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JUTE AND THE PROSPECTS FOR THE MARKETING OF INDIAN JUTE AND JUTE PRODUCTS IN THE UNITED STATES

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SUMMARY AND CONCLUSIONS

Jute is the foremost container fabric in world commerce. Other uses are of relatively minor importance in terms of end use of the commodity.

Production is confined almost exclusively to India in the region of Calcutta for historical reasons and because of supplies of cheap labor there. The amount of labor required in the production of jute is heavy. During and since the War production has declined on account of the substitution of food-crops.

Most of the world's production of cheap jute manufactures comes from Calcutta; raw jute is exported for manufacture into the more expensive products, especially to Dundee, Scotland. The United States imports most of the cheap manufactures in semi or completely finished form and manufactures the finer quality products domestically from imported jute.

Jute depends on maintaining its position largely on account of its relative cheapness as compared with substitutes (cotton, hard fibres, paper, etc.); any change in relative prices with these substitutes results in substitution taking place. During the War jute supplies became scarce and had to be rationed in the United States. Substitution was made largely by cotton and paper. This latter is important because use of paper bags requires special installations which are expensive; hence, once the installation is made, jute products have considerable difficulty in getting back into the market.

Following the War jute remained in scarce supply, but the United States obtained adequate quantities due to the dollar position. The use of jute did not expand beyond prewar levels in spite of the high rate of industrial activity in the United States as the prices of jute and jute products were high compared with the prices of cotton, paper, etc.

Increased imports of jute and jute products into the United States, therefore, depends upon a reduction in price compared with substitutes. Moreover, due to the inroads which paper products have made in its markets, considerable reductions in price will be necessary to increase the volume. The likelihood is that the relative reduction in price will be greater than the increase in volume imported so that the total dollar earnings will decline. Any substantial decline in the price of substitutes, which is possible, will aggravate this situation.

JUTE AND THE PROSPECTS FOR THE MARKETING OF INDIAN JUTE AND JUTE PRODUCTS IN THE UNITED STATES

I. THE USES OF JUTE

Jute is the foremost container fabric in world commerce. Sugar, coffee, cacao, etc. are largely shipped in jute bags whilst cotton, wool and other goods characteristically packed in bales are largely protected by jute wrappings. Its use for these purposes stems from the cheapness of jute fabric of a given strength as compared with substitutes; e.g. cotton, and its economic value as a packing medium completely overshadows all other possible uses. It is estimated that more than 70% of the world's jute is used for this purpose alone. The special characteristics of the jute fibre itself, however, make it an ideal backing for linoleum and rugs. It is also used in a variety of other textile products including cordage, roofing felts, tailor's padding, etc.

II. JUTE PRODUCTION AND EXPORT

Jute is a soft fibre produced from the stalks of two annual plants. Successful production requires a warm, humid climate with plenty of rainfall during the growing season. It is produced in India[1] on small holdings by large numbers of farmers as a cash crop. Much labor is required for its cultivation and preparation. The strands of jute fibre are found in the stalk of the plant to which they are bound by a natural gum. To remove the fibre from the gum and the woody fibre in the stalk the plant must be "retted". This is accomplished by immersing bundles of cut stalks in water until fermentation rots the non-fibrous material. The fibre is then separated from the woody matter by beating with a flat wooden mallet and hand picking of remaining small woody particles. An experienced man can prepare six to seven

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[1] About two-thirds of production is in Pakistan and one-third in the Dominion of India. Throughout this report "India" refers to both Pakistan and the Dominion of India.

pounds of dry fibre per hour; mechanical methods have not been devised which can compete with cheap labor. For these reasons, and probably historical ones, world production has largely been limited to India.

Although small quantities are grown in Formosa, Indochina, Japan, Iran, and since the beginning of World War II, in Brazil, India produces 98% of the world's supply of raw jute. The chief centre of production lies within a radius of 200 miles of Calcutta with the largest concentration in the delta of the Brahmaputra and Ganges rivers in the northeastern corner of Bengal (Pakistan). Other producing regions in India are Assam, Bihar, Orissa, Cooch Behar, Tripura and Nepal.

The acreage under cultivation is comparatively small even in Bengal (10% of the cultivated area prewar). The major alternative crop constituting the largest acreage is rice and the land suitable for jute is also equally adaptable to rice cultivation. Thus there is the possibility of substitution; during the War when food supplies became scarce the jute acreage was reduced under a program of restriction:

Area Under Jute in India
(000 acres)

1938	3165	1943	2640
1939	3161	1944	2104
1940	5669	1945	2422
1941	2160	1946	1895
1942	3330	1947	2704

(Source: Commonwealth Economic Committee)

This reduction in production has resulted in a world shortage of jute. Early in the War, jute and jute products were placed under allocation by the Combined Raw Materials Board. In February 1946, when allocation was discontinued, similar controls were instituted by the Government of India.

Calcutta is the chief Indian trading centre for jute. The raw fibre is brought here by local dealers who purchase it from the farmer. For ship-

ment abroad, the fibre is packed in 400 pound bales. There is no government grading system; sale for export is usually based on the housemark of the exporter and by district. Fibre retted and cleaned in the clear water of the Brahmaputra system is of better quality than that produced in the muddy Ganges system. The system of classification by districts is insufficient as the jute from any one district varies in quality. The chief factor determining the quality of jute is its colour and spinning suitability. The following unofficial standards are in use based on "spinning" classifications:

"No. 1" - 80% or more which can be used for hessian (a) warp

"No. 2" - 40/60% " " " " " " "

"No. 3" - 60% of which can be used for sacking (b) warp

"No. 4" - 20% " " " " " "

"Rejections" - Qualities below No. 4.

"Cuttings or butts" (c) - used for paper, bagging and twine only.

(a) When fine warp and weft yarns are woven into a close compact fabric, the cloth is called "hessian"; in the United States it is known as "burlap".

(b) Coarser, heavier cloths than hessian made with poorer, heavier weft yarns are known as "sacking".

(c) The hard, woody ends of the fibre strands which are cut off in the baling process and packed separately.

III. MANUFACTURING AND TRADE IN JUTE AND JUTE PRODUCTS

The international jute industry is only about one hundred years old, though the fibre has been used locally in the East for many centuries. Jute was not introduced into Europe until the early part of the 19th century. Jute manufacture was first developed in the late 1830's in Dundee and later spread to the continent. The low initial cost of jute and the ease of spinning permitted the manufacture of cheap fabrics that gradually displaced many cotton, hemp, and even flax products. The Crimean War, bringing a shortage of Russian

flax, forced Dundee, then a flax manufacturing centre, to search for a substitute which was found in jute. The cotton shortage caused by the American Civil War had a similar effect in causing a substitution of jute for cotton. Dundee grew to be the centre of jute manufacturing and for making jute machinery. In 1854 the manufacture of jute by machinery was started in Calcutta; the latter soon outstripped the former in production, particularly in the coarser, cheaper fabrics. Just before World War II the value of jute manufactures in Calcutta were more than five times as large as those of Dundee. The two cities together produce more than two-thirds of the world's jute manufactures.

Estimated Percentage of Raw Jute Initially Processed(1)

	1874	1884	1894	1904	1914	1921	1928/31	1934/39
Indian Factories	18	24	32	42	50	57	60	60
United Kingdom	39	32	25	18	13	8	8	9
Continental Europe	12	18	23	26	26	21	20	18
U.S. and elsewhere	12	13	10	7	6	8	7	7
Indian local use	19	13	10	7	5	6	5	6
Total:	100	100	100	100	100	100	100	100

(1) These percentages differ somewhat from those given in the appendix relating to the proportion between production and exports of raw jute.

(Source: "Long Vegetable Fibres")

The annual world consumption of jute fibre between 1920 and 1940 was 3.5 to 4 billion pounds. There were over 300 mills of importance engaged in the manufacture of yarns and jute fabrics employing upwards of 400,000 people. The mills were distributed as follows:

Number of Mills Engaged in Jute Manufacture

India	115
United Kingdom	50
Germany	40
France	40
United States	20
Other (a)	75
Total	340

(a) Italy, Czechoslovakia, Brazil, Belgium, Spain, USSR, Japan, Argentina, Sweden, and a few others.

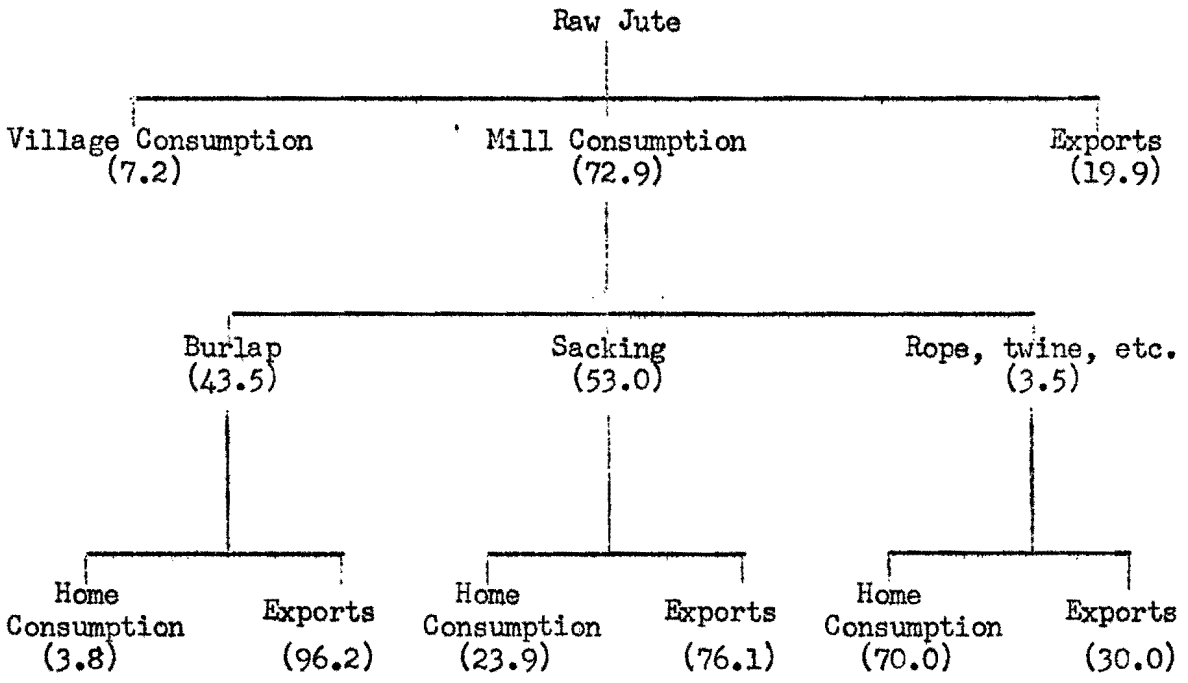
Prior to 1940 Brazil, Germany, France, Spain, Sweden, Belgium, Holland, Italy, Czechoslovakia, Austria, Hungary, various Balkan countries and India have excluded through trade restrictions the import of finished jute products. Most of the other countries that use jute products, produce only a part of their requirements. Some areas, such as Australia, Africa, the Caribbean, South China, the Straits Settlements, and the East Indies produced practically no products from jute fibre. Some countries, including Java, Mexico, Colombia and the Central American Republics made all or a portion of their bag materials from roselle, caroa, henequen, istle, fique and other locally grown fibres. The United Kingdom, and to a smaller extent Germany and Italy, occupied a special position, being both importers of jute products and exporters of its own jute manufactures.

While practically all countries engaged in some phase of manufacturing, such as bag making, a large number purchased much of their jute products from India, the United Kingdom, Germany and Italy. The products traded represented three stages of manufacturing--yarn, fabrics and final products such as bags, linoleum, etc. Three countries: India, the United Kingdom and the United States, occupy an important position as processors and consumers of jute.

1. INDIA

India supplies a large proportion of the world's needs for manufactured jute products as well as supplying practically all the world's jute.

Utilization of Jute in India for Different Purposes 1946/47
(percent)



Cloth and bags, primarily for export, constitute the bulk of production, nearly 97% of which is burlap and sacking.

The trend in jute production was upward to 1929 when demand declined with the Great Depression and acreage was restricted. The quantity of raw jute exports then remained at a fairly even level; the jute processing industry, therefore, bore the brunt of the decrease in demand from a quantity point of view.

Thirty or more countries import raw jute, while virtually every country imports jute goods. Few of the small countries, however, actually have any direct contact with Calcutta, purchasing in most cases in small lots from nearby secondary markets.

The United Kingdom and the United States have been by far the largest importers of raw jute. From 1914 to 1920 these two countries were markets for more than half of all the raw jute exported from India. In 1921 Germany became an important market. In the next ten years, with a few exceptions, more than one-fourth of India's yearly exports went to Germany--a larger amount than either the United Kingdom or the United States imported in those years. Germany's imports fell below those of the United Kingdom after 1932, stopping completely at the outbreak of World War II. Other prewar importers in order of their importance were France, Belgium, Italy, Brazil, Netherlands, Spain, Argentina, Japan, and China. France, which ranked fourth, received only about 10% of total exports between 1930-39. In 1945 and 1946, Brazil, Argentina, Australia, and the Soviet Union ranked next to the United Kingdom and the United States in that order.

The principal burlap exporting countries are India, the United Kingdom, Belgium, and France. The principal importing countries are the United States, Argentina, and the United Kingdom. India accounts for over 90% of the burlap moving in international trade. During the ten-year period from 1920 to 1929, the United States took nearly three-fourths of India's total exports of cloth. These exports decreased considerably during the depression of the early 30's but began to revive by 1935 and 1936 reaching an average of nearly 900 million yards per year from 1935 to 1939 (roughly 490 million pounds). This level was maintained during 1940 and 1941, but as India's production declined in 1942 and 1943 the United States received less. In 1946 exports to the United States were again above the 900 million yard mark. Prewar exports to Argentina of about 142 million pounds per year averaged little more than one-quarter of the volume to the United States. Exports to the United Kingdom averaged less than 75 million pounds per year. The only other shipments in

any substantial quantities went to Canada, the Philippines, and the Straits Settlements, in the order mentioned.

In the years 1935 and 1939, India shipped on the average more than half of its 1.1 billion pounds of bags each year to such areas as Burma, Siam, Java, French Indochina, China, Australia, and the Union of South Africa. Most of these were the heavier sacking bags. Australia and Belgium were the largest individual prewar importers, averaging 135 and 132 million pounds, respectively. The United Kingdom ranked third, importing a yearly average of 108 million bags. Post-war bag exports from India follow practically the same pattern as prewar with the exception of the Union of South Africa with whom trade was discontinued in the latter part of 1946.

In 1937 and 1938 the United States imported an average of 26 million pounds of bagging for cotton gunny cloth and related items. More than four-fifths of this bagging came from India.

INDIA: Jute Statistics

Raw Jute Production

(million pounds)

	Total	Bengal	Bihar and Orissa	Assam
1914-18 Av.	3353	2996	229	96
1919-23 Av.	2575	2290	156	109
1924-28 Av.	3938	3460	260	184
1929-33 Av.	3371	2981	212	156
1934-38 Av.	3264	2781	268	184
1939-43 Av.	3502	2990	222	250
1944	2480	2210	118	130
1945	2863	2521	111	208
1946	2260	1840	204	183
1947	3415	2858	194	214

Raw Jute Exports

(i) (million pounds)

	Total		U.S.A.	U.K.	Germany	Others
	Quantity	Percent of Production				
1914-18 Av.	1086.5	32.4	221.0	531.3	35.6	298.6
1919-23 Av.	1214.2	47.2	187.3	387.1	212.2	427.6
1924-28 Av.	1694.4	43.1	176.3	412.1	454.6	651.6
1929-33 Av.	1509.4	44.6	126.3	332.3	369.9	680.9
1934-38 Av.	1689.9	51.8	156.3	373.1	316.2	844.3
1939-43 Av.	756.3	21.6	158.9	295.2	16.9	285.3
1944	374.0	15.1	117.3	205.0	-	51.8
1945	611.8	21.4	82.8	206.0	-	323.0
1946	881.8	39.0	145.5	162.9	-	573.4

Raw Jute Exports

(ii) (Percent)

	Total	U.S.A.	U.K.	Germany	Others
1914-18 Av.	100.0	20.4	49.9	2.2	27.5
1919-23 Av.	100.0	15.4	31.9	17.5	35.2
1924-28 Av.	100.0	10.4	24.3	26.8	38.5
1929-33 Av.	100.0	8.4	22.0	24.5	45.1
1934-38 Av.	100.0	9.2	22.1	18.7	50.0
1939-43 Av.	100.0	21.0	39.0	22.3	37.7
1944	100.0	31.4	54.8	-	13.8
1945	100.0	13.5	33.7	-	52.8
1946	100.0	16.5	18.5	-	65.0

Exports of Jute Manufactures

(million pounds)

	Cloth			Bags		
	Total	U.S.A.	Percent	Total	U.S.A.	Percent
1924-28 Av.	1504.1	1005.5	66.8	449.3	25.6	5.7
1929-33 Av.	1225.3	787.4	64.3	437.4	11.4	2.6
1934-38 Av.	1419.0	833.1	58.7	517.0	14.9	2.9
1939-43 Av.	1397.6	772.8	55.3	647.2	14.2	2.2
1944	1446.8	915.3	63.3	388.3	5.9	1.5
1945	1299.1	794.9	61.1	330.0	6.3	1.9
1946	1438.6	941.3	65.4	378.9	28.8	7.6

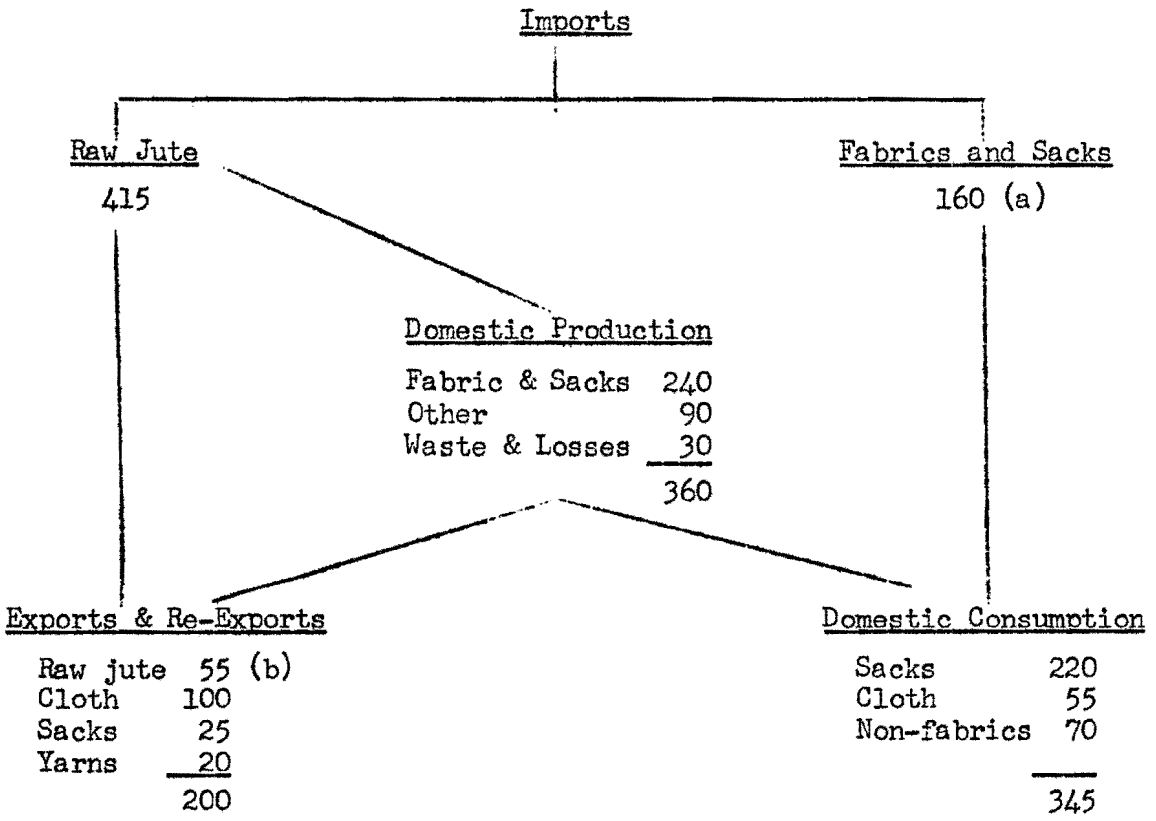
(Source: Department of Commerce)

NOTE: Statistics of acreage appear on page 2.

2. UNITED KINGDOM

The United Kingdom occupies a special position in the jute industry. She imports large quantities of jute fibre and fabrics, including made-up sacks from India, for domestic consumption. The imported fibre is converted into fabrics and other jute products of which substantial quantities are exported. Practically all the manufacturing facilities are concentrated in Dundee.

Imports and Production of Jute and Jute Production in the United Kingdom 1934-38 (million pounds annually)



(a) Small quantities are re-exported
(b) 1935/39 average

The United Kingdom has long re-exported jute primarily to Western European countries and to British areas. Average shipments 1935/39 were 55 million pounds, more than 90% going to Germany, France and Belgium. Small quantities of burlap were re-exported prewar largely to British areas.

Dundee's principal finished jute products consist of yarns, fabrics and bags. The yarns are of comparatively fine quality and are sent abroad to be woven into cloths in foreign mills or are used as carpet yarns and twines. Some of the cloths manufactured in Dundee compete with those made in the Calcutta mills, but most of the production is of finer quality or specialities, such as wide linoleum burlap, brattice cloth, webbing and similar products which command higher prices and when exported do not come directly into competition with the Indian products. The latter, nevertheless, determine the general price levels of all jute fabrics.

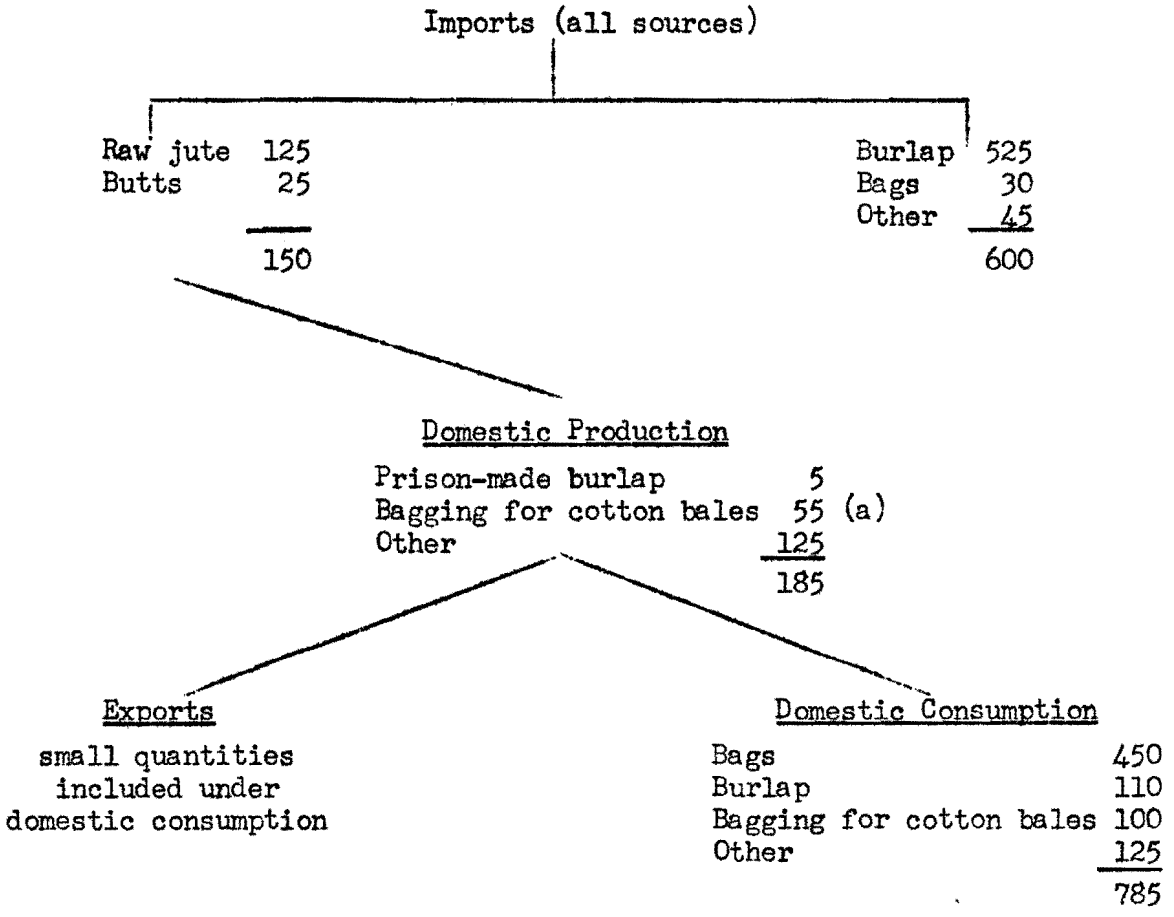
In normal times about 30% of Dundee jute manufactures are exported. Cloth in bales constitutes about 70% of the total volume of exports, made-up sacks, 15 to 20%, and the balance was yarns.

Whereas Calcutta does not export jute yarns to any considerable extent, this trade is of some importance to Dundee. Prewar Brazil was the principal importer, taking almost half the yarn exports and weaving them into burlap for coffee and grain bags. This trade may not be regained as Brazil introduced its own capacity during the war. The United States is the principal importer of fabrics taking about one-third of the total; Canada and Argentina take 10% each, and most of the balance is distributed to Continental European countries. The made-up sacks are marketed in all parts of the world; Argentina is frequently the principal importer.

3. THE UNITED STATES

The United States is the world's largest consumer of jute products taking prewar about 9.2 percent of India's raw jute exports and consuming about one-quarter of the world's total jute products. The following chart shows the distribution of the trade prior to World War II:

Jute and Jute Products Imports
and Production in the United States 1936/40
(million pounds annually)



(a) Made from butts, shredded burlap and waste

From the chart it is apparent that the larger proportion of jute products consumed is imported in semi-finished or finished form. This is due largely to the low cost of labor in the Indian jute mills as compared with the United States.

The largest proportion of jute and jute products imported into the United States comes from India. Prewar the average quantity of imports from India represented 85% of the total and since then the proportion has increased to almost 100%. With the return of competition from Europe the proportion is likely to fall off again, but with a continuing shortage of raw jute it is not likely to approach the prewar proportion for some time, if ever. Imports of jute manufactures are heavily in favor of burlap.

The trend in jute fibre manufacture in the United States is slightly downward as indicated by the trend in fibre imports. This decline represents partially a reduction in demand for jute products, particularly wrapping twine in favor of hard fibres, and partially a transfer of demand to Indian manufactured jute products.

Moreover, the total quantity of jute products imported did not recover to the levels of 1924/28 prior to the War but their performance has been better than in the case of raw jute largely because of the above mentioned substitution of jute products imports for the raw commodity.

The United States jute spinning industry is located in two places - the bagging mills engaged in producing covering for cotton bales are situated in the South while the yarn spinners (jute carpet and fuse yarns, electrical roves and yarns and wrapping twines) are located within a radius of 300 miles of New York.

In addition to the spinning industry there is a large jute bag-making business, which is a cutting-up industry utilizing imported burlaps, and which, through branch factories, is spread throughout the country.

For the raw jute spinning and manufacturing segment the fibre imported consists of the highest qualities (with the exception of cut jute butts which were imported primarily for use in cotton bale covering fabric), and the

products produced are of finer quality than those imported. The cotton bale covering industry was declining prior to World War II, however, and was being replaced by imported bagging from India or by a cotton fabric. Butts are also used in the production of coarse twines and in paper manufacture.

The detailed uses to which jute products are put in the United States is shown by the following distribution prewar:

Disposition of Jute Products in the United States 1936/40
(millions of pounds annually)

A. Bags

Feed	110
Potato	70
Sugar, flour, rice	80
Other agricultural	80
Fertilizer	40
Chemical	20
Misc. bags	50
Total:	450

B. Burlap

Upholstery	25
Automobile	25
Wrapping	30
Linoleums	10
Misc.	20
Total:	110

C. Other

Carpet yarns	70
Wrapping Twines	35
Electrical insulation	10
Fuse yarn, packing, ropes, etc.	10
Total:	125

D. Summary

Bags	450
Burlap	110
Other	125
Cotton bale covering	100
Total:	785

(Source: "Long Vegetable Fibres")

UNITED STATES: Jute Statistics

Jute and Jute Products: Total Imports

(million pounds)

	Total	Raw Jute	Manufactured Products			
			Total(a)	Burlap	Bags	Other
1924-28 Av.	844.9	171.9	673.0	598.0	42.8	32.2
1929-33 Av.	706.9	131.6	575.3	483.4	38.4	53.5
1934-38 Av.	772.9	161.3	611.6	512.3	41.6	57.7
1939-43 Av.	620.2	144.9	475.3	427.2	33.9	14.2
1945	575.2	68.2	507.0	459.2	17.9	29.9
1946	772.6	157.4	615.2	556.8	27.0	31.4
1947	727.1	93.0	634.1	553.2	38.1	42.8
1948	784.1	168.0	616.1	506.9	21.7	87.5

(a) Excludes bagging gunny cloth up to and including the 1939/43 average; this totalled in 1943 about 18.4 million pounds and probably averaged about 15 million pounds throughout most of the period covered.

Jute and Jute Products: Imports from India

(i) (million pounds)

	Total		Raw Jute	Burlap	Other
	Quantity	Total Percent of Imports			
1934-38 Av.	661.7	85.7	158.4	443.1	60.2
1939-43 Av.	604.4	97.3	141.7	404.7	58.0
1945	569.8	99.0	69.2	454.1	46.5
1946	765.5	99.1	169.3	534.0	62.2
1947	696.8	95.6	94.3	519.7	82.8
1948	680.2	86.8	112.0	486.6	81.6

(ii) (million dollars)

	Total	Raw Jute	Burlap	Other
1934-38 Av.	35.7	5.6	27.4	2.7
1939-43 Av.	49.5	7.9	38.2	3.4
1945	73.1	5.2	64.4	3.5
1946	91.5	12.1	73.2	6.2
1947	128.1	11.0	105.5	11.6
1948	152.2	15.3	125.4	11.5

(Sources: Department of Commerce
Department of Agriculture)

IV. PROSPECTS FOR THE MARKETING OF JUTE AND JUTE PRODUCTION IN THE UNITED STATES

A consideration of each of the above end uses leads to the conclusion that with a developing economy the functions which the jute products perform are likely to expand, that is, if there were no changes in technology and no substitution, the demand for jute products would most likely be an expanding one subject to cyclical variation. This tentative conclusion, however, must be modified in the light of changes and substitutions which have taken place.

One factor has been the increase in bulk handling which obviates the necessity for wrapping or bagging. Bags have already become a minor factor in the handling of grains in the United States in their movement from the farm through the elevator system to the point where distribution is in terms of small quantities. Mixed feeds and flour are now the subject of experiments in bulk handling. A substantial proportion of Hawaii's sugar crop last year was shipped in bulk to San Francisco, thus reducing the requirements of jute bags considerably and refined sugar is being shipped in liquid form in tank cars. Increased amounts of cement are being shipped in bulk.

Another factor of importance is the competition of substitutes in the packaging field, the most important use of jute. Cotton is an old competitor, particularly during periods of low prices and surpluses in the United States. Following low prices in 1926 cotton substantially replaced burlap for bags in the fertilizer, cement and flour industries as well as in the wholesale grocery trade. From 1939 to 1943 the use of burlap bags in the United States declined 48% while the use of cotton bags increased 57%. This, however, was largely a result of the scarcity of the jute supply; burlap has since regained some of its losses.

In the cordage field jute also comes in competition with the hard fibres (abaca, sisal, henequen, etc.). The competitive relationship between cotton, jute and other fibres, however, has been established for some considerable time and under normal price relationships not much shift from their fairly well defined channels of use is to be expected except on a short-term basis.

Moreover, the present high prices for jute plus its supply vulnerability from the point of view of the United States in wartime has led to interest in the development of kenaf in Latin America as a possible substitute. Kenaf is a fibre similar to jute which is now being produced on an experimental scale in Cuba and El Salvador. It is claimed by supporters of this fibre that the production problems, especially the high labor costs, have been overcome to a certain extent. It remains to be seen, however, if this proves to be the case.

With paper, however, the situation is different. Paper represents the most dangerous competitor to jute largely in the bagging field but also in some other fields such as carpet manufacturing. These are the fields in which jute finds the majority of its uses. Although this competition from paper has been in existence for some time, it was enormously intensified as a result of World War II. In the case of bagging, necessity thus compelled the user to turn to paper bags through the lack of jute supplies. The use of paper requires the installation of expensive equipment for bag filling; this equipment cannot be used for jute bags. Thus once the equipment is installed the user ceases to be a potential market for jute products unless its use is exceedingly favorable pricewise, which is highly unlikely. Thus the substitution of paper has different and more permanent effects than the substitution of other textiles, as this latter is largely a switching process using the same or similar

techniques and a reversion to jute, once supply and/or price factors improve, is a simple process.

Thus fertilizers, cement, feeds, sugar, etc. are now packed largely in multi-walled paper bags largely at the expense of jute, though, in the case of cement, cotton has been the chief sufferer.

One advantage jute bags have as compared with paper is their reusability. A user can get from 25 to 75% of the cost of the jute bag on resale, whereas paper bags are useable usually only once. Thus if a 100 pound jute bag is purchased for 30 cents at the present time, the user can get from 7.5 to 22.5 cents back on resale. Moreover, jute bags may be used a number of times in some fields.

Wartime restrictions in the carpet field prohibited the use of jute yarns as backing for carpets and paper yarns impregnated with resin or some other waterproofing substance were substituted and have worked out very well.

In the wrapping twine field jute has also had to meet the competition from paper twines and gummed paper. Here, however, competition has not been so great as the hard fibres have been more scarce and relatively higher priced than jute and the latter has thus had an opportunity to make gains at the expense of the hard fibres. This, however, is unlikely to last once the hard fibre supply improves.

The above account of substitutability for jute brings out the point that the future position of jute in the American market is largely a function of price. The chief uses to which jute is put are largely those where it gains a market because no other fibre of similar strength is cheaper.

Prior to World War II raw jute prices were considerably cheaper than cotton prices and moved moderately in line with them:

United States Wholesale Prices of Raw Jute and Cotton

Year	(dollars per pound) Raw Jute (f.o.b. New York)	Cotton(a) (aver. 10 markets)	(Index 1925 = 100) Raw Jute	Cotton
1918	.129	.309	124	134
1920	.096	.334	92	144
1921	.053	.141	51	61
1925	.104	.231	100	100
1929	.072	.186	69	80
1932	.032	.063	31	27
1937	.047	.118	45	51
1948	.185	.338	178	146
Jan.1949	.210	.326	200	141

(a) 7/8 inches to 1925, thereafter 15/16 inches.

(Source: Department of Labor)

During and following World War I, however, jute prices did not rise as high as cotton prices in the United States, reached their peak earlier (1918 as compared with 1920) and, therefore, declined much sooner. The probable reason for this is the smaller degree of disruption in the market caused by the War in the case of jute. Following World War II, however, the opposite situation has occurred; the supply in relation to demand was relatively more scarce in the case of jute and prices, therefore, have risen considerably higher.

At present jute and jute products are overpriced in relation to substitutes and this factor is hindering the market more than restrictions in supply. United States users are apparently having very little difficulty in getting within a small percentage of their requirements, as both Pakistan and India are most anxious to make supplies available for dollars. Lower prices, therefore, would result in an increased useage of jute. The U.S. Tariff Commission just following the War estimated that in the period 1948/49 the

consumption of burlap would be approximately 660 million pounds; in 1948 it was 520 million pounds or 79% of the estimate.

The value and quantity of raw jute and jute products imports from India in recent years is given below in the form of index numbers:

Index Numbers of the Value and Quantity of Jute and Jute Products Imports from India to the United States and of Wholesale Prices
(1934/38 = 100)

Period	Total Imports		Wholesale Prices	
	Value	Quantity	Raw Jute	Burlap
1934/38 Av.	100	100	100	100
1939/43 Av.	139	91	173	154(a)
1944/48 Av.	286	99	274	279
1948	427	103	430	334

(a) Average of four years.

From this table it is quite evident that the increase in the dollar earnings of India over the past 10 years has come about in consequence of an increase in price, as the volume of imports has remained relatively stable.

In view of the present trends in world prices, it would appear extremely unlikely that the prices of jute and jute products will advance much further; the greater probability is that they will fall. Moreover, it is unlikely that an increase in consumption will occur in the United States unless prices decline in relation to the prices of substitutes, i.e. chiefly paper and cotton. Moreover, in a period of general price decline the price of jute and jute products must decline at a greater rate for any appreciable increase in imports to take place in substitution for competing commodities. This also assumes that the rate of business activity will remain at present levels. In view of the fact that United States industry has become used to jute products substitutes in recent years, it would appear that the present demand for jute products would not be as elastic as in the past and that a relatively substan-

tial fall in such prices would be necessary to increase consumption to any great extent. If this line of reasoning is correct the conclusion would appear that even under the best of circumstances the dollar earning ability of Indian jute and jute products will fall and under less favorable circumstances the fall is likely to be of some considerable magnitude.