2,000	-	990	218	110
1976	201.2	-	3	1,639 (Adsali)	2,000	1438	200	192
1977	201.0	2	2	2,000	1,228	1841	-	50
1978	195.4	-	-	1,738	1,429	2001	-	-
1979	301.00	2	-	1,432	1,200	1302	-	-
1980	429.02	5	2	2,000	395	2638	-	-
1981	111.06	7	3	2,000	983	4131	-	-
1982	1012.00	8	-	-	-	3710	-	-
1983	2304.00	-	8	2,946	2,064	3628	-	-
1984	2200.00	-	-	2,900	2,064	4213	-	-
1985	2170.00	12	12	2,927	1,807	5090	-	-

Source : Annual Reports of the Malegaon Cooperative Factory 1975-1985.

scheme for incentive cultivation of sugarcane in the factory area since 1973-74. This factory has volunteered for two such blocks of 100 acres and have successfully implemented these schemes. The yield of sugarcane as well as sugar recovery has been increased because of timely water, adequate supply of fertilizers and credit facilities to its members.

In pilot project undertaken by the factory the total members participated were 395 in 1980-81, and highest 2064 in 1983-84 and 1984-85.

The members participated in this pilot schemes were covered under 2000 acres in 1975-76 and 2946 acres in 1983-84. In 1985-86 scheme was implemented in 2927 acres.

5) Artificial Insemination Centre

The factory has its own artificial insemination centre. About 30,000 cows have been serviced and about 12,000 cross bred hifers were born.

6) Educational Facilities

The factory has established primary school, high school and technical institute as well as engineering college to provide the educational facilities not only to its members but also to the people within the area of factory.

7) Activity of the Society During
the Scarcity Period

The society did not confine its activities to the welfare of its producer members but entered into a wide range of fields when the scarcity was threatened in the adjoining area, besides the area of operation. The Government of Maharashtra introduced a scheme of community wells for small holders from the jirayat (dry land) tract. The factory volunteered to shoulder responsibility of execution of 50 such community wells in drought affected area. This has helped the poor agriculturists to come out of the impediments created by famine stricken conditions.

The factory has contributed Rs.14,65,071 towards the Chief Minister's Famine Relief Fund till 1986, and is a regular contributor to Chief Minister's Relief Fund. In this taluka various activities for uplift of small holders from the jirayat tract have been undertaken and agricultural development trust is established for this purpose.

CHAPTER VII

CONCLUSIONS AND SUGGESTIONS

7.1 Findings

On the basis of the results revealed in the previous chapters, the following are the findings.

1) Sugarcane Cultivation

It was observed that sugarcane occupies an important place in the economy of the Baramati Taluka. Sugarcane is a major cash crop in the region. The cultivation of sugarcane has been steadily increasing because of the opening of the sugar factory in this region, and also due to the availability of increasing irrigation facilities. The factory has organised eight lift irrigation schemes costing Rs. 16.5 lakhs which have irrigated 1700 acres.

The total geographical area of Baramati Taluka is 1,38,248 hectares of which only 1,00,712 hectares 72.8 per cent are under cultivation, of the total cultivation land, 44,188 hectares, that is about 45 per cent are under irrigation. The main crops of Baramati Taluka are sugarcane, jowar, cotton, wheat and bajra etc. In the Baramati Taluka 25,000 acres of land was under

sugarcane cultivation in 1984-85. Of this 7,000 acres cane cultivated comes under the operational area of the factory. The factory afford various facilities to the cultivators. The entire produce of sugarcane in the operational area is crushed in the factory. It has given a great fillip to sugarcane cultivation in the area and more and more land is being brought under cane cultivation.

It is observed that, though the factory was established 32 years ago, its development and expansion is only of recent origin. The establishment of the factory has played a major role in the transformation of economic life of people staying in and around the operational area. The factory is seasonal in character and works for about 180 days in a year, that is, from October to May and has crushing capacity of 2500 m.tonnes per day. It employs 995 persons. Of this 602 are employed on production and 393 on administration. The factory distributes a bonus of 20 per cent to its workers.

2) Overall Recovery

The recovery percentage of sugar during the period from 1975-76 to 1984-85 was studied. It was observed that during 1977-78, 1978-79 and 1979-80 recovery was 10.81 per cent, 10.78 per cent and 9.63 per cent respectively. This was a low recovery, as compared

to the average for Maharashtra during these seasons, which stood at 11.20 per cent.

For the remaining years the recovery was observed to be in the range of 11.01 per cent to 11.45 per cent which compared fairly well with many high recovery, sugar cooperatives in Maharashtra. The reasons for this high recovery have been the efforts made to procure the matured cane of required quantity consistently at the right time for crushing and the scientific harvesting and transportation arranged by the factory.

3) Average Yield Per Acre

Hectare

It is observed that the average yield of cane per acre was taken at 37 m. tonnes per acre by the technical consultants while preparing feasibility report in 1969-70. The average yield per acre during the years 1975-76 to 1984-85 was between 35.17 M.T. to 48.05 M.T. per acre. Though there is an increasing trend, yet there are no good yields. It is observed that more efforts were made to increase the yield per acre. Therefore, it may not be difficult for the factory to further increase the average yield per acre to 60-65 M.T. with additional efforts. Taking into consideration the urgent need of fertilizers to the agriculturists, the factory procures substantial stock of fertilizers and distributes it to its members in their hour of need.

This would help to maintain the fertility of land and increase the per acre of sugarcane yield.

4) Harvesting Charges

The sugarcane is harvested by the factory on behalf of the grower members and the entire expenditure incurred on harvesting and transporting of the sugarcane is borne by the factory. The main reason why the factory is taking up this responsibility is to enable it to harvest matured cane, according to its requirements as well as getting fresh cane for crushing. The cane is also properly cleaned at the time of harvesting. As a result of these operations the factory realises better sugar recovery which reduces the cost of production. Further, the factory is able to pay the same price to sugarcane growers irrespective of the distance from the factory.

5) Price of Cane

The minimum price payable by the factory is worked out on the basis of the recovery of the factory in the previous session during a specific period. The factory pays to its members ex-field total cane price. It was observed that the average price paid during the years 1975-76 to 1984-85 was between Rs.126.00 per M.T. to Rs. 298.00 per M.T. Though there is increasing

trend, yet the price paid by the factory is not fair as compared to the significant rise in the prices of inputs viz. fertilizers, electricity and labour charges in cane cultivation. Therefore, sugarcane growers were not satisfied and demanded more cane price than what was paid.

6) Difficulties in Management of Cane Development Programme

After discussion with Managing Director and Chief Agricultural Officer of the factory, it came to light that the factory has encountered the following difficulties in the proper implementation of cane development programmes. The difficulties can be identified as follows.

- 1) Cane cultivators are not yet ready to change over to advanced technology.
 - ii) Adequate finance for cane cultivation is not available in time.
 - iii) The coordination of various departments, governments and other agencies like banks, Maharashtra State Electricity Board, is not satisfactory.
 - iv) The policy of central and state governments about cane and sugar price is not stable.
 - v) Very high prices of inputs do not permit cultivator to adopt modern cultivation practices.

vi) Government is very conservative in supplying water to cane crop from irrigation projects.

7) Bagasses

It was observed that for want of a distillery of its own, the bagasses were used in the boiler, molasses sold to other distilleries and press mud used on manure and generally given to cane growers at moderate rates.

8) Share Capital

It was observed that financially factory is growing more sound and it is taking interest in development activities in its area of operation. It is collecting amount from cane growers by deducting Rs.2/- per tonne from the cane price and utilising the same for specific purposes. Therefore, the factory is in a position to undertake various development activities in the operational area.

It was further noticed that the management of the factory has linked up the proportion of shares to sugarcane acreage in the ratio of one share for every half acre. A maximum limit of 50 shares (Rs.500 x 50 = Rs. 2500) per individual member is fixed for the reason that the benefits accruing from the institution should go to a fairly large number of agriculturists.

It is observed that a factory's growth is dependent on the increase in its membership. In so far as this factory is concerned, its membership in 1975-76 increased by 7.67 per cent while in the subsequent decade it increased by 12.5 per cent. As regards paid up capital, the increase in 1975-76 was by 9.70 per cent, while in the subsequent decade it increased by 10.27 per cent.

9) Reserves

There are a number of reserves in the balance sheet of the factory, such as (i) statutory reserve fund, (ii) dividend equalisation fund, (iii) capital redemption reserve fund, (iv) building fund, (v) education fund, (vi) investment reserve allowance fund and (vii) molasses storage fund etc. These reserves are created as per the provisions of Section No.65 of the Maharashtra State Cooperative Act. Some of these reserves are created out of the net profit and some are created before arriving at the net profit. All these reserves are properly utilised for specific purposes.

It is observed that during the year 1975-76, the reserves increased by 19.01 per cent, while in the subsequent decade the growth rate was 35.37 per cent thereby establishing that the growth depends upon the net profit. There has been a regular increase in the amount of net profit of the factory.

10) Deposits

The factory can compulsorily collect deposits from grower members and non-grower members. The factory is collecting, compulsorily following types of deposits:

(i) Non-refundable deposit deducted from cane price,
(ii) Fixed deposit, (iii) Non-members refundable deposit
and (iv) Other deposits.

It is observed that the total deposits increased from Rs. 180.383 lakhs in 1975-76 to Rs. 494.367 lakhs in 1984-85. The increase in terms of deposits is comparatively more as it showed a continuous increasing trend.

Various deposits compulsorily collected by the factory can be utilised properly for expansion purposes. The non-refundable deposits stood at Rs. 1675.471 lakhs upto 1984-85. These deposits were mobilised to enable the factory to gradually redeem the share capital contributed by the State Government and repay the loans borrowed from financing institutions. The factory is becoming more and more sound financially and it is also taking interest in development activities on its own in Baramati Taluka.

11) Management

It was observed that the board of directors comprises 27 members out of which 21 are elected. There

is geographical limitation of constituencies with the result that all small and big villages get representation in the board. There is also reservation of seats for weaker sections and for backward classes. Therefore, persons from particular caste or group cannot dominate the elections.

12) Composition of the Board

The membership is entirely from among the small holders which is evident from the composition of the board of directors. Of the membership of the board, one member is from the backward class, one from the economically weaker section and one per ten members of the board from the employees of the factory. The elected members are honorary workers and are allowed to draw sitting allowance, travelling allowance and daily allowance. The board of directors has a broad base as it includes highly qualified persons as well as illiterate ones, highly rich as well as financially weaker class. There are also people from the political field and social workers class.

13) Employment

It was observed that the management is of the view that preference be given to local people from neighbouring villages for purposes of cutting and

transporting work. The management is also keen on recruiting local candidates for administrative and production jobs. But the labourers employed for cutting and transporting of sugarcane are mostly from other talukas and other districts. The management is tackling the resultant local unemployment by employing local labour by advancing finances to them to buy bullocks and carts. It was observed that the loan sanctioned for that purpose is deducted from the wage bill. However, the factory has not provided houses to these categories of workers.

14) Socio-Economic Development

It was observed that the factory was not meant to be just a manufacturing and profit making concern for the benefit of cane cultivators, but a nucleus of all round development of the area of operation through its cooperative organisation and to help rural population in all round progress. Use of fertilizers, insecticides, social status, social activities, transport facility, roads, educational facilities and annual incomes were found to have increased after the establishment of this sugar factory. The Karkhana has introduced various plans in cane development in its command area. The benefits in the field of agricultural development are being taken by shareholders, non-shareholders and Harijan community also.

The Malegaon Cooperative Sugar Factory has made every attempt towards sugarcane development programmes. The following programmes were undertaken in its area of operation such as,

- i) Soil survey laboratory for analysis of the soil
- ii) Supply of balanced fertilizers
- iii) Harijan farming and grants for sugarcane cultivators
- iv) Irrigation and allied facilities
- v) K.T. weirs
- vi) Energisation of wells
- vii) Agricultural machinery and equipments
- viii) Green manuring and supply of pressmud cake
- ix) Pilot project schemes for sugarcane
- x) Harvesting and transport
- xi) Gobar gas and bio-gas plants
- xii) Livestock - cattle breeding
- xiii) Activities during scarcity period

7.2 Recommendations

On the basis of the finding of the study, following suggestions are made for further development of the factory.

1) Need to Enforce a Strict Code of Ethics

With all steps taken so far, vested interests still continue to influence the genuine character of cooperatives. It is, therefore, necessary to enforce a strict code of ethics for the elected board of management and to streamline legal provisions for holding regular, periodical, free and fair elections.

2) Urgent Need for Sugarcane Development Efforts

The low yields and inadequate area under cane in the operational area of the factory has often resulted in low capacity utilisation, high transport cost, low recovery of sugar and high average cost of production. It is clear that there is an urgent need for sugarcane development efforts for higher yield and higher recovery there should be suitable proportion of area under 'adsali' pre-seasonal plant and ratoon cane. For the higher recovery of sugar, the sugarcane should be harvested only after the cane is fully matured. The crushing season of the factory studied was short as compared to average for the Maharashtra State during all the ten seasons. It is clear that there is inadequate supply of sugarcane. Therefore, proper efforts must be made for sufficient sugarcane cultivation in the operational area.

3) Irrigation Facilities

The sugarcane crop is a long duration crop and requires a large quantity of water. Therefore, the efforts of the factory to increase irrigation attain importance wells, lift irrigation schemes and the irrigation projects are the primary sources of irrigation. It is recommended that planned programme of increasing the number of wells, deepening of old wells with the help of land development banks, nationalised banks etc. be undertaken. The lift irrigation schemes, wherever technically feasible, should be promoted either on group schemes or cooperative schemes.

4) Extension Measures to Increase the Area under Sugarcane and the Yield of Cane Per Acre

There is scope for undertaking many extension schemes for increasing the area under cane and for improving the yield per acre.

a) Village Meetings

The factory can arrange such meetings in most of the villages in the area of operation to popularise the 'adsali' and pre-seasonal cane cultivation. The sugarcane husbandry, agricultural practices and pest and disease control measures can be discussed in these meetings.

b) Farmers Seminars

Seminars could be arranged at prominent places in the area of operation. The sugarcane experts from the agricultural university and sugarcane research stations may be invited. The modern sugarcane technology can be discussed in these seminars.

c) Technical Guidance

The staff in agricultural department of the factory can visit the site of cane growers and guide them on all aspects of cane cultivation.

d) Incentive for Higher Yields and Better Quality

The scheme of premium payment of Rs. 10 per tonne could be resolved. This can be done to popularise adsali planting and to increase per acre yield of cane. The incentive for higher yield and better quality can be provided.

e) Constant Research and Extension Measures

The poor technology of cane cultivation results in low average yields per acre and poor quality of cane. All the defects in the cultivation technology need to be removed by constant research and extension measures.

5) Services Aspects

The sugar factory could help the farmers in getting production credit, from credit cooperatives, nationalised banks etc. The services like supply of required seed, fertilizers and insecticides could be arranged on the basis of the needs assessed. The arrangements of seed multiplication of the factory's farm and on the farmers farm should be managed in such a way that the farmers growing cane are supplied with high quality disease free and healthy seed.

6) Organisation Aspects

The cane development function should be separate from the procurement development function. The cane development department of the factory should be headed by the cane development officer who should be a highly qualified and senior agricultural expert with rich experience in cane development work. He should have the equal status and salary as that of the chief chemist/chief engineer of the factory. The cane development officer should be assisted by sufficient well qualified and experienced staff under him. It is suggested that there should be two assistant cane development officers, one for plant protection and inputs and the other for extension and research.

7) It is suggested that an ancillary industry should be started in the operational area of the factory i.e. paper industry, alcohol and alcoholic liquor industry etc.

8) It is recommended that the following developmental activities may be started.

a) A Well-Equipped Hospital with Beds for Maternity, Minor Operations

The employees and their family members receive medical facilities on moderate charges. These facilities should be accessible to the producer members and their families as well.

b) Dairy and Poultry Cooperatives

Dairy and poultry are the two agriculture-based industries which can be adopted by rural population. A central poultry unit could be set up to provide layer birds, feed, vaterinary facilities and marketing of eggs. The farmers ought to be given training in scientific rearing of birds and encouraged to set up small poultry farms with 500 birds to start with.

c) Educational Activity

Educational activity such as opening a college of arts, science and commerce could be undertaken within the available infrastructure.

d) Kindergartens

These should be sponsored in villages by providing finance for salaries of trained montessory teachers and administrative expenses to manage the schools.

e) Village Library

Library is a powerful tool of adult education and enlightening the common man on literature, national and international scene, science etc. A properly equipped library hall with sections catering to the needs of youth interested in national history, culture, national resources, sports etc. is the current need.

9) General Community Servicesa) Community Marriages

Such marriages can be arranged at the community centre on factory site. The auspicious dates can be selected and published. The needy families and couples who would like to minimise ceremonial expenses can register their names. The factory might arrange the function and bear all the expenses required. This will disseminate cultural and communal awareness and help cement communal integration.

b) A Central Shopping Centre

A shopping centre and a mangal karyalaya can be constructed and managed by the factory.

c) Village Drinking Water Schemes

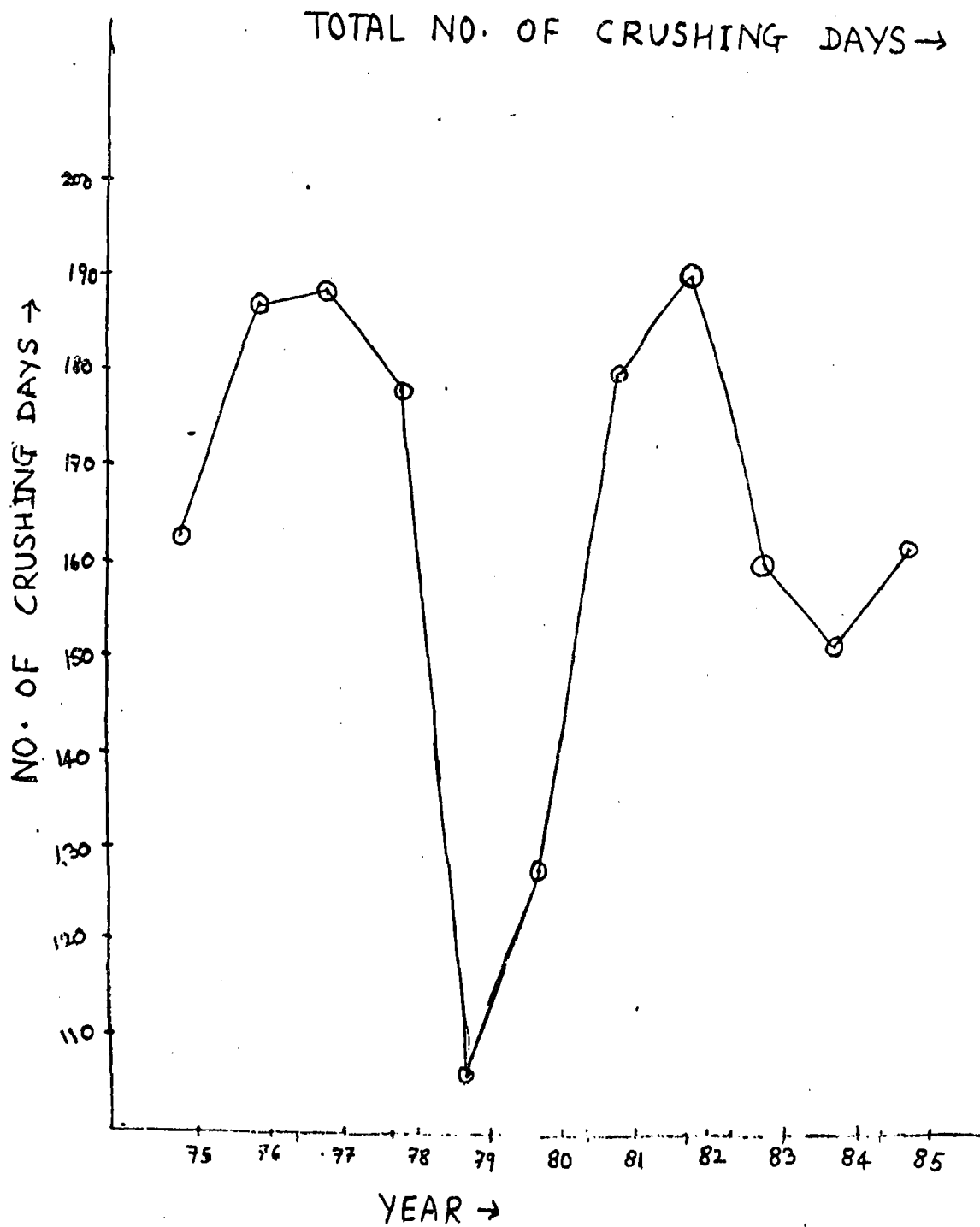
Portable drinking water is a basic necessity for better living and normal health. This scheme should be taken up at a convenient stage.

d) Utilisation of Area Development Fund, Educational and Cultural Fund

This factory is collecting an area development fund at Re.1/- per tonne every year from the farmers supplying sugarcane to the factory. This fund should be utilised for implementation of various schemes mentioned above and in the earlier pages of this dissertation.

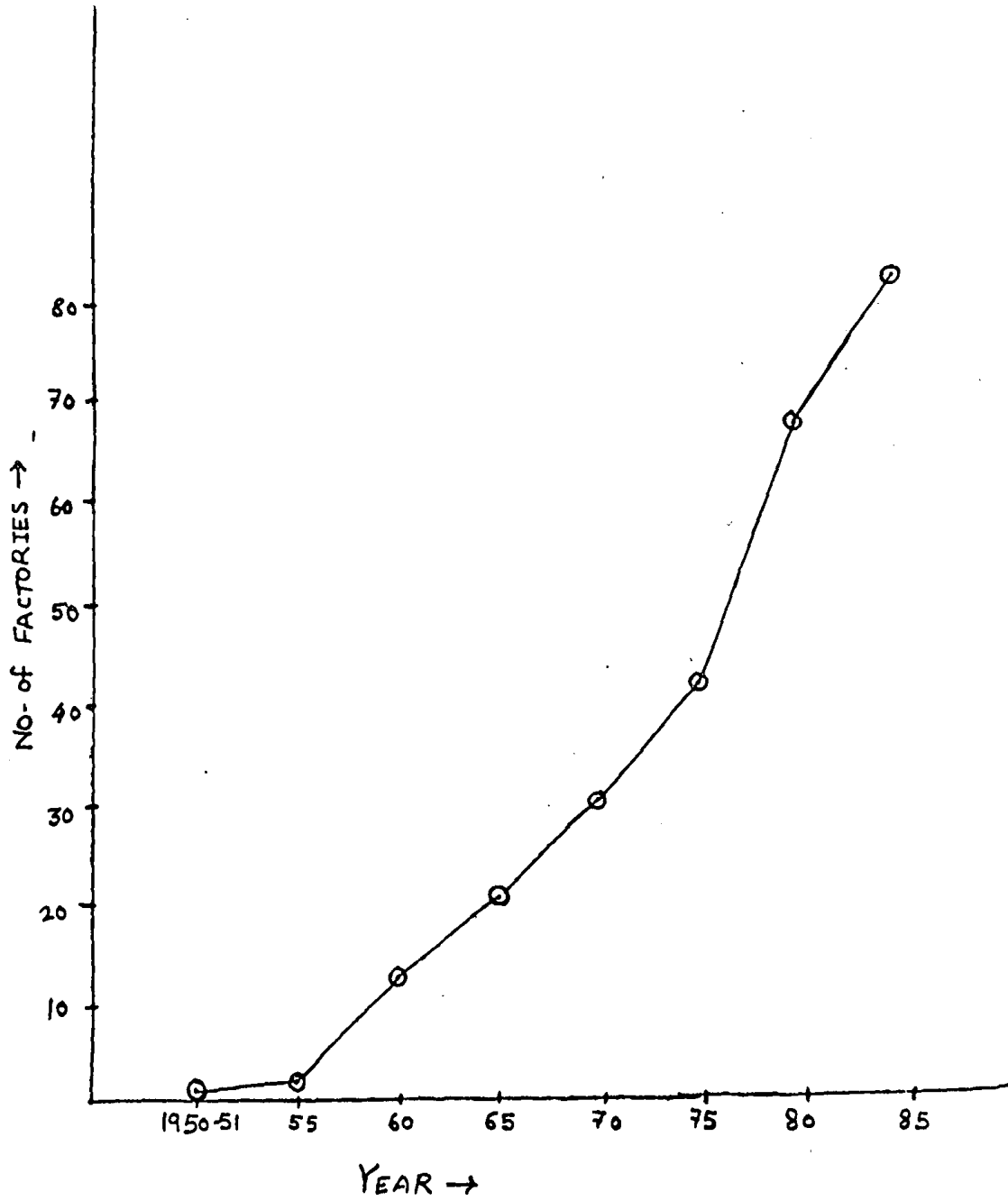
If proper and whole-hearted attention is paid to the recommendations, the factory can emerge as a highly viable source of socio-economic and cultural development of the area of its operation.

GRAPH NO 1



GRAPH NO 2

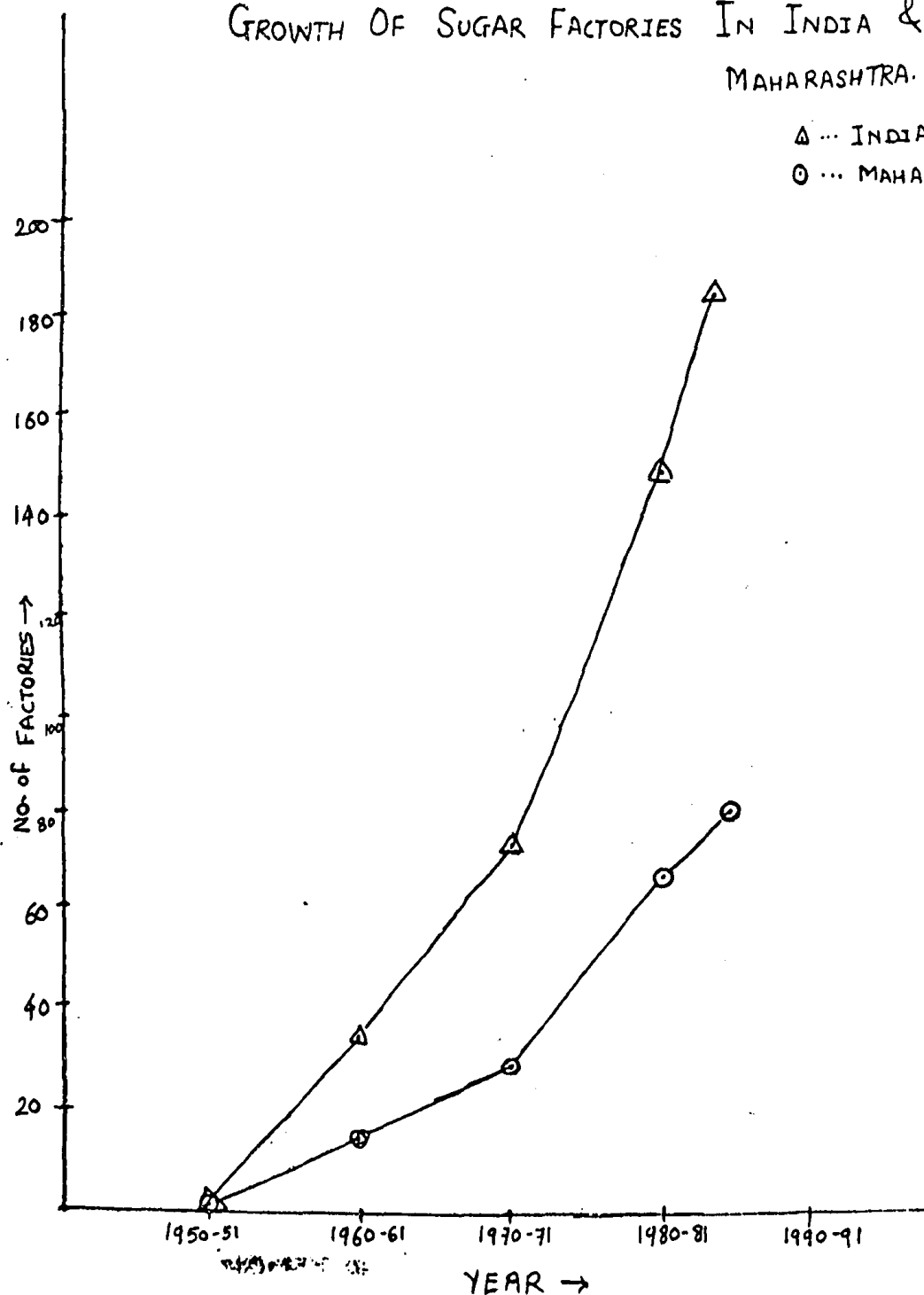
PROGRESS OF NO. OF CO-OPERATIVE SUGAR FACTORIES
IN MAHARASHTRA.



GRAPH NO 3

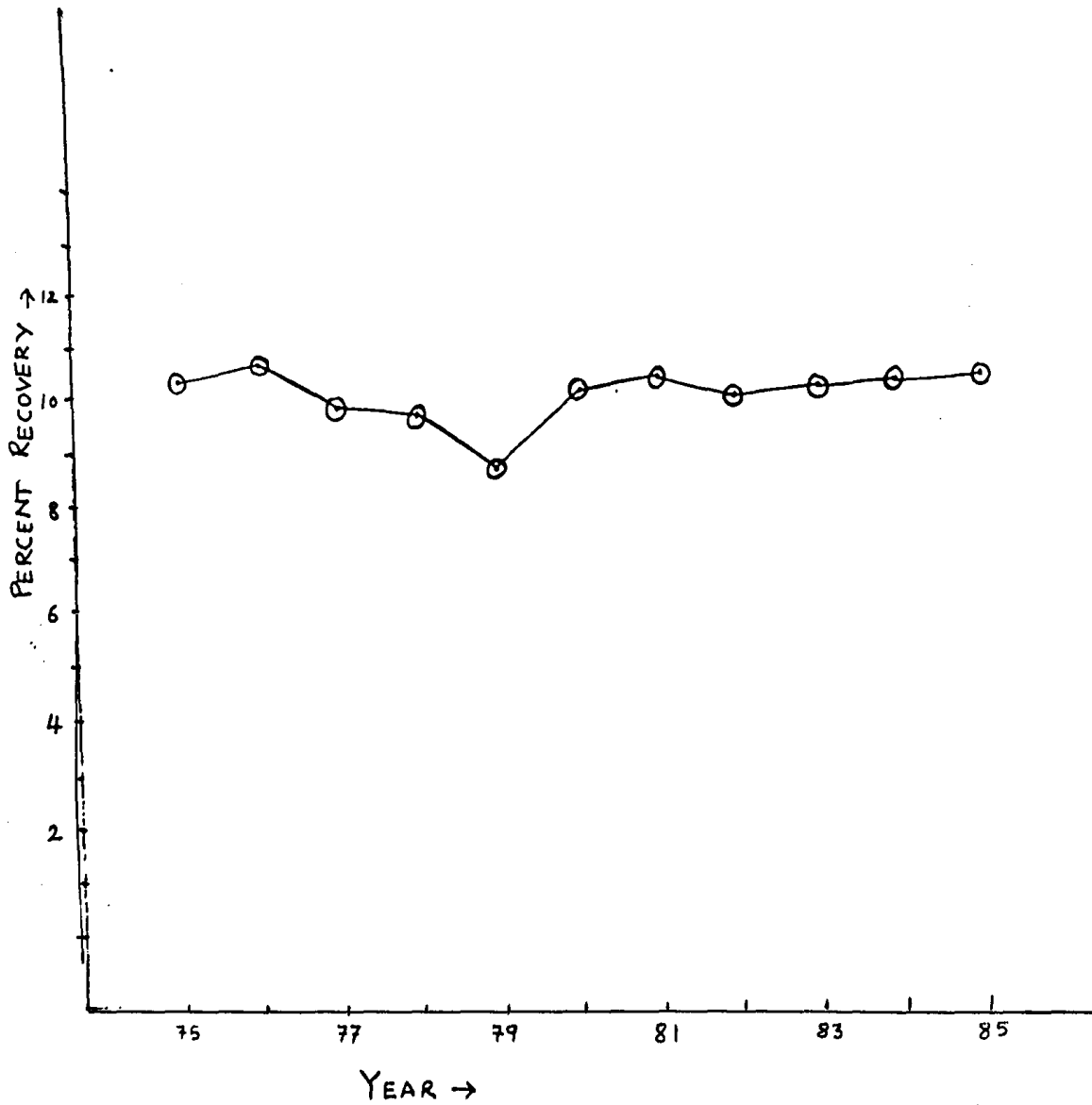
GROWTH OF SUGAR FACTORIES IN INDIA & MAHARASHTRA.

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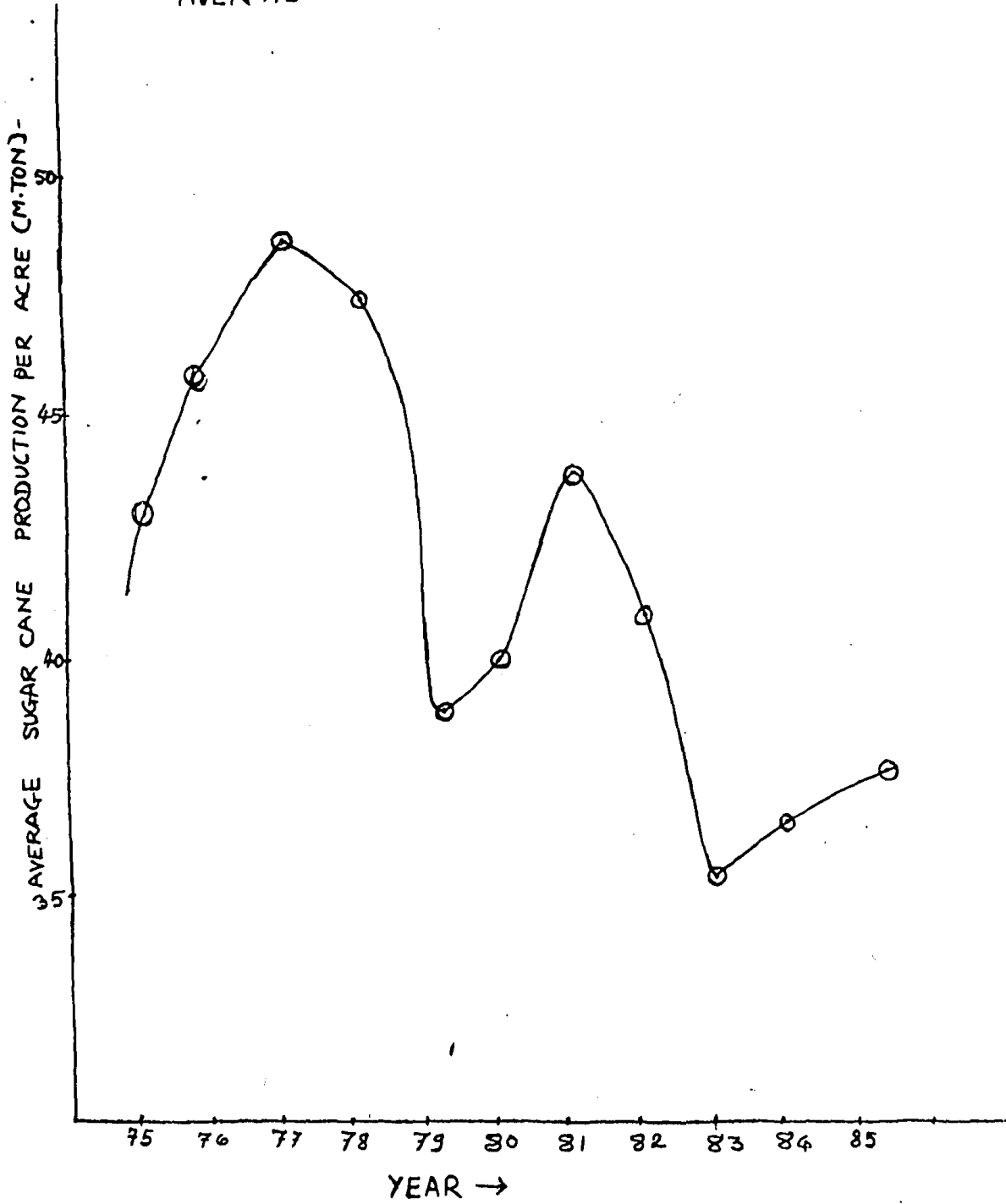
GRAPH NO 4

AVERAGE SUGAR RECOVERY OF M.S.S.K.L.



GRAPH NO 5

AVERAGE SUGAR CANE PRODUCTION PER ACRE (M.TON)



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