CHAPTER - V

INDUSTRIAL DEVELOPMENT IN MANDYA DISTRICT

Even after a quarter century of planned development of the economy, poverty and unemployment have not substantially decreased, backward regions have remained almost backward and regional imbalances have perpetuated. It is said that, industrialization is an answer for these ills. It calls for a many pronged drive, depending on the availability of natural resources, manpower and so on in a given region. There is no denying of the fact that small scale industries play a vital role in activating the resources of the backward areas.

Industry has a major role to play in the economic progress of developing countries. Industries are an essential ingredient of raid and self sustained development of the rural areas. The industrial development started as early as 1884 when the first textile mill was set up in the state. But, the year 1902 marked the beginning of new era when the setting up of the Shivanasamudram hydro – electric project gave a boost to its activities Sir M. Vishweshvaraiah was responsible for laying the foundation of a good industrial base in the state. Thus, the state is a pioneer in the field of industrial development. The industries and
commerce department was sit up in the year 1913\textsuperscript{1} and this also simulated the industrial activities in the state especially the period 1931 – 1941 witnessed lot of industrial activities.

The rural industrialization scheme launched by Sir M Vishweshwaraiah in the year 1949 is an important landmark in the history of industrial development in the state. This was mainly with a view to provide the employment opportunities to the unemployed and under employment in the rural areas. There was also sufficient impact of the industrial policy of 1948. The industries were classified into three categories, viz., public sector, and undertakings to be established and managed by government in specified fields, participation by the state government in industrial undertaking sponsored by the private sector. The need for developing co – operatives for village and small scale industries was also emphasized.

Agro – industrial development has already brought about board and overall changes in the whole economy. India which is predominantly agricultural, where labour is abundant must take up the promotion of agro – industries, which are in fact best suited to our country and development

\textsuperscript{1} Mysore Gazetteer, vol I, pp 336, 337
Agro based industries have occupied a prominent position in our economy. They are being used to promote opportunities for surplus labourers and for engaging farmers in productive use during the off-season. Agro industries provide employment opportunities to hundreds of thousands of person in the rural and semi-urban areas. Nearly 65 percent of this belongs to the economically weaker sections. So the agro based industries are helping the small and marginal cultivations to supplement their income.

The conspicuous feature of it has been the concentration of industries in a very few regions and in a few urban centres.

The national planning commission has set forth certain criteria for distinguishing agro based industries, later approved by the National development council. The industries which satisfy the criteria are those which:

1) Encourage greater inputs into agriculture.

2) Lead to better processing and conversion of agricultural commodities.

3) Ensure high returns on processed goods; and

4) Increase agriculture production.
The famine enquiry commission (1944) stated that agro based industries are those which not only assist in the industrialization of the state, but also those which are involved in supplying the farms with agricultural inputs, besides handling the products of the farms.

Agro – industrial integration can be defined as an organic link between agriculture and industries, and between manufacture of agricultural inputs and agriculture that uses them. The first is called ‘agro – based industries or processing industries’ and the second is called ‘agriculture – related industries’ that produce agricultural inputs. In this agro – industrial integration, agriculture receives its requirements from one and supplies its produce to another. Naturally, this involves and integration of agriculture with the two types of industries. In such an integration, the location of Mandya is favorable for the establishment of Agro – based industries. The industry must be in the village or at a place very near to the village so that the raw materials produced locally might be processed there, and the required agricultural inputs may be produced there with all the consequential advantages of generating additional
employment, income and investment. In brief, the agro – based industries imply the following

1) Agro – based industries foster the spirit of interdependence between agriculture and industry.

2) They use raw materials provided by agriculture, and their output has a market among the rural population.

3) Surplus rural man power is absorbed by these industries.

4) Improved technology can be adapted to increased productivity.

5) These industries should, as far as possible use indigenous technical know – how and conserve foreign exchange by avoiding the import of sophisticated machinery.

The national planning commission has included under agro - industries not only those industries which are concerned with the processing of agricultural products but also such industries which are involved in the production of farm inputs and farm implements.

While making a distinction between agro – industries and agro – based industries, the Reserve Bank of India has observed that the industries supporting agriculture by way of designing and manufacturing of inputs are generally termed as agro – industries, which are by nature, somewhat
different from those that are known as agro – based industries. The concept of agro – based industries is confined only to those industries that are engaged in the processing of agricultural produce for consumption.

According to Iqbal B.A. in his book Agro – industries key to economic prosperity, defines the term Agro – industries in a more comprehensive sense. When he states that the development of an agriculture industrial link implies the development of agriculture on the one hand, and of the entire group of industries to cater to the needs of the masses in rural areas under a system of mutual and complementary input and output relations, on the other. They signify the proximity and affinity between agriculture and industry. It is a process of joint growth of industry and agriculture in which the output of agriculture serves as the input of industry and vice – versa. These industries may be classified into broad categories as (a) processing industries and (b) non – processing industries.

(a) Processing industries are industries engaged in processing of agriculture produce or raw materials cover dehusking of rice, flour
milling, sugar, gur, Khandasari, cotton ginning and boiling oil extracting. Canning of fruit and vegetables and food preservation. (b) Non-processing industries are the industries produce farm implement and basic inputs like fertilizers, agricultural implements, tractors and oil engines, which are essentially required for intensification of agricultural developments².

The study area is Mandya district of Karnataka. One of the prosperous southern districts of Karnataka, it is one among the twenty districts of Karnataka. It was the construction of Krishnaraja Sagara Dam in 1933 that the district became agriculturally rich. The study includes the development of agro-based industry in Mandya district; it is one of the richest agricultural regions in the state. Because of the agricultural and irrigational development many agro-based industries like sugar, paper, rice, chemical fertilizers, oil extraction with some of the small scale and cottage industries have also been developed. Mandya district is one of the richest agricultural regions since 1933 in the state. Agriculture being an important occupation accommodates 85 percent of the population. Total geographical area of the district is 1.23 million, 50 percent of the land is

² Jayashree, Spatial Analysis of Agro – Based Industries – A case study of Mandya district, 1997, p 11
denoted to agricultural use. The main crops of the district are paddy, ragi, sugarcane, jowar, groundnut and horsegram. Rapid growth of industrialization and technological development have promoted agricultural, socio–economic development in this district. Therefore, agro based industries have a dynamic role to play in building up an agro–industrial economic structure in the region.

Industrialization or industrial development means the development of manufacturing industries and other related activities, such as mining, power plants, transport and communication, etc. It implies the establishment and development of factories, mills, mines, power plants, roads and railways etc. Industrialization plays an important role in the economic development of any nation. Without rapid industrialization, economic development is impossible. That is why; some economists consider industrial development synonymous with economic development. Again in a backward and developing economy, industrialization is quite indispensable. That is why Dr. M. Vishweshwaraiah remarked “Industrialize or Perish”. The then Mysore state has been pioneer in the industrial front of the economy of the country. The credit mainly goesto the farsightedness of late Sir M.
Vishweshwaraiah. Sir M. Vishweshwaraiah remarked that: “Industries are necessary to provide a proper subsistence income to our people; they are necessary to give them the means of defence in times of war and they are indispensable for keeping pace with the world’s progress in civilization”.

It was Sir M Vishweshwaraiah who gave a call “Industrialize or Perish”. The economic development of a country is judged by the extent of dependence of the people of the country on agriculture and industry, the higher the percentage depending on agriculture, the less advanced economically the country is. The state has adopted the method of rural industrialization. Industrialization depends upon several factors like growth of agricultural output, exploitation of natural resources, rapid capital formation, utilization of manpower and creation of infrastructural facilities. The industrial development started as early as 1884 when the first textile mill was set up in the state. Before the advent of the modern industrial era, some small – scale industries flourished in certain places in the district, cotton, cloth, blankets, brass, utensils, earthen ware and jaggery being some of the principle industrial products. It is interesting to

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note that Ganjam in Srirangapatana, at one time, was an industrial centre and was known for the manufacture of the best variety of cloth. This place was established by Tippu Sultan, who in order to provide it with an industrial population, is said to have brought to this place Twelve thousand families from Sira in Tumkur district which had been a seat of Nawabs. It is also said that even paper was being manufactured in Ganjam. The presence of Soda and lime nearby for bleaching purposes might have influenced its localization. The district was also known for the manufacture of wires for musical instrument during the time of Hyder Ali and had become famous. It is said that superfine indigenous steel was utilized for making these wires. The special character of wires was due to the peculiar tempiring and the high quality of steel used. The industries languished owing to decrease in demand for the wires and the difficulty in getting the proper kind of good steel, the local industry of making steel from the Mysore – made superiors brought iron practically died out and the skill was practically last. Another old time industry was the sugar factory at Palhalli near Srirangapatana, which was called the Ashtagram.

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4 C Hayavadana Rao, Mysore Gazetteer, Vol V, 1930 p 650
5 Dr. R. Balakrishna, Industrial Development of Mysore, 1940 p 30
6 Ibid p-30
7 C Hayavadana Rao, Mysore Gazetteer, Vol III, 1921, p 251
sugar works\textsuperscript{8}. This sugar mill was established in the year 1847\textsuperscript{9}. Then the Chief Commissioner of Mysore, Sir Mark Cubbon, gave his support to this enterprise and it has been recorded that this factory proved a source of great public benefit by developing the resources of agriculture in this area. The affluent position of the cultivators in this region in comparison with those of the neighbouring taluks was fully utilized\textsuperscript{10}. The Jaggery produced by them from the sugarcane and date – palm was brought to this Palhalli factory and refined into sugar on a large – scale. The prize and medal for the best crystallized sugar at the great exhibitions in London in 1851 and 1861 were awarded to the Ashtagram sugar works. At the universal exhibition of Paris in 1867, where the exhibits were numerous and competition great, “honourable mention” was also awarded to this sugar works\textsuperscript{11}. The factory was closed down in 1894. It is also gathered from that at Palhalli, there was a distillery where the spirits required for consumption in then Mysore district which included the present Mandya district were manufactured by individuals who possessed licences for the purpose\textsuperscript{12}.

\textsuperscript{8} Francis Buchanan, Journey from Madras, Canara and Malabar, 1807 p 157
\textsuperscript{9} Mysore District Gazetteer, 1869 p 94
\textsuperscript{10} Ibid p-94
\textsuperscript{11} Ibid p-94
\textsuperscript{12} Ibid p-92
Brass – casting and steel metal works were carried on at Nagamangala. It was a noted centre from times immemorial for manufacturing of Brass and steel lamp stands. God’s and Goddess and Brass vessels. The regional demand naturally increased the development of this industry. Such a flourishing industries had suffered a closure around 1914\textsuperscript{13}.

The flooding of the country with cheaper substitutes such as aluminium and enamelled wares was responsible for the waning of these artistic metal industries\textsuperscript{14}. The inlaying of ebony and rose – wood with ivory is a craft which claimed a hoary antiquity in Mysore. The gates of the Mausoleum of Tippu at Srirangapatana are proud specimens of this extraordinary skill of Mysore craftsmen\textsuperscript{15}.

Another important old – time industry was the manufacture of silk cloths in some places in the district. Silk weaving was carried on in the old days at Ganjam\textsuperscript{16} and at Sindaghatta\textsuperscript{17} in Krishnaraja Pet taluk. Silk worms were largely reared at Mandya, the cocoons being sent to Chanapatana for reeling. The raw silks brought from the neighbouring

\textsuperscript{13} V.S. Sambasiva Iyer, The Resources, Industres, Trade and Commerce of Mysore state, 1914, p-58
\textsuperscript{14} Dr. R. Balakrishna, Industrial Development of Mysore 1940, pp 29-30
\textsuperscript{15} Ibid p-48
\textsuperscript{16} Mysore District Gazetteer. 1869 p-47
\textsuperscript{17} C. Hayavadana Rao, Mysore Gazetteer, vol V, p 705
taluks was spun into thread, dyed and woven at Sindhaghatta\textsuperscript{18}. Besides, Mandya was also famous for the manufacture of a superior kind of Kambli (blanket)\textsuperscript{19}. As regards handloom – weaving, Melkote is well known even to this day for a special variety of dhotis called the Melkote dhoti. The government had undertaken two electric units which had started manufacturing R.C.C. Electrical poles. All the taluks within the district had rice mills. From ancient days varied industrial activities were undertaken such as industries, that were predominantly domestic in nature and manufactured goods such as cotton, weaving woolen blanket silk weaving, oil extracting mills, pottery. Basket weaving, Gold and Silver works, Black smithy, carpentry mat weaving, leather works and others. More number of Jaggery making units was available in Mandya district. Sir Francis Buchanan has mentioned in his travelogue that he had seen many Jaggery making units in the district. Buchanan in his travelogue had expressed that Tippu Sultan had given much attention for the development of modern industries such as sugar, sericulture, glass and so on.

\textsuperscript{18}Ibid p-705
\textsuperscript{19} Provincial Gazetteers of India – Mysore State, 1908 , p 189
Mysore, as is well known, has been a pioneer in the development of hydro – electric power. In the mid – 1890’s a third field of infrastructural investments, namely generation of electricity was being explored\textsuperscript{20}. The Cauvery power scheme was initiated in 1900 under the guidance of Sir K Sheshadri Iyer. In 1894, Mr Edmund Carrington and electrical engineer, applied for concessions to tap the water – power at the falls. He was connected with Mr. Holmes of Madras one of the pioneers of electricity generation in India. These gentlemen and Colonel Henderson, the then British Resident in Mysore, who took a keen interest in the scheme, recognized that long distance transmission of power might be possible. In 1899 the Government of Mysore took a decision to utilize the falls at Shivasamudra for the production of electric power to be transmitted to the Kolar Gold Mines. By 1900 agreements with the mining companies at Kolar had been signed and after all details of the scheme had been scrutinized by a committee of experts in London, contracts were given to one Swiss and one American firm. All necessary plant was thus imported the labour force, amounting to 5000 labourers, was likewise imported from Madras. It is told that the switch was

\textsuperscript{20} Bjorn Hettne, Political Economy of Indirect Rule Mysore 1881 – 1947. 1977. p
operated by the wife of the British Resident\textsuperscript{21}. The power developed by the first installation was 6000 H.P., but owing to the increased demand for power at the Gold fields and in Bangalore and Mysore cities for both power and lighting, the generating station was extended by the second installation in 1903, the third installation in 1907, the fourth installation in 1914 – 15, the fifth in 1918 and sixth in 1919. The seventh installation was sanctioned in 1925. The total power generated was raised by the sixth installation to 34,000 H.P. The seventh installation provided for an extra 14,000 H.P., the total power thus generated under the seven installations being 48,000 H.P. The name of Sir K Sheshadri Iyer will be remembered long as the person who laid the foundation for hydel power development in the state. The advent of electric power at the Cauvery falls site in Mandya district revolutionized industrial activity in Mysore and made it possible to established a large number of big and small industries in the state. The shivanasamudram station which was established in 1902 with an installed capacity of 4,500 kws increased gradually to 42,000 kws by 1938. As the demand for power increased, the government of Mysore took up the development of additional sources

\textsuperscript{21} Mysore Gazetteer, vol III, pp.222 -228 and Shama Rao, 1936 op. cit., 180 – 182
of power generation. The shimsha power station with an installed capacity of 17,200 kws was commissioned in 1940\textsuperscript{22}.

Industrially, although lying across the transport of corridor of Mysore – Bangalore, the district has not made much progress. The economy is mainly agrarian. There is a lack of industrial entrepreneurship which has been responsible for the slow industrialization of the district. Silk industry is the age old industry. High potential for industrialization exists in the district for rice, pulse and flour milling oil mills, sugar, gur and Khandasari mills. Being a traditional paddy area, paddy husking, hulling and processing have let to a number of industries. The industries have promoted a large employment opportunity in the district. Coir industry is yet another industry which he made much headway, with products such as yarn, ropes, mats and cushions.

**5:1 MANDYA NATIONAL PAPER MILLS, BELAGOLA:**

The Mandya National Paper Mills ltd., Belagola, is the first of its kind in India to produce high grade printing and writing paper by utilizing the sugarcane bagasse as the principal raw – material. Hitherto, bamboo has been used as raw material in the industry. The progressive

\textsuperscript{22} Mysore state Mandya district Gazetteers 1967, p 157
denudation of this source made it necessary to utilize an alternative raw material. In this context, the promoters, Messrs. Bedi and Company Ltd., realizing the great potential of bagasse as an easily available substitute, commenced negotiations with one of the leading firms of paper machinery manufacturers of the world, Messrs. Parson and Whittemore, New York, who are the pioneers in the field of research for utilization of bagasse in the manufacture of paper. The company’s efforts were crystallized in the incorporation of Mandya National Paper Mills, Belagola in November 1956 and the collaboration of Messrs. Bedi and Company Private Ltd., with Messrs. Parson and Whittemore, New York, resulted in the establishment of this mill. Bagasse is now employed successfully as a basic raw material in many paper mills throughout the world. In Cuba, Colombia, Brazil, Argentina, Formosa, the Philippines and the United States, bagasse is being successfully employed as a primary raw material in the manufacture of pulp and paper products.

Until the 1930’s the many tests and experiments on bagasse led to nothing but frustration and failure. Now, however, this raw material is recognized as being excellent, particularly in those areas, where the conventional soft woods are not readily available. Bagasse as such is

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23 Ibid p 167
24 Ibid p 168
classified as an agricultural residue along with cereal straw. Bagasse is different from the other agricultural fibres in that it is available in a large quantity at a central location, viz., the sugar mill. The bagasse paper mill, therefore, does not have to own large tracts of land or alternatively collect bagasse from many individual farmers over a wide area.

The paper mill is situated near the Krishnaraja Sagara dam where adequate land, water; housing and community facilities are available. It lies in the proximity of the Bangalore – Belagola – Mercara Road as well as the Mysore – Arsikere Railway line. Ample quantities of bagasse are being made available for the paper mill by the Mysore sugar company, Mandya. In June 1960, the construction of the factory buildings was started by March 1961. The consignments of machinery began to arrive. The erection and installation of Machinery and the construction of building were completed in February 1962. The paper mill commenced production on 2nd August 1962.

5:2 MYSORE CHEMICALS AND FERTILIZERS, BELAGOLA

The Mysore chemicals and fertilizers ltd., Belagola, which was sponsored by the Government of Mysore towards the end of 1937 as a

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25 Ibid p 168
joint – stock company, has to its credit the first synthetic ammonia plant established in India to harness atmospheric nitrogen and its utilization for manorial purposes. In the context of complete absence of coal deposits or availability of any other cheap fuel in the Mysore state, it was decided that hydrogen required for the manufacture of ammonia be generated by the electrolytic process. It was in appreciation of this fact with the Mysore Government came forward in September 1937 with certain concessions for starting this industry, the most important of which was the supply of large block of power required by the industry at a low rate. The company was started in November 1937 with an authorized of Rs. 25,00,000 and the plant and machinery for the factory were obtained on a single contract from Messrs. Chemical construction corporation, New York, and regular production started from 1940. The manufacturing plants connected to the fertilizers are electrolytic hydrogen plant and D.C. Generator, Ammonia plant, Ammonium sulphate plant, Acid plant.

In the view of the fact that the economy of the industry depended largely on the availability of electric power at a cheap rate, the government of Mysore sanctioned a concession rate of 0.125 of an anna per unit, for this industry. It was further stipulated that the above rate be
applied till the company made a net profit of 5 percent on the capital raised and with the increase in profits the above rate would be progressively raised until the normal rates of 0.25 of an anna per unit was applied. Out of the total power requirements of the factory, namely 5,000 H.P., nearly 4,750 H.P. represents power for the manufacture of the ammonium sulphate. The rate has been revised on several occasions, but at no time before 1957 did the rate exceed 0.25 of anna as originally agreed upon by the government in 1937. In December 1957, the Mysore state electricity Board agreed to supply the power at 2.7 pies per units till the end of 1958 and thereafter the rates were the same as those charged for other industrial consumers.

Water required for the factory is drawn from the Krishnaraja Sagar, the company having made its own arrangements for pumping water and disposal of waste water. The existing arrangement for pumping water to the factory is of a total capacity of 3.25 million gallons. Water pumped is mainly used for cooling purposes in the factory and nearly 95 percent of the water pumped is returned to the channel.

5:3 THE MYSORE CHEMICAL MANUFACTURER LTD:

The Mysore Chemical Manufacturer Ltd was started in 1938 with its registered office at Tarabanahalli near Chikbanavar in Bangalore
district. This company established two factories one at Tarabanahalli and the other at Belagola in 1940 and 1941 respectively, with a view to manufacturing copper sulphate, sulphate of alumina and alum. Copper sulphate is being produced at the Tarabanahalli factory and the other two products are being manufactured at Belagola. It is interesting to note that this company was the first in India to manufacture copper sulphate. The sulphate of alumina and alum, which are being produced at Belagola, are used in water purification and textile chemicals\textsuperscript{26}.

**5:4 JAGGERY MANUFACTURING**

Jaggery manufacturing was familiar to the people of the district during the later part of the 18\textsuperscript{th} century itself. The system of producing Jaggery by using sugarcane was rather and unscientifically done. Due to this method only 50 – 60 percent of crushing sugarcane juice was possible. Such collected sugar cane juice were stored in big earther jars or huge copper pans and later on mixed it with lime water and slowly boiled hot solutions used to be poured into Jaggery mould\textsuperscript{27}.

\textsuperscript{26} Ibid pp 169, 70, 71, 72
\textsuperscript{27} Mandya district Gazetteer p. 329
There was a fairly large cultivation of sugarcane in Mysore. Nearly 50,554 acres were under sugarcane cultivation\textsuperscript{28}. The agricultural department had introduced new varieties of cane\textsuperscript{29} and improved the methods of cultivation by popularizing the use of oil – cake and chemical manures. Irrigation facilities are very essential for sugarcane cultivation and as such the bulk of it is grown near large tanks and wells. Till the Irwin canal area was brought under cane cultivation most of it was being cultivated i small patches all over the state. It was in the year 1943 in the Irwin canal from, forty acres of sugarcane was newly planted 62 acres of cane was harvested supplying 1,098 tons for the Jaggery unit on the farm 368.2 tons to the sugarcane factory at Mandya\textsuperscript{30}. Sugarcane in Mandya is mostly converted into jaggery. The indigenous appliance used was the primitive wooden roller worked by a pair of bullocks. This was a very wasteful process as a large percentage of juice was left in the megass\textsuperscript{31}. The department of industries has introduced a number of technical changes both in the extraction of the juice and the conversion of it into jaggery. The three roller iron mills have largely replaced the primitive wooden rollers. The department also started a number of power crushing

\textsuperscript{28} Industrial Development of Mysore R. Balakrishna 1940 p 46
\textsuperscript{29} Mysore Administrative Report 1948 – 49 pp 109, 110
\textsuperscript{30} Mysore Administrative Report 1943 – 44 pp 90 - 91
\textsuperscript{31} Megass is the fibrous residue, after expression of sugar from cane
plants in order to facilitate the conversion of cane into jaggery. These were in the nature of pioneer institution to be eventually handed over to private enterprise. They have, however, not met with success. Either the cost of conversion has been found heavy by the farmers or the yield of jaggery less than what they obtain by the indigenous method. These fears were for the most part unfounded. Power crushing installations are the only panacea for improving the economic condition of the small sugarcane growers. Even the establishment of the sugar factory at Mandya is not expected materially to affect the indigenous jaggery making. Jaggery has an exclusive market which cannot be appropriated by sugar. As Adarkar points out “The Exclusion of the Java sugar cannot have widened the market for gur, because gur always has a more or less independent market which was never encroached upon either by the Java or the local sugar”32

5:5 PADDY:

Food crops like paddy are cultivated in greater proportion of the cultivated area in the district. It is by far the most important cereal crop cultivated in Mandya district. However, among the crops grown in the district, paddy ranked second. It is essentially grown as an irrigated crop

32 B.N. Adarkar: The Indian Tariff policy, p 93
in the (Vishweshwaraiah canal area) district\(^{33}\). In 1950’s Japanese method of paddy cultivation had become quite popular. This method yields twice the normal yield per hectare\(^{34}\). Two crops of paddy are grown in Mandya taluk, annually Mandya taluk is surplus in paddy production.

Japanese method of nursery and line planting has given the highest yield during the year an area of 1, 75, 326 acres was brought under this method of cultivation\(^{35}\) surplus paddy is being sent to other districts of Karnataka. Mandya district has two broad and distinct crop regions namely, paddy and sugarcane regions. The production of paddy during the year 1959 – 60 was 1, 39, 209 acres, and the production of rice in tons was 67, 503\(^{36}\). This figure indicates the prominence of paddy cultivation in the district and the need for rice mills industry. It may be said that the rice mill industry is the most wide – spread of all small industries in this district. In 1960’s there were 82 rice mills in the district. These rice mills are heavily concentrated in Mandya, Pandavapura and Srirangapatana taluks. With this richness of paddy in Mandya district,

\(^{33}\) P. Jayashree: Spatial Analysis of Agro – Based industries: A case study of Mandya district 1997 p 153

\(^{34}\) M.A.R. 1956 – 57 pp 128, 129

\(^{35}\) Ibid, pp 128, 129

\(^{36}\) Mysore state Gazetteer, Mandya district, 1967 p 173
there was a need for modern rice mill project. A team deputed by the food foundation, consisting of experts, inspected several rice mill all over the country and studied their methods of working. They found that there were many deficiencies in procuring, transporting, storing, parboiling, milling and marketing of paddy and rice.

After careful assessment of these factors, the team recommended to the government of India to develop a new method of handling, drying, storing and milling of paddy in order to get the maximum outturn of rice from a given quantity of paddy. It has been suggested by the experts that there was an ample scope for obtaining increased outturn of rice from paddy by adopting a combination of steps involving control of moisture, safe storage of paddy and rice, parboiling of paddy and providing modern processing equipment, which include rubber roller shellers, husk separators, paddy separators, improved whiteners, aspirators and the like. The increase in outturn of rice resulting from the use of such equipment would be considerable. A decision was taken by the central government to establish six modern rice milling units in six intensive agricultural district programme (package programme) areas in India, as a pilot study and evaluation programme. The Mandya district, which is a rich paddy growing area in the operation, was allotted a unit with a capacity of two
tones per hour. The Ryot’s Agricultural produce co-operative marketing society ltd. Mandya, has taken up the implementation of this modern rice mill project\textsuperscript{37}.

5:6 HANDLOOM WEAVING:

It is estimated that by 1960 there was about 5,500 handlooms in the district for weaving of cotton, woolen and silk fabrics. Melkote is known for manufacture of dhotis, while Talagavadi in Malavalli taluk, Kodiyala in Srirangapatana taluk and Hosaholalu in Krishnaraja Pet taluk are noted for manufacture of sarees and shirtings, especially in finer counts. Kikkeri in Krishnaraja Pet taluk is famous for silk weaving. More than 4, 400 handlooms had been brought into the co-operative fold at the end of the Third plan period and 19 cotton weaver’s societies, four woolen weavers societies and two silk weavers societies had also been organized. Besides being provided with technical advice, the weavers co-operative societies have been sanctioned a considerable amount of loans for working capital from the funds provided in the plan schemes and also from the Reserve Bank of India.

\textsuperscript{37} Ibid 174
5: 7 SERICULTURE

Sericulture has been existence in Mysore for about a century. Climate and soil conditions are the chief natural factors for its development in the than Mysore state. It was not practiced as a main industry but is subsidiary to agriculture. Approximately, 5,000 families in Mandya, Maddur, Malavalli and Nagamangala taluks are engaged in rearing silk worms. The income derived by the sale of silk – worm cocoons produced by silk worm seed rearers goes a long way in improving the economic conditions of the agriculturists. Various trials conducted confirmed that it is an ideal area for development of this industry. With a view of encouragement sericulture co-operative societies were started at Nanjegowdanadoddi in Malavalli taluk with a view to giving encouragement to this industries, a seed farm was started during 1960 at Nagamangala. In this farm mulberry occupied an area of 8 acres and 37 guntas. The farm had a target of producing Mysore seed cocoons at the rate of ten lakhs per annum. The farm also provided training to the cultivations in modern methods of sericulture by 1960’s approximately 9,000 acres of land was put under mulberry cultivation in the district. There were two government grainage centres located at

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38 Industrial Development of Mysore R. Balakrishna 1940 p - 36
Malavalli and Maddur besides these grainages, there were six chawki rearing centres. There were also four cocoon markets and three service centres in the district. Besides, there were also a government mulberry graft nursery and a training centre at Maddur. The main functions of these institutions were to prepare and distribute disease – free layings, mulberry grafts, and rearing of silk – worms and the like. There were also a number of private grainages. The cocoons produced in the district were sent either to Mysore or Chanapatana for reeling. It is interesting to note that out of the total area under mulberry cultivation in the districts, the two hoblies of Boppagowdanapura and Kirugaval in Malavalli taluk, alone accounted for 3,868 acres with 1,750 families engaged in the industry in 1960’s. Sericulturists in the district were being given by the government various facilities such as supply of high – yielding mulberry grafts, timely supply of silk – worm seeds at reasonable prices, free technical guidance and advice, financial help for sinking of wells and construction of rearing houses and grainage depots, fra supply of seed cuttings and rearing of silk – worms upto the end of second moult in the Chawki rearing centres\textsuperscript{40}.

\textsuperscript{40} Mysore state Gazetteer, Mandya district, 1967 pp 176 - 177
5:8 SUGAR INDUSTRY: A HISTORIC BACKGROUND

To the second category of industries which owe their origin both to private and government initiative belong, among others, the sugar factory and the paper mills. The history of sugar manufacturing in Mysore may be traced to a distant past. Dr. Buchanan in his travels in Mysore seems to have come across a family of “Linga Banijigaru” at Chanapatana, who had known the art of making very fine white sugar\(^{41}\). Sugar in those days made for the sole use of the court and the privilege of making it was granted as a monopoly to a chosen family. The process of making sugar was kept a profound secret by the head of the family\(^{42}\). The mechanical appliance in use was a crude contrivance made out of wood and it was set going with the help of a pair of bullocks. Chikaballapur was also famous in those days for the preparation of sugarcandy of crystal – like purity. They were being made for presentation to guests at marriages and such occasions. Dr. Buchanan mentions Palhalli as another important place for the manufacture of sugar in 1800. The Mahasura Ashta – gram district in which Palhalli was situated raised a good deal of sugarcane and attempts were being made to convert it into sugar in 1800. The Ashta – grama sugar works were established at Palhalli in 1847 for refining into sugar

\(^{41}\) Francis Buchanan : A Journey through Mysore, Canara and Malabar, Vol I, p 109
\(^{42}\) Dr. Balakrishna Industrial Development of Mysore 1940, p 86
the jaggery produced by the raiyats\textsuperscript{43}. It is mentioned that the factory was the recipient of medal for its crystallized sugar at the great exhibition held at London in 1851\textsuperscript{44}. The ruins of a large sugar factory are even now to be seen near Palhalli. In fact a particular variety of sugar bearing the name of the district Ashta – grama. At Goribidanur the Arbuthnot industrial ltd., established a sugar refinery in 1893. It was converting palmyra jaggery into sugar and was selling the molasses to the government distillery.

Sugar manufacturing however appears to have practically given up subsequently. It is very to account for the disappearance. It might have been due to either to the competition of imported cane and best foreign sugar towards the end of the 19\textsuperscript{th} century or to the ignorance of the later generation of the process of making sugar, which was kept a close secret by the manufacturers in 1800. The sugarcane grown in the state came to be converted for the most part into jaggery. Thus sugar making as an industry completely disappeared towards the close of the 19\textsuperscript{th} century. Even the department of industries and commerce has been busy in introducing better methods of converting sugarcane into jaggery than in the making of sugar. However, investigations were being conducted by

\textsuperscript{43} Francis Buchanan op.cit, vol I, p - 109  
\textsuperscript{44} H.K. Rama Iyengar: Methods and processes of disappearing industries, Mysore Census Report, 1931, Appendix IV, p 345
the department for the institution of a sugar factory in Mysore as there were a number of suitable areas available for the cultivation of sugarcane on a large scale\textsuperscript{45}.

**5:9 FURTHER DEVELOPMENTS:**

The real impetus was furnished with the opening of the Irwin canal through which the water of the Krishnaraja Sagar was led to irrigate one of the driest areas of the state. Before it could be completed in 1931 Krishnaraja Sagar Dam project had obstacles to overcome. Sir Mirza Ismail was very anxious to make the most of the project and in 1927 he appointed vishweshwaraiah as chairman of the committee that was to recommend measures for the irrigation under the Cauvery reservoir. In 1929, at a meeting of the economic conference, Alfred Chatterton strongly suggested that the irrigated area should be used for the cultivation of sugarcane.

“As most of you know there is a market in India for something like 800, 000 tons of sugar which comes from Java, the Mauritius and other sugar producing centres. There is no earthly reason why we should not grow more sugar cane and manufacturing all this sugar here. In as short time, there will be a very large extension of irrigation under the

\textsuperscript{45} Dr. Balakrishna op. cit p 87
Krishnaraja Sagar reservoir. We start in that area with this one great advantage, viz., that there are no vested rights, and it is therefore possible for government to lay down rules under which water shall be used and the kinds of crops grown….. I take it that every effort will be made to grow as much as sugarcane in this area as it is possible. It is one of the greatest opportunities that has ever offered itself to India to put sugar cane cultivation and the manufacture of sugar on a really sound footing\textsuperscript{46}. But for the protectionist policy introduced by the government of India between 1925 and 1931 it would not have been possible to take up competition with the sugar from Java\textsuperscript{47}. Compared to northern India, Mysore, however, possessed distinct advantages, like longer crushing seasons and higher yield per acre\textsuperscript{48}.

This does not mean that the ryots took to cane cultivation easily. Sugar had been grown elsewhere in Mysore for a long time and the state had in fact been famous for the preparation of sugarcandy of crystal–like purity for the use of the court. During his travels in Mysore, Buchanan, as he tells in his classic, “A Journey through his travels in Mysore, Canara and Malabar”, in the early nineteenth century came across a Banajiga family in Chanapatana who anxiously kept the process

\textsuperscript{46} PMEC, March 1929, p 103
\textsuperscript{47} Dr. Balakrishna Op.cit p 89
\textsuperscript{48} G.B. Baldwin, Industrial Growth in South India p 105
of making white sugar a profound secret⁴⁹. In the previously dry area of Mandya, where the sugar cane now was introduced along with irrigation, the cultivation of cane was, however, a novelty. The stubborn vokkaligas were not to be told what to grow and not to grow but it was considered necessary to introduce a crop which could bear the high costs of the construction of the dam. Therefore the agricultural department established a farm where 200 acres of cane were cultivated and the farmers in the surrounding areas were gradually persuaded to take up the new crop. Loans for the purchase of seeds, implements, fertilizers and drought – cattle were given freely and government purchased all the sugar cane at a fixed price⁵⁰. With this connection the prices of commercial crops, such as sugarcane in the Irwin canal area still commanded good price⁵¹. One thousand and nine ploughs of improved pattern were sold to the agricultural department and to the Mysore sugar company⁵². Sir Mirza Ismail made a speech infront of the municipal council in Mandya, predicting that “The Irwin canal and electric power are two important factors calculated to make your town the centre of

⁴⁹ Dr. Balakrishna Op.cit p 86
⁵⁰ V.L. D'Souza, Economic Development of the Mysore state, p 23
⁵¹ M.A.R. 1935 – 1936 P 3
⁵² M.A.R. 1935 – 1936 P 67
many agricultural and industrial activities. The increased capacities of sugar factory at Mandya and the various facilities created for growing sugarcane and for transport have contributed to the rapid development of irrigation under the canal. Ismail proved to be quite right. According to one critical view “the capitalist mode of production came floating down the canals with the water.” Mandya was rapidly transformed from a sleepy country – town to a commercial centre in which the sugar factory constituted the dynamic core on which the surrounding country side depended. From the point of view of the state, this was a process of development but from another angle the picture was rather one of imposed monoculture, social differentiation and economic exploitation of the small peasants who were left with no choice. The policy was not applauded in the Representative Assembly increasingly dominated by the vokkaligas. In fact it disapproved the government proposals by a small majority on the ground that the interests of the sugarcane growers (the Assembly did not have the small peasants in mind) were neglected. Ismail made it clear that this would not prevent him from carrying through the scheme and he also expressed a deep dissatisfaction with the members.

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53 The Hindu, sep 1930
54 M.A.R. 1935 – 1936 P 95
55 P.O Reinton, Technology and social structure in Karnataka, p 7
It is rather deeply disappointing that these measures, so clearly in the public interest, are not stamped with the approval of the people’s representatives here, because in such matters government has a right to your keen cooperation. By your withholding this, government difficulties are increased, no doubt, but that is an injury not to government but to the state, and it is also an injury to the prestige of democratic institutions in Mysore\(^{56}\).

Thus, it was considered undemocratic for the people’s representatives not to obey the Dewan’s order, particularly regarding economic policy, which merely aimed at increasing the strength and prestige of the state. Ismail accordingly went ahead with his programme and in 1933 a large sugar factory was constructed in Mandya town. The government was from the start deeply involved in the project. According to Ismail it was not suitable to leave the growing and production of sugar entirely to “the free play of competition” as there might be a “conflict of interests between sugarcane cultivation and the sugar producers”. Therefore, “government should take steps to bring about a well–order development of the industry\(^{57}\).”

\(^{56}\) Speech by Mirza Ismail, vol II, p 247
\(^{57}\) Ibid p 247
In the subsequent industrial policy, the role played by the state was even more important than envisaged by the committee on industrial finance. The reasons was the traditional that private capital continued to be ‘shy’. Government became part – owner of a number of industrial undertakings and was also active as industrial entrepreneur. One of the first examples of the new industrial drive was the Mysore Sugar Company started as a joint stock company in 1933. It had a share capital of Rs 20 lakhs, out of which somewhat more than half, or Rs 12 lakhs, was contributed by the government. The concern was managed by a board of directors of whom four were Government Representatives.

The Mandya sugar Factory started production early in 1934 with a small plant, having a crushing capacity of 400 tons of sugarcane per day. The quantity of sugar production during the first year was only 5, 250 tons. Encouraged by the initial success of the venture, the capacity of the factory was raised to 600 tons of cane per day in the very next year. The factory was further expanded so as to have a crushing capacity of 1, 400 tons of cane per day, in response to the pressure from the agriculturists, who were capable of growing and supplying more and more sugarcane. As a result of further additions to the plant, the factory is now capable of crushing as much as 2,000 tonnes of cane per day. The production of
sugar has correspondingly risen to 40,000 tonnes per annum. There are only a few factories in India having a comparable output of sugar.\(^{58}\) The sugar factory at Mandya was engaged in milling sugarcane for 267 days during 1939 – 40. The total quantity of sugar produced in the factory was 27,291 tons almost all the sugar produced was sold in south India.\(^{59}\)

The factory’s requirements of sugarcane amounting to about 4,00,000 tonnes per annum are grown an area of nearly 10,000 acres within a radius of 10 to 15 miles of the factory. The pressure on the factory for purchase of cane is so great that is forced to restrict the quantity to be purchased from each grower, so as to give opportunities for as large a number of cultivators as possible. The result is that the factory purchases cane in small quantities from as many as about 12,000 agriculturists. The planting of cane is spread over in such a way as to secure for the factory about four lakh tonnes of ripe sugarcane every season, which generally begins in July and lasts upto the following February or March. The Mandya factory has the longest crushing season of nearly 250 to 300 days in a year, which is almost more than double the all India average of about 130 days.

\(^{58}\) Mysore State Gazetteer, Mandya district p 161, 1967
\(^{59}\) M.A.R. 1939 – 1940 P 127
The system of growing sugarcane for supply to the factory at Mandya is rather unique and is based on modern democratic principles. The system, which is known as oppige in Kannada, consists of an undertaking on the part of each cultivator to plant and supply cane to the factory as per terms and conditions stipulated in an agreement to be executed by each one of them individually, while the company on its part, agrees to pay them for cane at the statutory minimum price fixed by the government of India, and in the meanwhile, to advance their requirements of seed materials and manure, such as ammonium sulphate, oil cake and super needed for the purpose, besides paying them a cash advance of Rs. 8 per tonne of cane, to meet the harvesting and supply expenses. The total value of advances so made to the cultivators come, on an average to about Rs. 350 to Rs. 400 per acre under normal conditions, which will be fully recovered in their respective cane supply bills with a nominal interest of four percent. As a measure of controlling the heavy onrush of applications for planting cane under oppige system, the company fixes the maximum and the minimum area to be allotted for planting cane by each individual under the sluices of the different distributaries, after eliciting the consensus of opinion of the majority of the cultivators at their annual conference. Besides, the agriculturists are
given free expert advice during the course of growing cane under oppige system and even the different stages of agricultural operations from start to finish are supervised by the company field staff, headed by a cane superintendent so as to ensure a good crop. Besides, a laboratory has been maintained at Mandya under the charge of the government. Entomologist for purpose of controlling the pests and diseases of cane and the establishment charges there on are being met by the company.

5:10 SUGARCANE FARMS:

In addition to purchasing sugarcane from the cultivators, the company also maintains its own sugarcane farms, numbering 11, comprising an extent of nearly 2,600 acres. These farms also serve as demonstration plots where experiments are conducted in regard to the various aspects of sugarcane cultivation. In the year 1943 – 44, forty acres of sugarcane were newly planted. 62 acres of cane were harvested supplying 1,098 tons for the jaggery unit and 368.2 tons to the sugarcane factory at Mandya.

The sugar company at Mandya commenced crushing only on 1st Sep 1945 due to late supplies of cane. The prospect of regular supplies till 15th Sep 1945 was not hopeful and the output of sugar was not

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60 M.A.R. 1943 – 1944 PP 90 – 91
sufficient for dispatch according to the programme for Sep 1945. The crises were averted by a redistribution of the existing stocks to the consuming centres and by increasing production in the state. The basic sugar ration to consumers was reduced as a first step towards economy. For a period of two decades from 1933, the history of the sugar industry in the state was that of the Mysore sugar company Ltd., for there was no other sugar factory in the old Mysore state. During that period, the Mandya factory was meeting the entire requirements of sugar in the state and was also sending out large quantities to the neighbouring states. The table below gives particulars of the working of the factory from the crushing season of 1933–34 to 1959–60.

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61 M.A.R. 1945 – 1946 PP 85 - 86
<table>
<thead>
<tr>
<th>Year (Crushing Season)</th>
<th>Quantity of Sugarcane crushed (in tons)</th>
<th>Quantity of Sugar produced (in tons)</th>
<th>Average recovery of sucrose</th>
<th>No. of working days</th>
</tr>
</thead>
<tbody>
<tr>
<td>1933 - 34</td>
<td>51784</td>
<td>5250</td>
<td>9.89</td>
<td>121</td>
</tr>
<tr>
<td>1934 - 35</td>
<td>83897</td>
<td>8072</td>
<td>9.54</td>
<td>203</td>
</tr>
<tr>
<td>1935 - 36</td>
<td>2,23,925</td>
<td>23348</td>
<td>10.3</td>
<td>271</td>
</tr>
<tr>
<td>1936 - 37</td>
<td>2,21,571</td>
<td>21799</td>
<td>9.8</td>
<td>255</td>
</tr>
<tr>
<td>1937 - 37</td>
<td>2,61,120</td>
<td>26335</td>
<td>9.82</td>
<td>251</td>
</tr>
<tr>
<td>1938 - 39</td>
<td>2,31,230</td>
<td>23252</td>
<td>10.05</td>
<td>204</td>
</tr>
<tr>
<td>1939 - 40</td>
<td>3,05,371</td>
<td>30601</td>
<td>8.89</td>
<td>268</td>
</tr>
<tr>
<td>1940 - 41</td>
<td>3,12,923</td>
<td>27804</td>
<td>8.28</td>
<td>263</td>
</tr>
<tr>
<td>1941 - 42</td>
<td>3,32,710</td>
<td>27455</td>
<td>9.59</td>
<td>284</td>
</tr>
<tr>
<td>1942 - 43</td>
<td>1,63,212</td>
<td>15666</td>
<td>9.88</td>
<td>232</td>
</tr>
<tr>
<td>1943 - 44</td>
<td>2,04,587</td>
<td>20211</td>
<td>9.59</td>
<td>255</td>
</tr>
<tr>
<td>1944 - 45</td>
<td>1,80,696</td>
<td>17322</td>
<td>10.66</td>
<td>232</td>
</tr>
<tr>
<td>1945 - 46</td>
<td>1,61,312</td>
<td>17505</td>
<td>10.17</td>
<td>182</td>
</tr>
<tr>
<td>1946 - 47</td>
<td>1,57,786</td>
<td>16058</td>
<td>9.58</td>
<td>191</td>
</tr>
<tr>
<td>1947 - 48</td>
<td>1,92,434</td>
<td>17358</td>
<td>8.57</td>
<td>238</td>
</tr>
<tr>
<td>1948 - 49</td>
<td>3,18,305</td>
<td>27321</td>
<td>9.54</td>
<td>341</td>
</tr>
<tr>
<td>1949 - 50</td>
<td>1,75,822</td>
<td>16783</td>
<td>9.54</td>
<td>186</td>
</tr>
<tr>
<td>1950 - 51</td>
<td>24719</td>
<td>2015</td>
<td>9.18</td>
<td>68</td>
</tr>
<tr>
<td>1951 - 52</td>
<td>3,19,268</td>
<td>37155</td>
<td>11.62</td>
<td>243</td>
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<tr>
<td>1952 - 53</td>
<td>2,45,500</td>
<td>27962</td>
<td>11.37</td>
<td>196</td>
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<tr>
<td>1953 - 54</td>
<td>12582</td>
<td>1210</td>
<td>9.62</td>
<td>37</td>
</tr>
<tr>
<td>1954 - 55</td>
<td>3,75,458</td>
<td>35312</td>
<td>9.49</td>
<td>292</td>
</tr>
<tr>
<td>1955 - 56</td>
<td>3,47,523</td>
<td>34798</td>
<td>10.14</td>
<td>266</td>
</tr>
<tr>
<td>1956 - 57</td>
<td>2,24,228</td>
<td>21631</td>
<td>9.71</td>
<td>175</td>
</tr>
<tr>
<td>1957 - 58</td>
<td>3,83,814</td>
<td>39520</td>
<td>10.4</td>
<td>239</td>
</tr>
<tr>
<td>1958 - 59</td>
<td>3,48,814</td>
<td>35906</td>
<td>10.24</td>
<td>217</td>
</tr>
<tr>
<td>1959 - 60</td>
<td>3,41,804</td>
<td>34806</td>
<td>10.37</td>
<td>249</td>
</tr>
<tr>
<td>1960 - 61</td>
<td>3,95,963</td>
<td>39049</td>
<td>10.52</td>
<td>267</td>
</tr>
</tbody>
</table>

(Source: Statistical Abstract of Mysore, 1951 pp 140, 441 and supplement p 102).
5:11 DISTILLERY BRANCH:

As a means of economic disposal of molasses, a distillery was installed in 1935 as an adjunct to the factory, with an initial capacity of 1,500 gallons of 96 percent rectified spirit per day. This was the first modern distillery to be established in India. After conducting initial experiments in the use of alcohol for power purpose, a dehydration unit which was capable of converting the industrial alcohol into absolute alcohol was established. In this case also, Mysore was the first state to install such a plant. With a view to utilizing fully all the alcohol so produced, a power alcohol act, making the selling of mixture of petrol and alcohol in certain proportions compulsory, was passed by the Mysore legislature. Later, when the demand for alcohol increased during the Second World War and the import of plant and machinery from abroad was no longer possible, steps were taken to fabricate a plant in one of the workshops at Bangalore. The Mandya distillery was also producing industrial potable and power alcohol. A major part of the requirements of industrial and potable alcohol of Mysore State was met by this distillery. The use of alcohol for power purposes was confined only to transport needs, including its use as fuel for agricultural tractors of the Mysore

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62 Mysore state Gazetteer Mandya district p 163
sugar company since 1946. It is interesting to note that production of alcohol is the barometer of the progress of chemical industry of any country. The power alcohol scheme was, however, discontinued from the year 1950.

Thus, Mandya has come to occupy a prominent place in the distillery industry also. The Mandya distillery is modern in design and had installed capacity of 1,00,000 gallons of alcohol in terms of absolute alcohol per month or 12,00,000 gallon per annum during 1950’s.

The products manufactured in the distillery are

1) Absolute alcohol, i.e., alcohol of 99.6 percent purity used for scientific and industrial purposes and as motor fuel with an admixture of petrol for power purposes.

2) Rectified spirit, i.e., alcohol of 96 percent purity used for pharmaceutical, scientific and industrial purposes.

3) Denatured spirit, i.e., rectified spirit mixed with certain prescribed denaturants so as to render it unfit for human consumption. This spirit is used largely for manufacture of polishes and for burning purposes.

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63 Ibid p 164
4) Molasses arrack; and

5) Special liquors such as brandy, whisky, gin and rum.

5:12 GREAT DEMAND

There was a great demand for the sugar, the Mysore sugar company, Mandya produced 17,332 (20,210.5) tons of sugar. A quantity of 15,133 (14,720) tons was retained for local consumption in the state, including the civil and military station of Bangalore⁶⁴. There was a great demand for the various kinds of spirits manufacturer in the distillery at Mandya both within and outside the state. There was a possibility of new uses of alcohol and the many development schemes under the Five – year plans are bound to increase the demands for alcohol for industrial purposes. Another product manufactured out of sugar, which became very popular, was honey like preparation called “Golden Syrup”. The company expanded on the line of manufacturing and putting the product on the markets on an all India scale. The superior quality of golden syrup was packed in attractive tins and there was good demand for this product from all over India. Other ancillary industries that was set up by utilizing

⁶⁴ M.A.R. 1944-45 P -68 (Mysore Administrative Report)
the by-products of the alcohol industry is apt mentioning here. The sugar is molasses is convertible into alcohol and carbon dioxide in the ratio of roughly 50:50. The sugar industry being an agricultural industry, uses large quantities of nitrogenous fertilizers in the form of ammonium sulphate for raising cane. Annually, over 3,000 tonnes of ammonium sulphate were purchased by the Mysore sugar company alone for issue to the cultivators, who supply cane to the factory. The same nitrogen requirements was met by 1,500 tonnes of urea. By the interaction of carbon dioxide with liquid ammonia which can be synthesized by utilizing nitrogen from the atmosphere and hydrogen from water, urea was manufactured economically.

Seeing the demand, the company thought of further expansion the year 1948–49, 1949–50 was an eventful one for the company. There was a proposal to increase the crushing capacity of the factory to 2,500 tonnes of sugarcane per day, for which the company has been given an industrial licence. The distillery plant is also being expanded so as to raise its installed capacity from 12 lakh gallons to 24 lakh galloons of alcohol per year. A new line of development that has been undertaken is the manufacture of acetic acid for which also the company has been given an industrial licence. The manufacture of this new product is part
of a bigger scheme for the manufacture of cellulose acetate for which a separate company has been sponsored by the Mysore sugar company. Yet another major scheme of expansion, for which also the necessary industrial licence was issued, relates to the manufacture of caustic soda and chlorine. These schemes of expansion involve a capital outlay of nearly five crores of rupees. The sugar and sugar products control order 1947 continued during the year 1947. The sugar company Mandya produced a total quantity of 27,321 tons of sugar since the sugar company urged for the disposal of its calculated surplus of sugar for the season to the extent of one lakh of bags over and above the states requirements; permission was given to them to export 8000 tons of sugar outside the state. The free export of articles of confectionery like chocolates, sweets and peppermints etc was continued during the year in view of the favourable sugar position in the state. Yet another major scheme of expansion for which also the necessary industrial licence was issued, relates to the expansion involve a capital outlay of nearly five crores of rupees. Under the guidance of Mr. Henrich caps an export industrialist, peppermint and jelly chocolate manufacturing unit was established in 1950 and my sweets. In this unit, sugar came to be used.

65 M.A.R. 1948 – 49 P 100
66 Mysore state Gazetteer Mandya district, p 163
extensively as Glucose and cold syrup\textsuperscript{67}. During 1960’s the company provided employment to nearly 5,000 persons in its factory, farms and offices and its annual wage bill on account of direct wages and other benefits amount to nearly Rs 50 lakhs.

\textbf{5:13 ESTABLISHMENT OF PANDAVAPURA SAHAKARA SAKKARE KARKHANE: (PSSK)}

With the increasing importance of the co – operative movement and the development of agro – industries in the state’s economy, coupled with the abundance of sugarcane grown round about Pandavapura the possibility of establishing a sugar factory there on co – operative lines was examined. As a result of this, a society was registered on 10\textsuperscript{th} January 1955 at Mandya to encourage proper development of agricultural industries on co – operative lines by introducing improved methods of agriculture and also to promote co – operative and joint farming\textsuperscript{68}. Another important aim of the society was to establish and manage a sugar factory. Accordingly a licence under the industries act was secured by the society on 2\textsuperscript{nd} April 1956 to start a sugar factory at Pandavapura with an installed crushing capacity of 800 tons of sugarcane per day.

\textsuperscript{67} Karnataka State Gazetteer, Mandya district, p 312
\textsuperscript{68} Mysore State Gazetteer Op.cit, p 165
This co-operative enterprises which was started in the year 1956, is managed by a Board of Directors with an elected chairman – of the 15 members of the Board of Management, 12 are elected members and the remaining three are nominated by the government and the industrial finance corporation. A capital of Rs 35, 50, 300 was invested in the factory, out of which an amount of Rs. 17, 70, 644 was contributed by the cane – growers and another Rs. 15 lakhs by the state government. The rest of the capital was borrowed from co – operative institution and patrons. The foundation for the factory building was laid on 24th October 1956.

Machineries required were obtained from West Germany and their erection commenced in December 1957. With the completion of the factory building and erection of the machinery, the sugar factory went into production from 14th September 1959.

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69 Ibid p166
The following table from the year 1959 – 60 to 1964 – 65 gives particulars of sugar production in the factory from its inception.

**Table – 5:2**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Date on which crushing was commenced</td>
<td>..</td>
<td>14-9-59</td>
<td>15-7-60</td>
<td>2-7-61</td>
<td>4-8-62</td>
<td>17-7-63</td>
</tr>
<tr>
<td>2 Date on which crushing was stopped</td>
<td>..</td>
<td>11-1-60</td>
<td>31-3-61</td>
<td>20-4-62</td>
<td>15-2-63</td>
<td>10-2-64</td>
</tr>
<tr>
<td>3 No. of days of crushing</td>
<td>..</td>
<td>92</td>
<td>203</td>
<td>226</td>
<td>158</td>
<td>135</td>
</tr>
<tr>
<td>4 Tones crushed per working day (average)</td>
<td>..</td>
<td>469</td>
<td>686</td>
<td>767</td>
<td>808</td>
<td>780</td>
</tr>
<tr>
<td>5 Maximum cane crushed on any day (tonnes)</td>
<td>..</td>
<td>820</td>
<td>850</td>
<td>940</td>
<td>1,019</td>
<td>1,000</td>
</tr>
<tr>
<td>6 Recovery % (average)</td>
<td>..</td>
<td>11.11</td>
<td>10.97</td>
<td>11.04</td>
<td>11.69</td>
<td>11.84</td>
</tr>
<tr>
<td>7 Sugar production (tonnes)</td>
<td>..</td>
<td>4,755.4</td>
<td>13,830.9</td>
<td>19,476.4</td>
<td>8,657.0</td>
<td>14,512.2</td>
</tr>
</tbody>
</table>


The amount realized by the scale of sugar during the period from 1959 – 60 to 1963 – 64 were as follows

**Table – 5:3**

<table>
<thead>
<tr>
<th>Year</th>
<th>Amount realised in Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1959 – 60</td>
<td>..</td>
</tr>
<tr>
<td>1960 – 61</td>
<td>..</td>
</tr>
<tr>
<td>1961 – 62</td>
<td>..</td>
</tr>
<tr>
<td>1962 – 63</td>
<td>..</td>
</tr>
<tr>
<td>1963 – 64</td>
<td>..</td>
</tr>
</tbody>
</table>

The table given below gives particulars of membership and share capital of the factory as on 30\textsuperscript{th} June 1964:

Table – 5:4

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Type of membership</th>
<th>Number</th>
<th>Share capital subscribed</th>
<th>Share capital paid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Grower - Members</td>
<td>5,562</td>
<td>16,41,000</td>
<td>15,10,365</td>
</tr>
<tr>
<td>2</td>
<td>Non - Grower members (individuals)</td>
<td>454</td>
<td>1,00,300</td>
<td>94,015</td>
</tr>
<tr>
<td>3</td>
<td>Co- operative institutions</td>
<td>31</td>
<td>49,200</td>
<td>49,200</td>
</tr>
<tr>
<td>4</td>
<td>Patrons</td>
<td>25</td>
<td>2,500</td>
<td>25,00</td>
</tr>
<tr>
<td>5</td>
<td>State Government</td>
<td>..</td>
<td>15,00,000</td>
<td>15,00,000</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>Total 31,47,080</td>
<td></td>
</tr>
</tbody>
</table>


The Pandavapura sugar factory, started with a genuine desire to improve the economic condition of the agriculturists of the area, is also providing employment to about 750 persons. The cane required for extraction of sugar in this factory is grown in an area of about 4,000 acres in Pandavapura, Srirangapatana, Krishnarajapet and Mandya taluks.

5:14 DEVELOPMENT OF COTTAGE INDUSTRIES AND INDUSTRIAL CO – OPERATIVES

Under cottage industries, the Malavalli town is an important centre for the manufacture of leather chappals. There were about 1,000 cobblers
in Malavalli town. Maddur, Seelanere, Hullegala and Belligere had a large number of potters. Mat – weaving was also main occupation of a number of people in Nagamanagla and Sindaghatta. There is a record of traditionally skilled artisans in Nagamanagala, who make brass images and other artistic articles of utility. The Srirangapatana taluk carpentry and smithy workers co – operative society ltd. Ganjam was organized in 1957. The Co – operative society had constructed a godown at Ganjam for storing the raw materials. The member of the society engaged themselves in manufacturing carts, furniture and agricultural implements. A sum of Rs. 10, 750 was granted to this society by government by way of loan and grant. With the rapid pace of industrialization and technological development, the need for qualified and trained men was keenly felt. Training facilities not only encourage the local talent, but also harness the same to fruitful productive activity.

Realizing the significance of such training facilities, the government started the Artisans training institute, Nagamangala started functioning from 1\textsuperscript{st} October 1959. The candidates for training were deputed from various development block areas. This institution imparted training in Smithy, Carpentry, wool and cotton weaving, sculpture, non – ferrous metal works (brass) and tailoring.
Production of good leather is essential for the manufacture of quantity foot wear which is of great demand. The training centre for retanning and rerolling of Bark – tanned leather, Malavalli was started with a view to provide training to the artisans in this craft with the use of chemicals and modern equipment. The duration of training was one year and 15 trainees were admitted at a time. Each trainee was paid a stipend of Rs. 25 per month during the period of training. Besides imparting training, the centre has also designed to serve as a common facility centre to the tanners in getting their leather processed on a nominal payment.

This centre was managed by a foreman assisted by two mechanics. The assistant director, industries and commerce is in over all charge of the centre. With a view to extending training facilities in manufacture of artistic brassware, a scheme to start a training centre at Nagamangala was approved.

Thus, we can say that Mandya district made use of rich natural resources for the growth of Industries practical steps were taken to improve the amenities in the town and villages of Mandya district. Sufficient attention was paid to the available resources, Agro – industries, and small scale industries which would yield quick return. Industrially
although lying across the transport of corridor of Mysore – Bangalore has made much progress.