Raw material base of jute industry in India

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What is Jute?

Jute as a Fibre and its significance:

Jute is a commercial plant. It grows upto a height of more than 16 feet. It has a straight, cylindrical stalk with branches only near the top. It contains golden bast fibre. The fibre in the plant forms into continuous strands and run the entire length of the plant stem. Characteristics of the fiber that makes it of commercial significance are softness, strength, length and uniform size. Fibers may be bleached readily producing various shades.

Jute is the cheapest fibre in commercial use (as packaging material). Its low cost, due chiefly to large yields per acre and splendid adaptability to modern methods of manufacture, is the most significant factor in its enormous consumption. However, as it is suitable for use chiefly as bags and covers, jute does not command a high price. Many commercial products such as wheat, rice, cotton, wool, fruits and even small pieces of hardware are shipped in jute bagging. More than three fourths of all mill manufactured jute is used for packaging, principally agricultural products. Jute is also used in the manufacture of carpets, rugs, hersians, linoleum, webbing yarns, twines and to some extent as a textile material in combination with finer fibers.

So far as the importance of jute industry is concerned India happens to be the most important centre of jute industry in the world with about 58% of world's loomage. About 2-3 lakh persons or roughly 7% of total industrial population in India find employment in this industry. Jute goods are the most important earners of dollar and foreign exchange resources and hence the importance of this industry in the economy of the country hardly needs any emphasis. The jute goods earn about Rs. 100 crores annually.

Quality of Jute fibre:

The character of jute fibre depends upon its length, strength, colours, lusture, percentage and quality of cutting and proportions of defects like roots, specks, knots, runners, hard crop etc. and such as qualities, colour, lusture and strength are considered as very important by the mills. Good quality of jute fibre can only be available in areas where proper conditions for jute cultivation exist. Various factor like setting, cultivation practices, diseases and pests and climatic conditions influence the quality of jute fibre.

Areas of Jute cultivation in India and world:

The low, nearly level, alluvial and deltaic plains of the Ganges and Brahamputra rivers, with their friable soil the fertility of which is renewed by annual inundation are main areas of jute cultivation. These areas stand for nearly 80% of land under jute cultivation in India. These areas give high yield per acre even without crop rotation or fertilization. Other areas of jute cultivation include the parts of Bihar, Orissa, U.P., Meghalaya and Tripura states which accounts for rest of land under jute cultivation. India alone controls nearly 38% of world's land under jute cultivation followed by Bangladesh (nearly 27%), China (nearly 13,5%), Thailand (nearly 6%). Other countries like Brazil, Western African countries etc. share the rest of the land under jute cultivation.

In India jute is grown during the rainy season, since a moist heat is favourable to its growth. The jute areas receive more than 65" of rain per year, most of it falling from April to September. During this period the mean monthly temperature is more than 80° F and the relative humidity between 80 and 90%. It thrives well in areas with alternate periods of sunshine and rainfall. Young jute plants are very sensitive to waterlogging which retards their growth. It is desirable to adjust the showing time of jute in such a way that the crop may attain a height of 3 to 4 feet before the arrival of the monsoon. Many tributaries, distributaries and depressions receive flood waters from the heavy percipitation in the headwaters of the major streams and furnish numerous pools of water needed for the preparation of the fiber. These streams provide the chief means of transporting the fiber to the major markets.

As these areas are highly populated cheap but skilled labourers are available. Labour accounts for about 1/5 of production cost. This is high owing not so much to unit wages paid but to the methods of cultivation and preparation which require large number of workers.

Early Jute Industry in India:

The Indian Jute Textile Industry has developed in Bengal along Hooghly River from Cottage industry level in which form it was an indigenous industry before the 19th century. Jute cloth were used by the villagers in Bengal.

Jute gunnies and hessians were also made by the people on a cottage industry basis. Records show that jute was first used in India by the villagers for making cordage and paper. Later, narrow strips of cloth were made from jutes in handlooms. Subsequently these strips of cloth were pieced together to make bags and wrappers. It is interesting to note that Dundee Flax Spinners succeeded in making fine jute cloth known as Hessian.

Modern Jute Industry:
Pre-Partition Development:

During the time of the East India Company in the later part of the 18th century, jute fibres were sent to U.K. for investigation into the uses to which it could be put. The report proved favourable and in 1832 the first jute mill of the world was established at Dundee in Scotland. The mill at Dundee was developed entirely on raw jute supply from India. For about twenty three years since the inception of the first jute mill, Dundee remained the most important centre of the jute industry. In 1855, the first jute mill in India was established at Rishra near Serampore, 12 miles north of Calcutta on the Hooghly river by Mr. George Acland of the Borneo company and since then this industry has expanded. It was a power driven mill for spinning jute yarn. In 1859 weaving machinery was imported and a powerloom was started at Barangore by the Borneo company thereafter the cottage industry of jute substantially perished.

In 1875 the number of jute mills around Calcutta became 16. By 1879—80, in the Hooghly industrial belt 21 mills with 5.5 thousand looms and 900 spindles could be stablished. Towards the close of the century the number of mills went upto 36, equipped with 16.2 thousand looms and 3.35 thousand spindles. Indian Industry had to compete with the mills at Dundee but the Hooghly Industrial Region had the advantage of proximity to raw materials and skilled and cheap labourers whereas Dundee has the backing of a strong technical knowledge since the U.K. was a manufacturer of machinery. The Hooghly Industrial Belt had to depend desperately for its supply of machinery and spares on U.K. By 1909-10 India became the leading producer of jute goods by outstripping Dundee in the international market. During the period 1909-1914 India had 60 mills in the Hooghly side with 33.5 thousand looms and 6.92 thousand spindles.

Initially, after its inception in India the jute mill industry made remarkable progress. The demand for jute gunnies and hessians abroad inspired the development of the industry. But the jute industry had a chequered history of development and progress.

The first world war gave a great set back to the industry due a shortage of labour, paucity of coal supply and difficulties of transport. However, the industry maintained its progress on account of gunny bags which were used as sandbags in the war. From 1913-26 the number of looms went upto 50.5 thousand and the number of spindles also increased to 10.64 thousands. During the years of economic depression, the jute goods lost market abroad. Many countries due to loss of purchasing power, discoverd substitutes. They used sisal hemp or hemp or flax to make gunnies and ropes and thus avoided buying Indian jute goods. Some countries had to curtail their consumption.

Due to this alarming situation the jute industry, the then Bengal Govt. set up in 1932, Finlow Committee to advise on the regulation for the production of jute, the marketing of jute and the possibilities of any other substitute replacing it. The Indian Central Jute Committee was formed in 1936 to safeguard the interest ot jute growers and to suggest ways and means to popularise Indian jute goods in foreign markets. But before any effective steps could be taken for the revival of the industry on a stable footing, the second world war (1939-45) darkened the political horizon of Europe. Labour trouble paucity of coal supply and loss of market abroad and transport difficulties adversely affected the jute mill industry. After the war was over come the partition of country in 1947 as a result of which most of the jute growing areas went to East Pakistan while all the jute mills excepting a few remained in the Indian Union on both sides of the River Hooghly near Calcutta.

The introduction of modern spinning frames has helped to save labour, increase produc-

tion, reduce waste, decrease in widing costs through the use of large bobbins. Easier handling and piecing of yarn has also been possible due to this. Single yarn are twisted together in order to make a thread or twine. The quality of the twine depends upon twist. Single yarn is twisted by twist against twist and twist on twist. Single yarns are twisted to produce a ply in thread. Twines are required for sewing, carpet making and weaving.

Post Partition Scene:
Changes in Acreage and Raw Material Supply:

As a result of the partition of India in 1947 about 80% raw jute producing areas went to East Pakistan now Bangladesh, while 20% remained in India. Thereafter the Indian Govt. embarked on a policy of increasing the acreage under jute fibre. The total requirement of raw jute in 1947 for the jute mills was about 6 million bales, while the total production of raw jute was only 1.7 million bales. As a result of the «Grow More Jute Drive» in 1948, the output increased to 2.1 million bales and acreage under raw jute also increased. The area under jute cultivation reached a peak of 790 thousand hectares in 1951-52 when the price ratio of jute to paddy was 2.52. In absolute terms it was an all time peak of Rs. 45.75 per 37 kgs of jute. But the area again went down in 1953-54 and 1954-55, because of very low prices for jute in the preceeding season. The other peak area of 773 thousand hectares was recorded in 1956-57. The area went down in 1960-61 to finally record an all-time maximum average of 1036 thousand hectares in 1961-62. The area has come down to 874 thousand hectares in 1963-64 and it has never attained even the acreage of 1963-64 upto 1979-80. It showed 942 thousand hectares in 1980-81 and again slumped to 827 hectares in 1981-82.

So far as the production of the raw jute is concerned it increased to more than 3 million bales in 1952. It has recorded an increase of 259.3% in 1963-64 over the figures of 1947-48. Quantitatively the supply of raw jute has increased from 1.66 million bales in 1947 to 5.96 million bales in 1963-64. To augment de supplies the mesta (H cannabenus) has been utilised by the jute industry alongwith jute, and the cultivation of Mesta has progressed quite fast and has exceeded the 1965-66 target of 1.3 million bales as it has varied from 1.15 million bales in 1955-56 to 1.82 million bales in 1963-64.

TABLE 1
Acreage and Production of Raw Jute in India

Years	Production in million Bales	Area in 1000 Hectares
1951-52	3.10	790
1956-57	3.15	773
1960-61	4.14	1036
1963-64	5.96	874
1970-71	4.94	885
1971-72	5.68	815
1972-73	4.98	700
1973-74	6.22	793
1974-75	4.47	673
1975-76	4.44	587
1976-77	5.35	737
1977-78	5.38	798
1978-79	6.49	884
1979-80	6.07	834
1980-81	6.51	842
1981-82	6.82	827

Source: Times of India Directory (1984) p. 129-130 & Choudhary, M.R. (1982): Jute Industry in India, Oxford Book and Stationary Corp. Calcutta, New York, p. 13 and Sinha, B.N. (1973): Industrial Geography of India, The World Press Pvt. Ltd., Calcutta, p. 55-56.

India had a plan to produce a target of 6.2 million bales of jute and 1.3 million bales of mesta by 1965-66 and 9.0 million bales of jute by the end of fourth plan. But the production did not reach to even 7 million bales upto the year 1981-82. During almost years it showed between 4.5 million bales to slightly above 6 million bales except 6.51 and 6.82 million bales during 1980-81 and 1981-82 respectively.

Though, there has been a fluctuation in area and production of raw jute since then, India is now self-sufficent in the supply of raw jute for her mills.

It will be seen that between 1963-64 and 1981-82 the area under jute has decreased by 5,4% but the production has increased by 14.4%. This suggests that the production has increased significantly from 6.82 bales per hectare to 8.24 bales per hectare during the last 17 years or so.

The table-2 provides the statewise pattern of acreage and production during 1978-79, 1979-80 and 1981-82. It exhibits that the production and acreage are variable in different years. It also exhibits that the production and acreage are dominated by West Bengal followed bay Assam, Bihar and Orissa.

TABLE 2

States	Production of Raw Jute			Acreage		
	1978-79 (in 000 bales)	1979-80 (in 000 bales)	1981-82 in million tonnes)	1978-79 in 000 hectares)	1979-80 in 000 hectares)	1981-82 in million hectares)
West Bengal	4124	3778	4.47	538	504	0.51
Tripura	35	35	NA	4	4	NA
Assam	889	885	0.95	115	11/	0.11
Meghalaya	42	42	NA	6	6	NA
Bihar	840	870	0.83	161	157	0.14
Orissa	439	320	0.41	49	46	0.05
Uttar Pradesh	91	90	NA	11	10	NA

Source: Choudhary, M.R. (1982): op. cit., p. 15 & Times of India Directory (1984); p. 186.

The table 3 portrays the yield pattern of raw jute in India. It has remained about 7 bales per hectare in most of the years.

TABLE 3
Yield of Raw Jute in India

Years	(1 bale 3 181.43 kgs) Yields per hectares
1971-72	6.97
1972-73	7.11
1973-74	7.84
1974-75	6.73
1975-76	7.59
1976-77	7.26
1977-78	6.73
1978-79	7.32
1979-80	7.28
1980-81	6.92
1981-82	8.24

Source: Choudhary, M.R. (1982) op. cit., p. 13 & Times of India Directory.

The Planning Commission observes, «Besides establishing annual fluctuations in jute acreage and production, efforts are required to be taken to increase the production for meeting the growing requirements of the industry. Equally important is the quality improvement of jute fibre for meeting domestic and export needs.»

Hence there is need of stepping un per hectare yield by intensive methods of cultivation. Formation of an effective buffer-stock is a desirable necessity to ensure against the seasonal fluctuations of prices.

Change in Production:

The production of jute mills in India has not undergone any considerable change since independence. This is mainly because of the fact that just after independence the industry was facing a crisis of a dearth of raw materials. Thereafter the jute mills have suffered considerably because of the delay in creating additional capacity. Due to absence of demand, large stock of finished goods were not marketed. Paucity of funds prevented jute mills from buying raw jute from the market. In West Bengal which produces nearly 80% of jute outputs, jute mills here heavily suffered due to inadequacy of demand of jute goods or problems of power generation. The more significant explanation of the long term generation , seems to lie in case of West Bengal, as documented in several reports of the committee on Public Undertakings of the Indian Parliament (1978), in the structure of ownership and control in the industry. The structure of ownership and control in the industry. The structure to the reports is dominated by a few big houses and given this nearly monopolistic position, it has been possible for the jute industrialists by restricting the production of jute goods to depress the raw jute price and increase the prices of jute goods as the same time and thereby increase potentialities of profit.

The average level of production of the jute industry in India during the First Plan was 9.74 lakh tonnes. During the Second Plan the average production was 10.6 lakh tonnes. During the Third Plan the figures stood at 12.2 lakh tonnes and after which the production declined considerably and came to about 9 lakh tonnes in 1978-79. It further increased to 11.91 lakh tonnes in 1980-81 and subsequently dropped to 11.08 lakh tonnes in 1981-82.

The trend of jute production in West Bengal also exhibits near stagnation and significant fall in 1979.

TABLE 4
Production of Jute Goods in India

Years	Production in lakh tonnes	Years	Production in lakh tonnes
1961-62	10.69	1972-73	10.44
1962-63	12.18	1973-74	9.37
1963-64	12.49	1974-75	9,39
1964-65	13.20	1975-76	11.36
1965-66	12.27	1976-77	10.40
1966-67	11.52	1977-78	10.08
1967-68	11.41	1978-79	9.09
1968-69	9.32	1979-80	11.54
1969-70	9.69	1980-81	11.91
1970-71	9,79	1981-82	11.08
1971-72	11.38		

Source: Indian Jute Mill Association and Times of India Directory, 1984, p. 130.

TABLE 5
Production in West Bengal

Year	1960	1975	1976	1977	1978	1979
Production	10.8	9.8	10.3	10.3	10.4	9.9

Source: Indian Jute Mill Association.

Reduction in excise duty and various incentives for export that may be available from Government side may improve production. Market research for greater domestic utilisation of jute goods is essential. The urban and industrial areas only use jute goods for domestic purposes. In a country where about 80% of the people live in villages the possibilities for utilisation of jute fibres for different purposes should also be carefully examined. At the same time quality products at competitive prices must be produced for the international market.

Changes in Trade of Jute Products:

Jute goods are Indian's largest foreign exchange earner. During the first, second and third plans jute goods accounted for 24.6%, 19.2% and 21% respectively of the total exports of the country. There was a decline no doubt in the quantum of jute exports from India in 1973-74 but even during that year the commodity contributed to 12.7% of the total exports from the country. Subsequently, however, there have been fluctuations in the export of jute products from India, but even today jute remains one of the most important earner of foreign exchanges.

Table-6 shows the recent trend in the trade of jute goods from India:

TABLE 6
Recent trends in the Export of Jute goods from India
(000 tonnes)

Years	Hessian	Carpet backing	Jacking	Other goods	Total export	Value (Rs in million)
1975-76	228.9	151.8	62.5	36.1	479.3	—
1976-77	225.4	108.4	65.4	29.0	428.2	—
1977-78	281.2	133.3	61.0	45.0	520.5	—
1978-79	153.7	102.0	37.2	23.9	316.8	1.701.8
1979-80	199.5	103.9	43.5	24.7	371.6	2.659.8
1980-81	358.3	81.9	65.5	52.2	557.9	3.991.0
1981-82	—	—	—	—	369.0	2.165.0

Source: Choudhary, M.R. (1982); op. cit., Times of India Directory 1984, p. 130-31

There has been a decline in the export of jute goods to different countries from India. The USSR takes the lead in the import of Hessians from India followed by the USA. More than 1/3 hessians exported from India find their destination to the USSR and the East European countries. Again, there was a decline in the export of hessians from India from 2.3 lakh tonnes in 1975-76 to 1.9 lakh tonnes in 1979-80. The year 1978-79 exhibits only 1.5

lakh tonnes of export of hessians. In 1980-81 the export of hessian increased to 3.6 lakh tonnes. It might have again slumped during 1981-82 as the total export has declined.

In the import of carpet backings, the USA takes the lead. The quantum of export of carpet backing has also declined considerably from 1.5 lakh tonnes in 1975-76 to 81.9 thousand tonnes in 1980-81.

The export of sacking also declined considerably from .63 lakh tonnes in 1975-76 to .37 tonnes in 1978-79. In 1980-81, however, the export of sacking increased to 65.5 thousand tonnes. About 30% export of sacking reaches to the USSR.

The export of various other jute goods also declined from .36 lakh tonnes in 1975-76 to .25 lakh tonnes in 1978-79. Though USR is the main importer of other goods. The quantum of import by that country has also declined considerably.

Acording to experts the export trade in jute goods has suffered considerably due to absence of adequate and timely actions for both export sustenance and market promotion. Various measures both short term and long term have been suggested for improvement of the situation of jute export trade which inter-alia include production of raw jute at the level of industry's annual requirement and rationalisation of production and export sectors.

India requires for the jute industry about 7.5 million bales of raw jute annually. Acreage under jute fluctuates from year to year depending in the profitability of its cultivation. A higher production very often brings down the price-resulting into lower acreage under jute in the subsequent year. A glut in production in any year is followed by a fall in production in another. A stable price policy can alone overcome the situation arising out of this vicious cycle and fluctuation in jute production.

A closer examination of the national and international price of jute products is also needed. A national price policy for various jute goods can also be helpful in inspiring the buyers to plan their purchase programmes for a longer period. Other factors that must be helpful include compliance of procedural formalities in export at various international levels and keeping up the delivery schedules. It is pointed out that non-delivery and delay-delivery constitute the bulk of the complaints in jute goods trade. According to experts there is enough scope for simplification of the existing trade mechanism by importing an element of direct approach between the seller and the buyer as is generally followed in the marketing of carpet backing cloth. Such a reform, it is expected, would bring down the marketing costs and also reduce eventually the per unit landed price of some jute goods.

It is also necessary to assure fimely available of cargo for shipment to various destinations in different times particulary through the post of Calcutta through which pratically all the jute trade passes.

Present Distribution of Jute Industries:

The Table 7 given below portrays the fact that the industry is highly concentrated in West Bengal which contains about 80% of the jute mills in India the linear jute belt stretches along the Hooghly river for a distance of about 60 miles and can be divided into five zones: (l) Bhatpara-Jagatdak; (2) Titagarh-Khardah; (3) Budge Budge Birlapur; (4) Champadni; and (5) Howrah.

There are several reasons for such a high concentration of the industries in India in general and at Hooghly side in particular of which the availability of raw material is the chief cause.

In Bihar the industries have flourished at Katihar and Semastipur. The industry has also

flourished in Uttar Pradesh at Gorakhpur and Kanpur. In Madhya Pradesh at Raygarh and in Andhra Pradesh at Chitwalsah and Nellimalli in Vishakhapatanam district.

TABLE 7
No. of jute mill companies in operation on Jan. 1, 1981

States	
West Bengal	55
A.P.	4
Bihar	3
U.P.	3
M.P.	1
Assam	1
Orissa	1
Tripura	1
Total	**69**

Industrial Inertia:

It will be seen that the jute industry continues to be localised in West Bengal along the river Hooghly even though the raw material base has expanded to include Bihar and Assam. The reason is pure industrial inertia. The locational advantages of Calcutta Port do not outweigh the transport costs of raw material from internal areas to the Hoogly side. But the financiers and exporters are reluctant to take the risk of shifting and developing the industry in up country areas. Hence despite locational disadvantages the industry continues to be localised in its traditional centre, and is not developing to the extent desired in the wider raw material producing belts.

Trends of Change in Recent Years:
Type and quantity of products:

The following tables explain that there is no substantial change in the production of different types of products of jute industry. It is, however, considerable in the production of sacking, canvas Tarpaulin, Carpets, twine, yarn etc.

TABLE 8
Production of Gunnies
(in 000 tonnes)

Years	Hessian	Sacking	Carpet backing	Cotton bagging	Others	Total Production
1976-77	3,34.0	5,09.4	1,12.3	6.5	78,2	10,40.4
1977-78	3,46.1	4,44.2	1,19.2	16.5	82.1	10,08.1
1978-79	2,67.5	4,45.7	1,09.6	2.8	83.7	9,09.3
1979-80	3,56.4	5,71.2	1,21.3	1.0	1,03.9	11,53.8
1980-81	3,74.1	6,33.8	69,1	1.0	1,13.3	11,91.3

TABLE 9
Production of Gunnies other than Hessian, Sacking, Carpet backing and cotton bagging (in tonnes)

Years	Canvas & Tarpaulin	Carpets	Webbing	Rove for sale	Rope for sale	Twin for sale	Yarn for sale	Any for sale	Total
1976-77	58657	1157	638	19	—	12404	2560	2497	77932
1977-78	56436	1387	684	1	37	17829	3333	2308	82015
1978-79	60512	1200	748	20	114	16377	2725	1781	83477
1979-80	76242	1791	777	250	54	17195	3945	3256	103510
1980-81	80433	1875	445	33	8	20898	4852	4474	113018

Source: Indian Jute Mills Association, Monthly Summary of Jute and Gunny Statistics, June 1981 Serial No. 435.

Prices of Raw Jute & Jute Goods at Calcutta:

The table given below explains that the prices of raw jute has declined from 1977-78 whereas the prices of jute goods have increased during the same years.

TABLE 10
Prices of Raw Jute & Jute Good at Calcutta

Years	Raw Jute W^5 Grade (per quintal)	Hessian (per 100 metres)	Sacking (per 100 bales)
1977-78	222.96	146.28	362.30
1978-79	216.81	177.85	426.87
1979-80	212.42	252.54	525.85

Source: Indian Jute Mill Association.

Loomage: It has increased from 57,191 in 1961 to 70,973 in 1971. It has further increased to 82,715 in 1976 on single shift basis (as given in M.R. Chowdhary's Book, op. cit.). The Times of India Directory, 1984 contains that the exact world loomage is not known but rough estimates put it at 109,275. The total number of looms in India on Jan. 1, 1980 was 44,516. Bangladesh last reported to have 25,907 looms.

Number of Spindles: It has remained at 1134 in 1961 which has gone up to 1326 in 1971. In 1976 the number of spindles were 1471.

Average Daily Number of Workers: It has remained only 197 in 1961. It further increased to 235 in 1971 and made a record of 249 in 1974. In 1976 it remained at 223 only.

Consumption: There is negative change in mills consumption i.e. 7.93 million bales during 1979-80 and 1980-81. It has gone down to 7.29 million bales in 1981-82. The export consumption has remained variable i.e. O.30 million bales in 1979-80, 0.40 in 1980-81 and 0.29 in 1981-82. There is non-availability of data for domestic consumption. It has, however, remained at 0.30 million bales in 1981-82.

External Trade: Upto 1960 large export of raw jute was towards American and European countries and Australia. During recent years large quantity of goods are also sold to USSR. The USR and European countries, however, dominate the external trade of raw jute still. The Govt. is thinking to find market in African and West Asian countries.

The future prospects

Synthetic: A Threat to Jute:

A case study of jute, made under the auspices of the underdevelopment programme, has pointed out that the most important and pervasive factor affecting world jute consumption in the 1970s has been synthetic substitutes. The competition from these sources assumed serious proportions in the late 1960s when the use of synthetics not only expanded to all the major ends uses of «the golden fibre» in developed countries —packing, industrial applications and carpet backing but 'spilled over the developing and centrally planned countries.

World demand for jute which had continued to grow at 4.1% annually from the mid 1950s to the mid 1960s is declining in total volume since 1969-70. The demand for poly-propylene, primarily for carpet backing is currently more than 250,000 tonnes a year. In 1967 only 10% of all carpets in the UK were backed by poly-propylene. By 1974 this figure has increased to 95%.

The UNDP sponsored study says that the decline of jute consumption in Western Europe and North America was reflected in the deteriorating condition of jute processing industries in these regions. It was also evident in the shift in research emphasis from jute to synthetics. The Scottish Textiles Research Association for example, closed down its jute research laboratory —one of the biggest in Europe in 1971—, while increasing the funds for poly-propylene. According to the study this pattern has been repeated in recent years all over western Europe, North America and Japan.

Indeed, the difference between synthetics and jute is a crucial one. Polypropylene can be made into cloth and woven. It has a greater tenacity than jute and is resistant to rot, acid and abrasin. It is also chemically inert. However, its disadvantages are slipperings and an inability to absorb dye.

It is pointed that a bag made from synthetics can be as strong and durable as a jute sack at just a quarter of the weight. Thus it is necessary to produce lighter jute goods. The battle between two may be avoided with co-existance of jute and synthetics in structures such as blends and unions where one fibre complements the other.

Preliminary experiment made by the Indian Jute Industries Research Association show that light cheap and very sturdy fabrics can be engineered from unions and blending of jute and synthetics.

The present situation of Jute Industry

The prices of jute goods have considerably increased in recent years. High petroleum prices make synthetic uncompetitive. Due to increase in oil price during the first half of 1979, all propylene manufacturers in western Europe suffered from severe cost pressures. In USA the position of the chemical based synthetics is somewhat better but environmental problems are affecting the expansion of the industry.

The prices of different jute goods have increased at Calcutta port. Raw jute prices for W^5 grade have decreased from Rs. 236 a quintal tp Rs. 210 a quintal and the market's undertone remains bearish inspite of the Govt's decision to export the commodity. Raw jute it may be mentioned in this connection accounts for 5* to 60% of the conversion costs.

The profitability of the Industries is therefore very high at present. The export situation is also not so discouraging.

The industry has been promised liberal assistance under the IDBI's soft window loan scheme.

About 60% of the output are consumed in the country itself (but mainly coarse goods). The propportion will further increase with expansion of the cement, fertilizer and other big consuming industries.

Oil prices are likely to rise further, and this will only create a better climate for the export of jute goods in EEC countries Japan and USA.

The Indian Jute Industry Research has been doing useful technological research for diversification of the industry. Thus the industry will be able to produce furnishing and multiple decorative materials in addition to the traditional packaging materials. The viability of the industry will largely depend upon the increase in the production of a host of luxury goods from jute.

Thus, the jute industry has bright future if the situations in future remain unchanged. The diversification of industry will help in the bright continuation of the industry even in changed situation in future.

The industry owners are, however, pointed out that Hessians and carpet backings which comprise the best part of India's exports may be considered as the industry's high value products. These items must be exported not only to earn foreign exchange but also to ensure the viability and future progress of the jute industry.

The export duty must be removed to improve the export.

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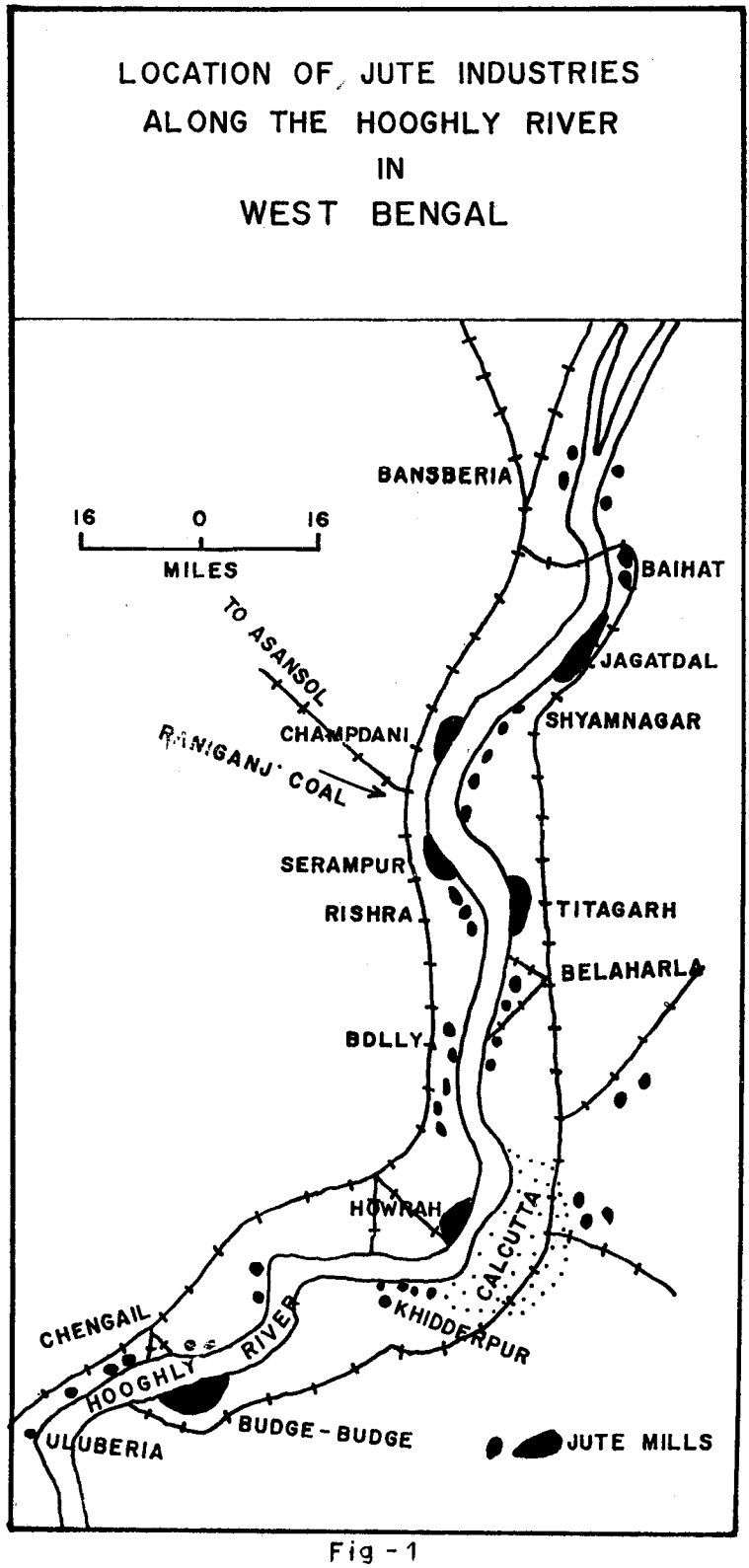
LOCATION OF JUTE INDUSTRIES
ALONG THE HOOGHLY RIVER
IN
WEST BENGAL
16 0 16
MILES
BANSBERIA
BAIHAT
TO ASANSOL
JAGATDAL
CHAMPDANI
SHYAMNAGAR
RANIGANJ COAL
SERAMPUR
RISHRA
TITAGARH
BELAHARLA
BDLLY
HOWRAH
CALCUTTA
CHENGAIL
HOOGHLY RIVER
KHIDDERPUR
BUDGE-BUDGE
ULUBERIA
JUTE MILLS

Fig - 1

PRODUCTION OF RAW JUTE
IN
INDIA
PRODUCTION IN MILLION BALES
0
1
2
3
4
5
6
7
YEARS
1951-52
56-57
60-61
63-64
70-71
71-72
72-73
73-74
74-75
75-76
76-77
77-78
78-79
79-80
80-81
81-82

Fig-2

AREA UNDER RAW JUTE CULTIVATION
IN
INDIA
AREA IN THOUSAND HECTARES
0
200
400
600
800
1000
1200
1400
YEARS
1951-52
56-57
60-61
65-64
70-71
71-72
72-73
73-74
74-75
75-76
76-77
77-78
78-79
79-80
80-81
81-82

Fig-3

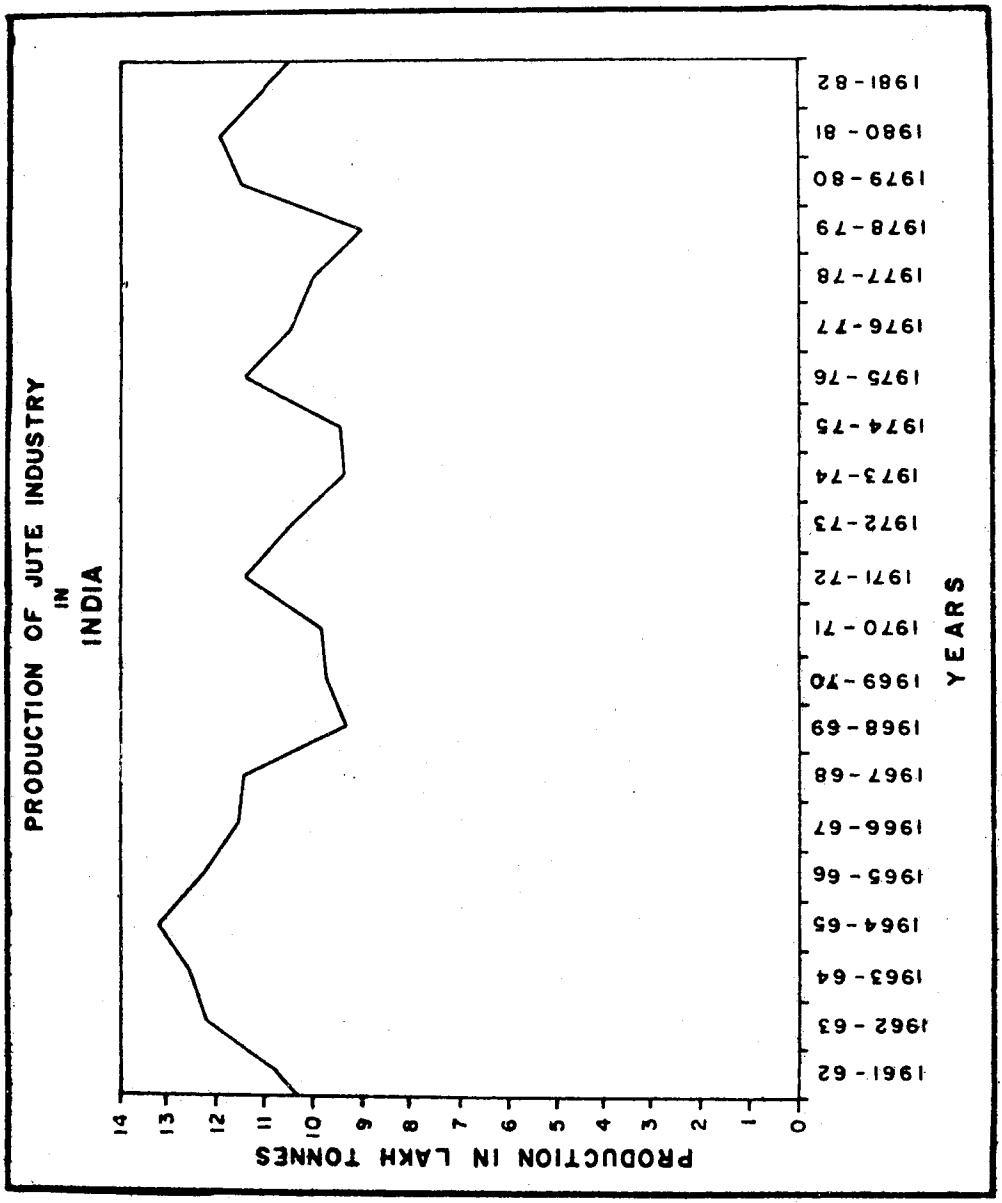
PRODUCTION OF JUTE INDUSTRY
IN
INDIA
PRODUCTION IN LAKH TONNES
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
YEARS
1961 - 62
1962 - 63
1963 - 64
1964 - 65
1965 - 66
1966 - 67
1967 - 68
1968 - 69
1969 - 70
1970 - 71
1971 - 72
1972 - 73
1973 - 74
1974 - 75
1975 - 76
1976 - 77
1977 - 78
1978 - 79
1979 - 80
1980 - 81
1981 - 82

Fig-4

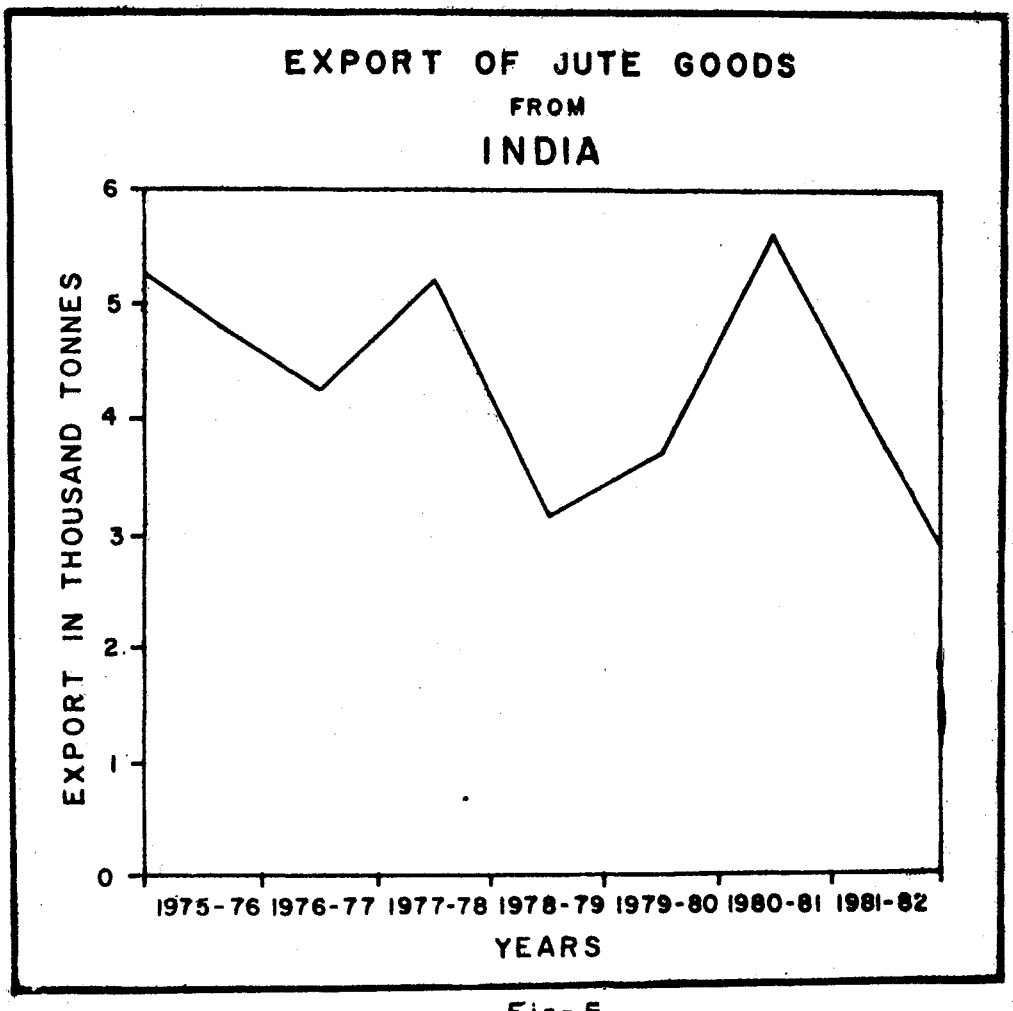

Fig-5

Les matèries primeres bàsiques de la indústria del jute a l'Índia

L'Índia és el centre més important del món en indústria tèxtil del jute. Empra prop d'un quart de milió de persones, que representa, aproximadament, una catorzena part de la força de treball del país. Aquesta indústria és la que proporciona més moneda estrangera, però ara s'ha d'enfrontar a la competència d'altres països productors, particularment Bangla Desh, el Regne Unit, el Brasil i alguns països europeus.

A l'Índia, la indústria està intensament concentrada a Bengala de l'Oest que reuneix el 80% dels molins de jute de tota l'Índia. El cinturó del jute s'estén al llarg del riu Hooghly en una distància de 60 milles i es pot dividir en cinc zones de concentració. Hi ha diverses raons que expliquen aquesta concentració de la indústria a l'India en general i al Hooghly en particular, entre les quals, la disponibilitat de matèries primeres n'és la causa principal. La indústria tèxtil del jute índia s'ha desenvolu-

pat en el nivell de la indústria dels petits poblats, una forma indígena d'abans del segle XIX. La moderna indústria és un producte dels últims cinquanta anys.

La disponibilitat de matèria primera local i una pràctica tradicional foren els factors primerencs per a la localització de la indústria. La indústria moderna del jute es va enfrontar a una crisi quan la partició del país el 1947, quan el 80% de l'àrea productora de matèries primeres va passar al Pakistan Oriental, avui Bangla Desh, mentre les fàbriques romangueren a l'Índia. Després, el govern indi va emprendre una política d'ampliació de les extensions de conreu de la fibra de jute, la producció de la qual ara arriba a més de 7 milions de bales.

La indústria tèxtil del jute de l'Índia és un exemple excel·lent de com una indústria es localitza al lloc de producció de la matèria primera i després segueix la inèrcia industrial. És una il·lustració excel·lent del desenvolupament de la matèria primera com a conseqüència de la demanda industrial.