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SISAL

Recent World Market Trends in Relation
to Stabilization Problems and Policies

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SISAL

RECENT TRENDS

Over the past six or seven years, world production of the main hard fibers, sisal, abaca and henequen, has grown by four percent a year, but for sisal alone the rate of growth has been somewhat higher - about five percent a year. Production of abaca (manila hemp) showed no increase between 1953-5 and 1956-8, and fell off by one-tenth between 1956-8 and 1959-60. By contrast, world output of henequen has risen by two-fifths since 1953-5 (see Table 1). The expansion in sisal output, and the decline in abaca, are both continuation of longer-term trends; sisal output in 1959-60 was more than double the pre-war average, whereas abaca production was one-third lower.

The greater part of world sisal production, and virtually the entire abaca crop, is exported. For henequen, the position is quite different; in 1959-60, only about one-quarter of the fiber produced was exported as such, compared with four-fifths pre-war. Sisal thus accounts for a higher proportion of total hard fibers in world trade than in world production. In recent years, the proportion of sisal retained for home use has become appreciable in producing areas outside Africa (mainly Brazil), but in African producing countries the proportion retained for domestic consumption is still extremely small.

The fall in world abaca production since pre-war has been associated with a relatively large price increase for this fiber. Before the war, abaca was about 50 percent above the East African sisal price, but in 1957, when sisal prices fell off, they were nearly three times, and in 1961 they were 2½ times, the average price of East African sisal (see Table 2). Brazilian sisal, which was very competitive with East African sisal up to 1958, has become rather less so since, though Brazilian fiber is still the cheaper product. The main price competition with African sisal, however, comes from Mexican henequen, which has tended to become relatively cheaper since 1956. The strength of henequen is about one-fifth lower than that of sisal ¹/₁, but the price advantage of henequen in recent years has tended to be slightly greater than this.

¹/₁ Some Trends in the Markets for Sisal and Abaca (Manila Hemp) Fiber,
Tropical Products Institute, London, 1962.

The price cycle in the world sisal market between 1957 and 1961 affected exports from all the main producing countries (see Table 3). Allowing for the devaluation of the Malagasy currency, the annual fluctuations in export unit values were very similar for the different countries. There were, however, considerable differences in the movement of tonnages exported. The sharp price rise in 1959 stimulated an increase in the quantity exported from Kenya and Brazil, but shipments from the Malagasy Republic, Mozambique and Indonesia were lower. The further price rise in 1960 resulted in increased shipments from most African producing countries, though Tanganyika's shipments were marginally lower, and there was also a decline in Brazilian exports from the record 1959 level. Indications for 1961, so far as available, indicate a general decline in quantities exported, except for Brazil.

The expansion in Brazilian exports in recent years has resulted in an increase in Brazil's share of the world sisal market (see Table 4). Since 1956, Brazil has accounted for one-sixth of world exports of hard fibers, compared with one-tenth in the early 1950's. Mexico, exporting henequen, has increased her share over the same period, but abaca from the Philippines has accounted for a steadily declining share. Hard fibers are generally more important in the exports of African producing countries than elsewhere. Tanganyika is perhaps exceptional, insofar as sisal accounts for as much as some 30 percent of total exports and the importance of earnings from sisal exports in total gross domestic product (eight percent) is also considerably higher than in any other country. Sisal is also an important export earner in Mozambique (one-sixth of total exports), Kenya (one-eighth) and Angola (one-tenth).

For these countries, in particular, fluctuations in sisal export prices might well have a disturbing effect on the ability to finance a steady flow of imports for economic development purposes. A more fundamental problem, however, is whether or not the underlying trend of world demand for sisal is an upward one. This is considered further in the following section.

TRENDS IN CONSUMPTION

Total hard fibers

About 95 percent of world exports of hard fibers goes to the countries of Western Europe, North America, Australia, and Japan, and these countries accounted for the greater part of the rise in imports from 1953-5 to 1959-60, which has already been noted. Imports of hard fibers into the European Economic Community rose by 60 thousand tons (46 percent) in this period, most of the increase being in imports into France and West Germany (see Table 5).

Imports of hard fibers into the United States, the largest single market, fell off by some 50 thousand tons (25 percent) between 1953-55 and 1959-60 but this was offset by a corresponding rise in cordage imports. Fiber imports rose over this period, in all the other main consuming countries. Part of this latter increase reflects the greater usage of fibers for the production of twine and cordage for export - this is particularly the case for Britain, Belgium and Portugal.

Compared with pre-war, the biggest increases in imports of hard fibers (including cordage) by 1959-60 have been in the E.E.C. countries and the United States, these two areas accounting for three-fifths of the total increase of some 185,000 tons.

Allowing for the growth in population since pre-war, however, the per caput consumption of hard fibers has declined somewhat in the United States, though by 1959-60 it had risen in Britain and the E.E.C. area to one-quarter above the pre-war average. Canada and Japan also consumed less than pre-war, on a per head basis. Since 1953-55, consumption per head has grown appreciably in all the main consuming countries, except the United States, where once again there was a moderate decline (see Table 6).

Sisal

The share of sisal in total hard fiber imports of the main consuming countries has grown very considerably since pre-war (when rather less than one-half the total consisted of sisal) to two-thirds in 1953-55, and to three-quarters in 1959-60 (see Table 7). Sisal increased its share in every main market, with particularly large increases in the United Kingdom, France, Italy, Australia and Japan. Sisal now holds 85 percent or more of the total hard fiber market in all the main consuming countries except Japan - where sisal has nonetheless made impressive headway against manila hemp since 1953-55 - and the United States.

There are two aspects to the fall in sisal's share of United States imports of hard fibers since the early 1950's. First, the decline in demand for hard fiber imports as such hit sisal more than manila hemp or henequen. Second, there has been a switch towards imports of cordage and twines, in which sisal has smaller share than it has in fiber imports. These trends reflect, in part, the changing pattern of demand in the main end-uses of hard fibers, and in part also, the competitive position of sisal vis-a-vis henequen.

End-uses

The main uses of hard fibers are in agricultural twine, cordage, nets and netting and, to a lesser extent, carpets and padding for upholstery purposes.

The outstanding changes over the past decade in the pattern of demand in the main importing countries have been a contraction in the use of binder twine and an expansion in the consumption of baler twine. The fall in consumption of binder twine in North America has been dramatic; it totalled some 140,000 tons in 1931, but by 1955 had declined to under 50,000 tons ¹, and there was a further decline to 22,000 tons by 1960. In Australia, the same downward trend is apparent from the production figures since 1950 (see Table 8). No official figures are available for production in the United Kingdom, but according to unofficial estimates, there was no significant fall in binder twine consumption between 1935 (about 13,000 tons) and 1955 (about 12,000 tons) ².

The contraction in binder twine consumption in North America and in various other industrialized countries reflects the increasing use of combine harvesters in farm operations. In the United States, for example, the number of grain combines on farms rose from 465,000 in 1947 to 714,000 in 1950 and 1,065,000 in 1960, though there was no substantial change in the area of field crops harvested. In Canada, the number of combine harvesters on farms increased from 91,000 in 1951 to 137,000 in 1956, the latest year for which Census of Agriculture data are available. In Great Britain the number of combine harvesters in use was only

¹ Hard Fibers, No. 22, Sept., 1956

² Some Trends in the Market for Sisal, etc., Tropical Products Institute, London, op. cit.

10,000 in 1950 but had risen to about 50,000 by 1960; over the same period, however, the total grain harvest increased by some 20 percent, and this may have largely offset the effect of greater mechanization on the demand for binder twine.

In the less-industrialized areas of the world, the number of combine harvesters in use is relatively very small, and the use of binder twine has probably increased with the expansion in crop output. However, consumption in these areas is still small in relation to the world total.

By contrast, the consumption of baler twine has grown considerably in the post-war period. Before the war, very little baler twine was used in any country, but since the war the increasing mechanization of hay and straw cutting and stacking, together with the increase in supplies of these two products, has led to a growing use of baler twine, particularly in North America. In the United States, baler twine consumption had risen to about 90,000 tons by 1954-55, and to about 130,000 tons by 1959-60. In Canada, baler twine consumption in 1955 was still under 10,000 tons, but by 1960 it had risen to about 20,000 tons. Australian consumption is relatively small, yet the upward trend is just as marked, production of baler twine rising from under 1,000 tons in 1950/51 to 4,600 tons in 1959/60 (see Table 8).

No official figures for baler twine are available for the United Kingdom, but an estimate puts 1955 consumption at about 15,000 tons, most of which was used for baling hay and grass*. The increase in baler twine consumption in the United Kingdom is due to better utilization of grassland and increases in the beef and cattle herd ^{2/}.

There appears to have been little marked trend either way in the output of other twine in Canada and the United States, but in Britain output has risen over the past decade (Table 8). A more important movement, however, has been the downward trend, in all three countries, in the output of hard fiber cordage. The market for agricultural rope appears to have declined, while in other uses (e.g. in shipping), wire ropes have tended to replace manila and sisal, while new handling techniques have replaced rope in some processes.

1/ Some Trends in the Market for Sisal, etc., Tropical Products Institute, op. cit.

2/ Ibid.

Competitive position of sisal and henequen.

As already noted, world production of henequen has increased substantially in recent years, and its price per ton is about 25 percent below that of East African sisal No. 1. Almost all henequen is produced in Mexico, and the United States is the most important market.

Sisal is a stronger fiber than henequen, and baler twine made from sisal is required when hay is put up in large bales. However, there has been a recent trend for farmers to use smaller bales, and for these henequen twine is adequate 1/. As a result, United States imports of henequen fiber have expanded considerably. In addition, there has been a growth of the Mexican twine industry, United States imports of henequen twine having virtually doubled between 1953-55 and 1959-60 (see Table 9).

The competitive position of sisal is stronger in some Western European markets than in the United States. In Britain, for example, henequen is subject to a 10 percent ad valorem tariff, while in Portugal, sisal from Angola enjoys a preferential market.

Competition from synthetic fibers.

So far, the use of synthetic fibers for twine and cordage has been relatively small. In 1958, for example, the output of synthetic fiber rope in the United States amounted to 1,500 metric tons, hard fiber cordage output in that year being about 40,000 tons. In the United Kingdom, synthetic rope and cord production in 1958 was 640 metric tons, compared with 35,000 tons of hard fiber rope and cord output. However, the relative importance of the synthetic product is considerably greater than is indicated by the crude weight figures, since synthetic fiber is lighter, stronger and more durable than any of the natural hard fibers. For specific uses, where strength or durability is important, these advantages of synthetic ropes would more than offset their higher relative price compared with sisal or manila. However, for the majority of uses (e.g. in shipping), it is unlikely that synthetics will replace natural fiber cordage unless synthetic prices fall considerably from their present level.

1/ Some Trends in the Market for Sisal, etc., Tropical Products Institute, op. cit.

PRODUCTION AND EXPORTS

The expansion in African sisal production since the early 1950's has been very largely in three countries - Tanganyika, Kenya and Angola. These three accounted for one-half of the total increase in world hard fiber production between 1953-55 and 1959-60 (see Table 10). There was little net change, however, in sisal production in other African countries in this period. Production in both Kenya and Tanganyika in 1959-60 was about double the pre-war level, but the biggest proportionate growth took place in Angola, where the industry was on a very small scale before the war.

In Latin America, there has been a rapid expansion in Brazilian sisal production under the stimulus of increasing export prices. Sisal production in Brazil is also encouraged by official measures ^{1/}. The expansion in Mexican henequen production has been commented upon earlier. Production of abaca in the Philippines has fluctuated considerably from year to year, as a result of weather conditions and of the effects of disease; production in 1959-60 was two-fifths below the pre-war average.

Trends in hard fiber exports generally reflect the movements in production. The outstanding increase in exports since 1953-55 has been in shipments of Brazilian sisal, which rose by 53,000 tons (100 percent) from then to 1959-60. Most of this rise, however, occurred before 1956-58, since when there has been only a marginal rise in the trend in exports from Brazil (Table 11). Between 1956-58 and 1959-60, the main export increases were in African sisal and Mexican henequen. Exports of abaca are still on a downtrend, this being specially marked in exports from countries other than the Philippines.

Over 90 percent of African sisal is shipped to North America, Western Europe, Australia and Japan. Brazil, on the other hand, depends heavily on non-industrialized markets (mainly in Latin America), while Mexico depends almost wholly on the United States market. Manila hemp is used in a wide range of countries, but mostly

^{1/} See Section on Stabilization Policies.

in the United States, Western Europe and Japan (see Table 12). The African share of the various import markets is highest in Portugal, Australia and the United Kingdom (in all of which preferences exist), and lowest in the United States, Japan and the less-industrialized areas. Though Western Europe is likely to remain the major single marketing area for African sisal, its competitive position with henequen in the United States, and with manila in Japan is also likely to have considerable importance in influencing the future trend in world demand for the African product.

OUTLOOK

Consumption. World consumption of agricultural twine is likely to continue to increase at a modest rate. Though the demand for binder twine is likely to fall off somewhat, as the number of combine harvesters in use increases in the high-income countries, there is also likely to be an increase in demand in the less-developed areas as their grain output is increased and as they introduce mechanical binding equipment. However, the consumption of baler twine should continue to grow, particularly in the high-income areas. As populations and real incomes rise the demand for meat is also likely to grow, and this involves increases in the production of hay, the most important end-use for baler twine.

Consumption of hard fibers in cordage has been generally on the decline in North America and Western Europe, and probably this trend will continue. On balance, however, this decline is not likely to offset the rise envisaged in agricultural twines.

Unless there is a marked change in relative prices from present levels, world demand for sisal seems likely to continue to increase. The rate of increase during the 1960's is, however, not likely to be more than over the past decade, particularly if there is any spread of small-baling practice among farmers, or if synthetic prices are substantially reduced as a result of technological developments.

Production. The principal development in world production of hard fibers which can now be foreseen for the later 1960's is a further expansion in henequen output. In Mexico, the Government is planning a four-fold increase in henequen

acreage in Yucatan as part of an improvement plan for the region. Credit facilities have been granted to the industry to encourage this expansion.^{1/} Even if productivity on the new area is lower than on the old, this scheme alone is likely to result in a relatively large increase in total world supplies of hard fibers by 1970.

In East Africa, the area under sisal is not likely to be increased, at least in Tanganyika, because of the shortage of suitable land. On the other hand, the development of new varieties, yielding several times the normal quantity of fiber per acre ^{2/}, may lead to important changes in the organization of production. One result, already noticeable, is that sisal may be increasingly concentrated on the best land, leaving the rest to be devoted to other crops or cattle-raising. However, total sisal output in plantations is likely to continue to expand. Moreover, the possibility of extending the use of sisal as a hedge-crop in small-holdings is likely also to result in an increase in production in the future.

Taken together, the total output of sisal and henequen could well expand faster than the likely rate of growth in consumption. Within the total, henequen seems likely to increase its share, if the present development plans in Mexico come to fruition.

STABILIZATION POLICIES

British East Africa

After the end of the wartime Government purchasing scheme, co-operative organizations were set up in the three British East African territories to assist producers with the grading and marketing of the sisal crop. In Tanganyika, the main producing territory, the Tanganyika Sisal Marketing Association (TASMA) represents 70 percent of the producing area, and about half the total output. TASMA acts as a broker, selling the crop through merchants or direct to spinners. The producer is paid a regular monthly sum based on the previous month's output,

^{1/} Industrial Fibers, 1961, Op. cit.

^{2/} A new hybrid plant has been developed which, "in good conditions, is capable of yielding three times the normal quantity of fiber per acre," (Industrial Fibers, 1961, op. cit.)

and this provides some measure of stability on the producer's income. TASMA does not, however, attempt to operate on the selling price.

The Sisal Marketing Associations also finance research into agronomic problems connected with sisal cultivation, and into possible new uses for sisal.

Brazil

The encouragement of sisal production in Brazil has already been mentioned. The main methods used are the fixing of guaranteed minimum export prices, the use of special exchange rates favorable to sisal exporters, and - since 1958 - technical and financial aid to the sisal industry 1/.

It has been suggested earlier that world consumption of hard fibers is likely to grow at a relatively modest rate in the 1960's, and that there may well be pressure on the world market from a relatively faster growth in production. If so, governments may have to re-consider their policies concerning the production of hard fibers, particularly the need for stabilizing the producer's income. Policies designed to stabilize the world price would, however, not be practicable without at least the active co-operation of all the main producing countries. This would be difficult to achieve for a variety of reasons, but mainly because the different fibers have somewhat different uses so that the interests of the different producing countries tend to be conflicting ones 2/.

One possibility which might, however, be further investigated is the wider establishment of twine and cordage industries in the producing countries. This would increase the value of their exports by the amount of the processing charge. At present Mexico is the only major producer of twine and cordage among the countries producing hard fibers. Such a development in the African producing countries might, however, be contingent upon a reduction of import duties in some countries of Western Europe.

1/ Industrial Fibers, Commonwealth Economic Committee, 1961.

2/ There is also the danger that a controlled price might stimulate substitution against hard fibers.

Table 1. HARD FIBRES: World production of Sisal, Abaca and Henequen; Pre-war and 1953-60

	1935-38	1953-55	1956-58	1959-60	Change from	
					1935-38 to 1953-55	1953-55 1959-60
 <u>Thousand metric tons</u>					
<u>Production</u>						
Sisal,	258	424	513	549	+166	+125
of which: African	(160)	(288)	(326)	(370)	(+128)	(+ 82)
Other	(98)	(136)	(187)	(179)	(+ 38)	(+ 43)
Abaca	167	119	118	108	- 48	- 11
Henequen	113	107	125	150	- 6	+ 43
Total	538	650	756	807	+112	+157
<u>Exports</u>						
Sisal,	251	384	489	509	+133	+125
of which: African	(158)	(277)	(322)	(355)	(+119)	(+ 78)
Other	(93)	(107)	(167)	(154)	(+ 14)	(+ 47)
Abaca	166	118	116	103	- 48	- 15
Henequen	93	32	15	34	- 61	+ 2
Total	534	534	621	646	0	+112
 <u>Percentage</u>					
<u>African sisal as proportion of Total</u>						
Production	30	44	43	46	114	52
Exports	30	52	52	55	..	70

Source: Hard Fibres, Economist Intelligence Unit, London.

Table 2. SISAL: prices of African sisal in relation to other
hard fibre prices ^{1/}

Period	B.E.A. Sisal No.1	Brazilian sisal	Mexican henequen	Philippines abaca
	<u>U.S. cents per lb.</u>	<u>Percentage of B.E.A. Sisal No.1</u>		
1935 - 38	5.1	..	100	147
1953 - 55	11.3	85	79	183
1956	10.2	86	80	217
1957	9.4	84	83	288
1958	9.5	85	79	270
1959	11.6	92	73	264
1960	12.9	95	78	246
1961	11.8	94	75	250

Source: Hard Fibres, Economist Intelligence Unit, London.

^{1/} All prices are New York landed prices.

Table 3.

SISAL: Exports; annual fluctuations in quantity, unit value and value^{1/} from selected countries.

	1958	1959	1960	1961 ^{2/}
<u>Percentage change from previous year</u>				
<u>Angola</u>				
Quantity	+12	+ 3	+ 8	- 9
Unit value	- 1	+31	+20	-11
Value	+13	+35	+30	-19
<u>Kenya</u>				
Quantity	+ 6	+21	+12	Nil
Unit value	-11	+28	+18	-10
Value	+ 7	+55	+32	-10
<u>Malagasy Republic</u>				
Quantity	+10	-17	+12	- 2
Unit value ^{3/}	-10	+14	+19	-10
Value	Nil	- 5	+33	-12
<u>Mozambique</u>				
Quantity	Nil	- 6	- 9	..
Unit value	+ 3	+29	+23	..
Value	+ 3	+21	+12	..
<u>Tanganyika</u>				
Quantity	+ 9	+ 5	- 1	- 5
Unit value	+ 9	+20	+19	- 4
Value	Nil	+26	+18	- 9
<u>Brazil</u>				
Quantity	-14	+25	- 8	+16
Unit value	+ 2	+26	+29	+ 2
Value	-12	+57	+19	+14

Source: National trade accounts

1/ Export values were converted to U.S. dollars.

2/ The changes shown for 1961 refer to the following periods: Malagasy Republic, 12 months; Kenya and Tanganyika, 11 months; Angola, 7 months; Brazil, 6 months.

3/ In terms of national currency, the change from previous year was +5 percent in 1958 and +35 percent in 1959.

Table 4.

HARD FIBRES: their importance in the economies
of selected producing countries

Hard fibres exports as proportion of					
World hard fibres exports ^{1/} Averages			Total exports ^{2/} Averages	Gross domestic product ^{2/} Averages	
1953-55	1956-58	1959-60	1959-60	1959-60	
<u>Sisal</u>					
Angola	6	7	8	9	..
Kenya	6	6	8	12	2
Malagasy Republic	2	2	1	3	..
Mozambique	4	4	4	15	..
Tanganyika	31	28	29	29	8
Brazil	9	15	15	2	0.1 ^{3/}
<u>Henequen</u>					
Mexico	12	11	15	1	0.0
<u>Abaca</u>					
Philippines	18	16	13	7	0.8 ^{3/}

Source: National trade accounts.

^{1/} In terms of weight.

^{2/} In terms of value.

^{3/} 1959

Table 5. HARD FIBRES and CORDAGE: imports by main importing country, 1953-60

	Imports of fibre			Net trade in cordage ^{1/}			Total		
	1935-38	1953-55	1959-60	1935-38	1953-55	1959-60	1935-38	1953-55	1959-60
	Thousand metric tons								
U.S.	175	197	148	+31	+73	+123	206	270	271
Canada	26	32	37	+ 4	-10	+ 3	30	22	40
U.K.	69	83	95	-14	-10	-15	55	73	80
E.E.C. ^{2/} of which:	143	130	190	-30	-25	-29	113	105	161
France	38	42	61	+ 4	+ 5	- 4	42	37	57
Germany ^{2/}	53	41	60	- 1	- 4	- 3	52	37	57
Italy	3	7	14	- 2	- 2	- 1	1	5	13
Belgium	21	17	26	-12	- 8	-14	9	9	12
Netherlands	28	23	29	-19	- 6	- 7	9	17	22
Denmark	9	14	22	- 1	- 3	- 6	8	11	16
Portugal	2	6	21	-	- 1	-11	2	5	10
Other West Europe ^{3/}	3	12	14	-	-	-	3	12	14
Australia	11	14	22	-	-	-	11	14	22
Japan	58	39	56	- 5	- 1	- 5	53	38	51
Total of above	496	527	605	-15	+23	+60	481	550	665

Source: Hard Fibres, Economist Intelligence Unit, London.

^{1/} Plus sign denotes net imports, minus sign denotes net exports.

^{2/} Includes whole of Germany before the war.

^{3/} Norway, Sweden, Switzerland and Spain.

Table 6. PER CAPITA CONSUMPTION: hard fibres and cordage pre-war
and 1953-60

Country	Average		1959-60	Indices for 1959-60 Average	
	1935-38	1953-55		1935-38 = 100	1953-55 = 100
	<u>Kg. per head</u>				
U.S.	1.6	1.6	1.5	94	94
Canada	2.8	1.4	2.3	82	164
U.K.	1.2	1.4	1.5	125	107
E.E.C. ^{1/} of which:	0.7	0.6	0.9	129	133
France	1.0	0.8	1.3	130	163
Germany ^{1/}	0.8	0.7	1.0	125	143
Italy	-	0.1	0.3	..	300
Belgium	1.0	1.0	1.3	130	130
Netherlands	1.1	1.6	1.9	173	119
Denmark	2.1	2.5	3.5	167	140
Portugal	0.3	0.6	1.1	366	183
Australia	0.8	1.6	2.1	262	131
Japan	0.8	0.4	0.5	62	125

Source: Table 5; Demographic Yearbook, 1948, United Nations; Monthly Bulletin of Statistics, United Nations, December, 1961

^{1/} Includes whole of Germany before the war.

Table 7. SISAL : imports and their share in total hard fibre imports;
pre-war and 1953 - 60

	Imports of sisal			Sisal as proportion of total hard fibre imports		
	1935-38	1953-55	1959-60	1935-38	1953-55	1959-60
	<u>Thousand metric tons</u>			<u>Percentages</u>		
United States						
Fibre	56	116	81	32	59	55
Cordage	..	28	47	..	38	38
Total	..	144	128	..	53	47
Canada	22	29	35	85	91	95
United Kingdom	29	66	81	42	80	85
E.E.C.	113	110	175	79	85	92
<u>of which :</u>						
France	25	37	57	66	88	93
Germany, West	47	38	55	89	93	92
Italy	2	5	13	67	71	93
Belgium	16	14	23	76	82	88
Netherlands	21	18	25	75	78	85
Denmark	7	12	19	78	85	86
Portugal	1	6	20	70	95	98
Australia	5	13	21	46	95	98
Japan	-	9	27	-	23	48
Total of above						
Incl. U.S. cordage imports	..	388	506	..	65 ^{1/}	69 ^{1/}
Excl. U.S. cordage imports	233	360	459	47	68	76

Source : Hard Fibres, Economist Intelligence Unit; United States import statistics.

^{1/} Related to total hard fibre imports into the countries listed plus net imports of hard fibre cordage into the United States.

Table 8. HARD FIBRES : production of hard fibre twine and cordage in selected countries
1947-60

	Binder twine	Baler twine	Other twine	Cordage	Total
<u>Thousand metric tons</u>					
<u>United States</u>					
1947	30.6	30.1	6.6	56.6	123.9
1954	7.6	51.3	10.2	44.5	113.6
1958	2.6	39.8	8.6	39.4	90.4
<u>Canada</u>					
1950	17.7	3.4	2.8	5.5	29.4
1954	14.0	13.6	2.2	4.7	34.5
1960	5.8	19.6	2.0	4.2	31.6
<u>Australia</u>					
1950/51	1.5	0.7	2.7	6.8	11.7
1954/55	1.3	2.2	2.4	6.4	12.3
1959/60	1.0	4.6	2.4	7.4	15.4
<u>United Kingdom</u>					
1951	20.2 ^{1/}		11.2	50.5 ^{2/}	81.9
1954	28.2 ^{1/}		14.9	43.3 ^{2/}	86.4
1958	37.1 ^{1/}		16.6	35.8 ^{2/}	89.5

Sources : National censuses of manufactures.

^{1/} Including reaper twine.

^{2/} Including synthetic.

Table 9. HARD FIBRES : United States imports of cordage and twine, by main product group, 1953-60

	Binder twine	Baler twine	Other twine and cordage	Total ^{1/}
<u>Thousand metric tons</u>				
<u>1953-55 average</u>				
Sisal ^{2/}	11	16	1	28
Henequen ^{3/}	9	21	4	44
Total	20	37	5	72
<u>1959-60 average</u>				
Sisal ^{2/}	5	40	2	47
Henequen ^{3/}	8	48	16	72
Total	13	88	18	119
<u>Sisal as proportion of</u>				
<u>Total</u>	<u>Percentages</u>			
1953-55 average	55	43	4	38
1959-60 "	37	46	8	38

Source : United States import statistics

^{1/} Excludes small quantities of manila cordage and of miscellaneous hard fibre products.

^{2/} Imports from Canada, Europe, South Africa and Latin America (except Cuba and Mexico).

^{3/} Imports from Cuba and Mexico.

Table 10. HARD FIBRES : production; pre-war and 1953-60

	Averages				Change from	
	1935-38	1953-55	1956-58	1959-60	1935-38 to 1953-55	1953-55 to 1959-60
<u>Thousand metric tons</u>						
<u>SISAL</u>						
Angola	6	34	44	57	+28	+23
Kenya and Uganda	33	38	43	61	+ 5	+23
Malagasy Republic	2	11	14	15	+ 9	+ 4
Mozambique	22	25	31	29	+ 3	+ 4
Tanganyika	92	176	192	208	+84	+32
Other African countries	5	5	3	2	-	- 3
Total, Africa	160	289	327	372	+129	+83
Brazil	-	74	114	125	+ 74	+51
Haiti	6	26	37	27	+ 20	+ 1
Other countries	92 ^{1/}	37	37	27	- 55	-10
<u>HENEQUEN</u>						
Mexico	96	94	113	139	- 2	+45
Other countries	17	13	12	12	- 4	- 1
<u>ABACA</u>						
Philippines	167	105	111	100	- 61	- 5
Other countries	1	14	8	7	+ 13	- 7
Total	538	651	758	807	+114	+156

Source : Hard Fibres, Economist Intelligence Unit, London.

^{1/} Mostly Indonesian production.

Table 11. HARD FIBRES : Exports from the main producing countries, pre-war and 1953-60

	1935-38	Averages 1953-55	1956-58	1959-60	Indices for 1959-60 1935-38=100 1953-55=100	
	<u>Thousand metric tons</u>				<u>Percentages</u>	
<u>SISAL</u>						
Angola	6	34	46	56	980	164
Kenya and Uganda	33	35	41	56	168	161
Malagasy Republic	2	9	13	11	438	113
Mozambique	22	24	31	29	134	120
Tanganyika	90	178	193	207	229	116
Total Africa	153	280	322	358	233	128
Brazil	-	53	101	106	..	201
<u>HENEQUEN</u>						
Mexico : Fibre	85	25	14	34	40	134
Cordage	9	45	57	72	800	158
<u>ABACA</u>						
Philippines	165	104	108	96	58	92
Other countries	107	69	75	51	47	74
Total of above	519	576	678	716	138	124

Source : Hard Fibres, Economist Intelligence Unit, London.

Table 12. HARD FIBRES: Exports of hard fibres by main countries of origin and destination
1959-60 averages

To	From	Angola	Mozambique	Kenya	Tanganyika	Total African countries	Brazil	Mexico ¹	Philippines	Total shown	African share
Thousand metric tons											
U.S.		2.6	7.2	1.0	14.4	25.2	16.6	106.6	20.9	169.3	15
Canada		-	0.2	0.3	2.4	2.9	-	0.1	0.7	3.7	78
U.K.		0.2	0.1	10.5	68.8	79.6	-	-	14.3	93.9	85
E.E.C.		19.9	9.0	16.4	53.1	98.4	58.8	-	15.2	172.4	57
Portugal		17.1	5.0	-	-	22.1	-	-	0.1	22.2	100
Other W. Europe		10.5	3.6	7.0	19.3	40.4	3.8	-	5.8	50.0	81
Australia		-	-	2.2	11.5	13.7	-	-	0.9	14.6	94
Japan		1.0	0.4	6.0	12.4	19.8	-	0.2	27.8	47.8	41
All other		4.4	1.2	8.3	10.8	24.7	28.3	1.4	10.4	64.8	38
Total		55.7	26.7	51.7	192.7	326.8	107.5	108.3	96.1	638.7	51

Source: Hard Fibres, Economist Intelligence Unit, London, and national trade accounts.

^{1/} Includes fibre and cordage