

C H A P T E R 'II'

HISTORICAL BACKGROUND OF THE KIRLOSKAR BROTHERS LIMITED :

- 1) Meaning of Engineering.
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CHAPTER 'II'Historical background of the Kirloskar Brothers Limited.1) Meaning of Engineering :

The new standard Encyclopaedia and World Atlas given following information about engineering. This information is given on page 448 in this Encyclopaedia.

Civil Engineering is concerned with design and construction of bridges, roads, docks and with irrigation and its associated Mechanical devices. Mechanical Engineering deals with the machinery for generating motive power and with mechanical appliances for trade and - - manufacturing processes. Electric Engineering is concerned with all forms electrical machinery for generating power and methods of electric lighting and heating. Further specialisation has resulted in the important branches of mining, metallurgical, agricultural, chemical and wireless engineering.

The principle of engineering science and their practical application in many directions appear to have been known in very ancient times e.g. In Egypt there are the constructions pyramids, Temples and other buildings that prove the possession of a wonderful artistic skill, to say nothing of a truly marvellous, knowledge building and engineering. The magnificent temple remains at Karnak and the discoveries in the tomb of Tutankhamen are some of the many evidences of Engineering construction.

The remains of double cylinder force pumps used by the Romans show a high state of development of Mechanical knowledge.

Civil Engineering as a definite branch began in the 17th century and the discovery of the steam engine and the progress of scientific knowledge brought about the specialisation of other sections.

The interests of the science are fostered by the society of engineers in London and by the Institutions of Civil, Mechanical and Electrical Engineers, whose headquarters were also in London. The British Engineering standards Association exists to assist the profession. At the National physical laboratory there is a research department of engineering.

Engineering as a career and profession :

It is said and with some truth that engineers, like poets are born and not made. At all events a 'Feeling' for machinery is necessary to the would-be engineer if he is to find success and happiness in his crafts. As a profession engineering has achieved a status comparable to that of law and medicine.

2) Importance of Engineering Industries :

The engineering industry which includes heavy and light mechanical engineering industries and heavy and light electrical engineering industries produces

such capital goods as automobiles, diesel engines, railway waggons, machine tools, power transformers and electric motors etc. These are essential items for the development of the country. Self sufficiency in these goods in as short a period of time as possible should, therefore, be the aim.¹

Besides capital goods, these industries also produces such durable consumer goods as typewriters, bicycles, sewing machines, razor blades, radio receivers, electric fans, with increase in incomes the demand for these goods rises fast. Unless the ~~demanda~~ demand is curbed, these goods are bound to be imported, involving heavy expenditure of foreign exchange. Hence, given an income generation which permits purchase of such goods, the engineering industry fulfils a function of meeting these demands democratically.¹

Apart from domestic demand, there is a growing world market for engineering products. In fact, the industry has enabled the country to earn a sizable amount of a foreign exchange. It is being viewed as potentially the most important foreign exchange earner.²

Engineering industries are often both high skill and relatively labour intensive . Since we have abundance of skilled and semiskilled labour and also because our people digest modern technique quickly. It should be

possible to expand this industry in a short period. Cheapness of a labour can be an additional factor in our drive for the export of these products. Besides, we have enough resources to meet iron and steel requirements of these industries and at a reasonable prices.

The broader social consequences of modern engineering calls for brief attention because it has made possible wider distribution of wealth and created innumerable specific commodities and services for the satisfaction of human impulses, the life has become more democratic and richer in variety of its activity and enjoyments power production and transformation has permitted more abundant in varied foods and articles of dress among all classes, the teligraphi telephone have eliminated distances in communication and together with power printing press.

The above description gives a vivid picture of the progress and development of an Engineering field from prehistorical period till to present day. The description of the growth of an engineering is general and universal in nature applicable to all the developed and developing countries.

3) History of Engineering Industries in India. :

The foundation of modern industries were laid in India in the second half of the 19th century

and upto the time of the First World War, the two major industries of cotton and jute textiles for which the country had exceptional natural advantages, had developed substantially. The policy of discriminating protection adopted in 1922 gave an impetus on the development of a wide-range of industries including steel, paper, sugar, cement and matches. Between 1922 to 1939 the production of matches, glass, vanaspati soap and several engineering industries also recorded large increases. Towards the close of interwar period, the manufacture of electrical equipments and goods was also initiated.

The second world war created conditions for maximum utilisation of existing capacity in Indian industries. This was the major factor responsible for the increased record in industrial production. Conditions were, however, not favourable for setting up of large scale industries for producing equipments, and plants for new industries. Several industries such as Aluminium, Diesel engine, pumps, Bicycles and certain types of machine tools were started on a modest scale during this period. But the major impetus of the war was felt in the sector of medium and small scale industries, such as light engineering, medicines and drugs, cutlery etc.

The Engineering Industries were started in India a hundred years back and they are as old as cotton



and jute textile industries of the country. With the development of railways engineering workshops owned and operated by the railways themselves began to establish. Private firms were established for the construction of bridges and fabrications of general steel structures. Waggon building, repair and replacement of parts like buffers, axle boxes, vacuum break fittings etc. was also undertaken by private firms. Upto the beginnings of the first world war, railway workshops represented the most predominant section of the engineering industry. With the development of consumer goods, industries like cotton, jute and sugar repairing work of a varied nature began to arise and mechanical engineering industry began to expand. Machinery like hydraulic presses began to be manufactured in India. Formerly not only machines but also raw material requirements in the form of iron and steel goods were also imported. But after the establishment of Tata Iron and Steel Company, structurals, tin plates, galvanised sheets, wire nails, etc. required by engineering industries came to be produced in India in sufficiently large quantities. Important Engineering firms Braithwaite and Company, Born and Company, Jessop and Company etc. were started by British Entrepreneurs and were located in the vicinity of Calcutta.

According to the industrial census of 1911, there were 7113 engineering factories in India. In the

year 1924 nearly 40 firms were on list of the Members of the Indian Engineering Association. Between 1929 to 1934 the engineering industry suffered a great set back as the capital works programmes of Central Government and provincial Governments and the railways were cut down on account of the general depression. After this the industry began to expand slowly and in 1939 the membership of the Indian Engineering Association had gone upto 58.

The outbreak of the second world war proved to be blessing in disguises for industry was then geared to war production. A fresh stimulus was provided for its growth later by successive five year plans.

Now engineering industries turn out a large variety of items from pin to aircraft. The range of the product covered include Diesel Engines, Automobiles and ancillaries, bicycles machinery, machine tools, electronic instruments and electronic motors, heavy electric - equipments, castings, transmission towers and a host of light mechanical engineering goods. Engineering industries in India have set up a record for themselves during six Five Year plans. With such a dynamic progress at home, India engineering industries have gone into the export market to earn valuable exchange for the country, thereby portraying a new international image of Industrial India.

4) Historical Background of "The Kirloskar Brother Limited" Kirloskarwadi.

Introduction :

The founder of the Kirloskar group of industries was late Laxmanrao Kashinath Kirloskar. He was born in 1868 in a village Gulahasur in Belgaum in a Mysore State (Now Karnatak State). He had preference to Mechanical line from his school life and therefore came over to Bombay and completed a course of Technical Draftsmanship at J.J. School of Arts. He had worked sometime as a assistant drawing teacher in school at Bombay, on a salary of Rs. 35/- per month. He widened his mechanical knowledge and subscribed to several American Magazines.

He had rejected the promotions and resigned from the school and started production of small commodities such as boxes and buttons. At the same time he had also started the business selling and repairing the bicycles.

In 1896, he had left Bombay and came to Belgaum where his brother was a school teacher. He had opened a cycle shop with the help of his brother. This began the business partnership of Kirloskar Brothers.

History of the Organisation :

" The Kirloskar Brothers " had began its manufacturing of hand chaff cutters in the small workshop, in 1900 at Belgaum. In 1902, Laxmanrao Kirloskar was

entrusted with the work of constructing a Mandap (Assembly hall) in front of Yamai Temple at Aundh in Satara District of Maharashtra State, by the Maharaja of Aundh. He had completed this task within 4 years satisfactorily. This work had become one of the chief ornaments at Aundh. It could seat 1500 people and 1200 books were kept in the Upper gallery, which ran round the hall.

In 1903, he shifted his workshop on new a site at Thalakwadi at the outskirts of Belgaum. This expansion was made for increasing the production.

In 1905 the first iron plough was made in workshop of Kirloskar. The first batch of 6 ploughs remains unsold for two years. After two years enlightened a farmer from Miraj had took the risk and bought all the six. The sales increased from 6 to 200 per annum. 14 years later a record figure of 40000 in a single season was reached.

In 1910, the Belgaum Municipality served with a notice to shift factory within a six months from the date of notice. The Maharaja of Aundh came to his rescue and offered a land and a loan of Rs. 10,000/-. So in 1910 the factory was shifted from Belgaum to Kirloskarwadi on a holy day.

The present factory of Kirloskar Brothers was established on 32 Acres of land near Kundal Road Station (Now known as Kirloskarwadi) in ex-Aundh State. This was a barren dwelling place of dacoits and wild animals, no water provision and was full of odds. But with entire efforts of his 33 faithful workers, who came with him from Belgaum, he was able to restart the production in 1911.

The factory at Kirloskarwadi was 4 years old when the first world war brokeout. This had brought a critical time for the factory. Production cost of plough had to be increased from Rs. 39/- to Rs. 70/- . At the same time Mr. Kirloskar added many other small products to the line of manufacture. Therefore, number of workers rose from 50 to 800.

The year 1920, was the important year. It had converted the factory into limited company with an authorised capital of Rs. 1,00,000/-. In 1920 first sugarcane crusher was produced and in 1921 first drilling machine was produced. In quick succession came improved ploughs, chaff cutters, Winddasses, draw-pulleys for wells and other type of crushers.

In 1926 steel furniture item Ground nut decorticators and the centrifugal pumps were developed. Between 1930 to 1939 several new products like diesel

engines, electric motors, looms and dobbies, lathes and drilling machines and gas plans were developed.

Large impetus was given by the second world war and a lot of orders were received and executed. New types of pumps, sugarcane crusher, ploughs, concrete mixtures, sluice valves were also developed and manufactured.

In 1957 technical collaboration was entered with M/s Sulzer Brothers Limited of Swiss. With the help of this foreign organisation Kirloskar produced Sulzer pumps in India. The production of vertical turnet lathes super shaper and planning machines etc. was started in 1961. The manufacture of Hemmatic compressors was started from 1972. Job work of automatic energy power project had been undertaken from 1973.

At present the Kirloskar Brothers Limited is the biggest manufacture in pumps both in quality and size. Its registered office is at Poona and factories at Kirloskarwadi, Dewas and Karad.

The present financial position of the company for the year ending 1985 and 1986 was as under :

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The Kirloskar Brothers Limited, KirloskarwadiFinancial position for the year ending : 31.7.1986

| | Year ended 31.7.1985 | Year ended 31.7.1986 |
|--|-------------------------|-------------------------|
| <u>Authorised Capital</u> | | |
| 5000000 Equity shares of Rs. 10 each | 50000000 | 50000000 |
| 175000 Red. Cum Pref. shares of Rs. 100 each | 17500000 | - |
| 100000 95% Red. cum Pref. shares of Rs. 25 each | 2500000 | |
| 200000 Pref. shares of Rs. 100 each | - | 20000000 |
| <u>Issued capital, Subscribed, Paid-up Capital :</u> | | |
| 3072430 Equity shares of Rs. 10 each | 30724300 | 30724300 |
| Reserve and Surplus | 90759699 | 97948144 |
| Fixed Assets | 112449228 | 105093677 |
| Investment | 15632959 | 15632959 |
| Current Assets | 188306152 | 205039446 |
| Total : Assets (Net) | 316388399 | 325766082 |
| Loans (Secured & Unsecured) | 225628640 | 227817398 |
| Total Funds employed | 316388339 | 325766082 |

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The Kirloskar Brothers Limited had declared following rates of dividend.

| <u>Year</u> | <u>Rate of Divident</u> |
|-------------|-------------------------|
| 1976-77 | 6 % |
| 1977-78 | 12 % |
| 1978-79 | 12 % |
| 1979-80 | 12 $\frac{1}{2}$ % |
| 1980-81 | 15 % |
| 1981-82 | 12 % |
| 1982-83 | 12 % |
| 1983-84 | 10 % |
| 1984-85 | 10 % |
| 1985-86 | 10 % |
| 1986-87 | 10% |

The Kirloskar Brothers Limited, KirloskarwadiProgress at a glance

| | Year ended 31.12.84 | Year ended 31.12.85 | Year ended 31.12.86 |
|------------------------|------------------------|------------------------|------------------------|
| | Rs. in 000's | Rs. in 000's | Rs. in 000's |
| Sales & other Income | 681708 | 692645 | 899618 |
| Profit before interest | 40673 | 46253 | 62796 |
| Interest | 40334 | 43809 | 53544 |
| Net profit | 339 | 2444 | 9252 |
| Dividend | 3310 | 3290 | 3072 |
| Borrowings | 207833 | 225629 | 227817 |

Distribution of Income

| Heads | Year ended 31.12.84 | Year ended 31.12.85 | Year ended 31.12.86 |
|---|------------------------|------------------------|------------------------|
| Salary, wages, bonus and other benefits to employee | 15.64 % | 16.53 % | 13.27 % |
| Materials | 56.87 % | 54.08 % | 53.80 % |
| Taxes and Duties | 7.56 % | 7.91 % | 12.81 % |
| Other Expenses | 11.62 % | 12.11 % | 11.38 % |
| Interest | 5.91 % | 6.32 % | 5.95 % |
| Depriciation | 2.37 % | 2.12 % | 1.50 % |
| Balance | 0.03 % | 0.93 % | 1.29 % |

Today 'The Kirloskar Brothers Limited' is playing an important role in the production of pumps of various sizes and volves. It sales product not only in India but also in foreign countries. It helps the country to some extent to solve the problem of foreign currency. In the previous Five Years company earned a lot of foreign exchange by exporting its products to the international markets.

Following are the earning values of goods exported.

| <u>Year</u> | <u>Foreign currencies in Rupees.</u> |
|-------------|--------------------------------------|
| 1981-82 | 2,75,92,214 |
| 1982-83 | 1,99,06,957 |
| 1983-84 | 2,06,72,067 |
| 1984-85 | 2,78,65,634 |
| 1985-86 | 4,03,81,539 |

Foreign Collaborations :

The Kirloskar Brother Limited has entered into foreign collaboration agreements with -

- 1) Oil Tool Specialities Company, U.S.A. for manufacture of Christmas Trees and Conventional wellhead assemblies.
- 2) Godiva Fire pumps limited, U.K. for manufacture of Fire Fighting pumps.
- 3) Nikkiso Company Limited, Japan for manufacture of Canned Motor pumps.

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The above collaborations will strengthen the capabilities of the company in the respective fields.

Joint ventures :

Kirloskar Rateau limited was established in the year 1984 as a joint venture company in India in which Alsthom of France were to hold 30% equity shares and the balance by the Kirloskar Brother Limited. The said company was to be 100 % export oriented unit in manufacturing and exporting multistage pumps.

(Note - yet the Central Government did not permit the French Company to invest in the said joint venture company. Therefore Alsthom have now withdrawn from this project).

The Kirloskar Brothers Limited, Kirloskarwadi

Product Development

The Kirloskar Brothers had began its manufacture of hand chaff cutters in the small workshop in 1900. In the life of 87 years it has been manufacturing various types of products. The product development is listed below :

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| Sr.No. | Name of the product | Year |
|--------|---------------------------------|------|
| 1) | Chaff cutter | 1900 |
| 2) | Iron plough | 1905 |
| 3) | Sugarcane crusher | 1920 |
| 4) | Drilling machines | 1921 |
| 5) | Steel furniture | 1926 |
| 6) | Decorticators centrifugal pumps | 1927 |
| 7) | Diesel engines | 1930 |
| 8) | Electric motor | 1930 |
| 9) | Lathe and Drilling machines | 1930 |
| 10) | Screw pumps | 1951 |
| 11) | Slice valves | 1957 |
| 12) | Mixed flow pumps | 1958 |
| 13) | Verticle turbine pumps | 1958 |
| 14) | Verticle turbine lathe | 1961 |
| 15) | Sealed compressors | 1963 |
| 16) | Shaper better machine | 1964 |
| 17) | Engine monoblock pumps | 1966 |

During the year ending 31st July 1986 the Kirloskar Brothers Limited manufactured the following classes of goods.

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| Sr.No. | Class of Goods |
|--------|---|
| 1. | Power Driven pumps |
| 2. | Metal cutting including grinding machines. |
| 3. | Reduction Gear units |
| 4. | Valves |
| 5. | Decorticators |
| 6. | Sugarcane crushers |
| 7. | Ploughs |
| 8. | Hermetic sealed compressor units |
| 9. | Alloy Iron castings including steel castings. |
| 10. | Cast Iron castings. |
| 11. | Hydraulic and pneumatic equipments. |

Information about area and manpower :

The present factory was established on 32 Acres of land. After its establishment it had purchased land and extended its activities in the purchased land. It had shifted its Head Office at Poona.

Factory area - Land 42 Acres

Builtup area - 5100 sq.m. (13 Acres)

Colony area plus irrigated land - 180 acres.

Manpower :

In 1900 when the factory was shifted from Belgaum to Kirloskarwadi there were only 33 workers. Now the total number of workers is 3451.

Classification of worker :

| | | |
|----|---|-------|
| a) | Senior vice president and executives | 8 |
| b) | Staff technical and Non-technical | 429 |
| c) | Clerks and others | |
| | 1) Clerks | 269 |
| | 2) Draftsman Mech. | 54 |
| | 3) Junior Tech. | 28 |
| | 4) Inspectors | 93 |
| d) | Workers | |
| | Unskilled | 311 |
| | Semiskilled | 1551 |
| | Skilled | 536 |
| | | ===== |
| | Total Number of workers (including officers) | 3451 |
| | | ===== |