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BAGS AND BAGGING MATERIALS IN WEST AFRICA :
A FIRST STUDY OF THE MARKET AND
INDUSTRIAL PROSPECTS

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CHAPTER I

THE MARKET : BREAKDOWN INTO CATEGORIES

1. The market for jute fabrics and bags exists in the countries of West Africa as a natural complement to the agricultural character of the economics on the one hand and to the standards of packaging demanded in international trade for the primary commodities - cocoa, peanuts, palm kernels and so on - exported from the sub-region.
2. The market is conveniently divided into two main groups:
 - a) The first group consists of the market for hessian, a type of jute fabric used for the packaging of cotton bales and other diverse uses. The overall significance of this group is, however, limited and its share of the total market hovers around 2 per cent.
 - b) The second group is the market for sacks which, in turn, divides into three distinct sub-categories:
 - (i) The market for new sacks;
 - (ii) The market for used sacks, imported as such; and
 - (iii) The market for sacks which are imported as containers for other produce, such as sugar.
3. New sacks, imported as such, are principally used for the packaging of export crops and as such, are most often exported out of the sub-region in a single use - transaction. The other two categories are used, almost exclusively, for local traffic in agricultural and other commodities, and as such are capable of being utilized over and over. It is also obvious that in terms of price, the three groups are capable of being arranged in a three-step ladder: new sacks are the most expensive and are followed by imported used sacks, the latter being trailed by the third group which the French call 'Pleins'.
4. In terms of manufacturing within a country or the sub-region, the market available is thus considerably smaller than the total market, and consists

only of the volume presently indicated by (a) imports of hessian and (b) imports of new sacks. Price considerations^{1/} would rule out in poor countries the prohibition or restriction of imports of used sacks; and it would by wanton extravagance not to use the 'Pleins' which are a case of 'joint supply', as the economist would term the phenomenon. This study of manufacturing possibilities is based, therefore, on the limited, but more valid concept of the market for the (new) products of the manufacturing industry.

The following example derived from the import statistics of Senegal indicates the kind of price considerations involved:

Price per Metric ton of Imports (1964)

1. New sacks of jute	\$371
2. Used sacks of jute	229
3. 'Pleins'	199

CHAPTER II

FACTORS AFFECTING THE DEMAND FOR 'NEW' JUTE PRODUCTS

5. The main positive factor in the demand for new jute products is obviously the growth of production of export commodities like cocoa, coffee and peanuts. Thus, the production of cocoa in Ghana has expanded from 233,000 m. tons in 1955-56 to 580,000 m. tons in 1964-65 and 422,000 m. tons in 1965-66. Likewise, in Nigeria the production of cocoa has moved up from 109,000 m. tons in 1955-56 to 298,000 m. tons in 1964-65 and 188,000 m. tons in 1965-66.^{1/}

6. On the broad assessment^{2/} of the trends in total agricultural output, and of the trends in exports of primary commodities, the demand for new jute manufactures should have moved up by up to 50 - 75 per cent. In fact, for the sub-region as a whole, the demand for new jute manufactures (barring an occasional year like 1964) has barely moved up by 10 to 15 per cent. The failure of these two trends to synchronize has to be seen in the light of several developments in the sub-region. These are considered below.

(1) The bulk handling of agricultural products has made considerable progress in several countries, although the impact is far from

^{1/} Both examples from FAO, Monthly Bulletin of Agricultural Economics and Statistics, March 1966, p. 13. The difference between the 1964-65 and 1965-66 estimates of production in both countries indicates another aspect of the market for new jute sacks, viz. its considerable instability as between a bumper crop and a leaner one.

^{2/} The annual rates of growth of agricultural production in the West African sub-region in a recent period (ending in 1960) are quoted below:

Cereals	2.2% per year
Groundnuts (shelled)*	6.1% " "
Cocoa *	6.9% " "
Coffee *	10.6% " "
Seed cotton	7.6% " "

(* Refers to exports).

Data derived from FAO, West African Pilot Study of Agricultural Development, 1960-1975, Volume I, Tables 4.36 and 4.37, pages 102-3.

total as of now. The progress made has taken several directions. Firstly, ships are often so equipped as to be able to transport agricultural cargo in bulk. Secondly, ports are increasingly being equipped with mechanical handling facilities on the one hand and silos for storage on the other. These facilities have several advantages, although these are also capital intensive. The 'turnaround' time of wagons used in internal movement from the producing or primary storage centres is reduced, thereby increasing wagon availability during peak seasons of operation. The time involved in loading a ship is reduced to one-fourth or less. The working capital invested in the holding of stocks is also considerably reduced, and the vulnerability of stocks to adverse changes in weather also becomes a factor of smaller significance. The whole development, however, implies that jute bags are no longer sent out of the country along with the primary produce exported. As such, these can be used several times over in the course of an agricultural year. In addition, since internal movement does not have to be in 'export' quality bags, a cheaper bag becomes a viable proposition.

In other words, under conditions of bulk handling the export of a bag-size shipment no longer corresponds with the use (and export) of a bag. As of now, bulk handling has just made a beginning. Its future impact - fed by increasing wage levels in the countries of the sub-region - will be even greater.

- (2) Increasingly, the countries of the sub-region are interested in processing at least a part of their exports, and the processing (for example, groundnut oil instead of groundnuts) often implies that the goods can no longer be shipped in jute bags.
- (3) Finally, it seems that the supply of 'Pleins', the sacks in which some of the imports are received, has expanded at a rate much higher than the import of jute bags, new and old. This can be recorded definitely in the case of eight French-speaking countries - Mauritania, Senegal, Mali, Niger, Dahomey, Togo,

Upper Volta and the Ivory Coast - which record the import of Pleins separately.

	<u>1955</u>	<u>1963</u>	<u>Change</u>
Imports of new jute bags	4,500	10,000 m.tons	+ 122 per cent
Imports of old jute bags	533	975 m.tons	+ 83 " "
Imports of 'Pleins'	3,000	10,000 m.tons	+ 233 " "

7. There is reason to believe that a similar trend has been at work in English-speaking countries of the sub-region as well, although the systems of reporting imports do not enable direct quantification. The dramatic increase in the availability of 'Pleins' had an immediate depressing effect on the market for used sacks, and by increasing the total supply of sacks in a country (which is much larger than a year's imports of sacks of all kinds) on the demand for new sacks for internal uses.

8. It is felt that these developments, taken together, will hold in check the increase in the demand for new jute manufactures (particularly sacks); it is further felt that the increase in bulk handling will make great headway over the next fifteen years as modernization of ports is pushed forward by governments. These constitute the rationale for the low rate of projected growth in a later part of this study.

CHAPTER III

QUANTIFICATION OF PAST TRENDS IN
DEMAND AND THE PERSPECTIVE FOR 1980

9. Table 1 presents details of the import of new jute sacks and fabrics in eight countries of the sub-region during 1955 to 1963, and helps to crystallize the overall stagnation in the market.

TABLE 1

Imports of New Jute Sacks and Hessian in Eight
West African countries, 1955 to 1963*

(Units: metric tons)

	1955	1956	1958	1960	1962	1963
A. Imports of <u>new</u> jute sacks	4,500	9,800	10,477	6,100	9,400	9,900
Index	46	100	107	62	96	101
B. Imports of Hessian	886	879	874	672	281	310
Index	101	100	99	76	32	35

Source: National import statistics: Indices have been worked out.

* Mauritania, Senegal, Mali, Ivory Coast, Upper Volta, Niger, Dahomey and Togo.

10. Table 2 presents a similar picture for several other countries in the sub-region, although both categories - sacks and hessian - are taken together.

TABLE 2

Imports of New Jute Sacks and Hessian in Other Countries
of the Sub-region, 1966

	1955- 1956- 1957- average	1959	1960	1961	1962	1963
1. Nigeria	21,400	16,900	20,500	20,000	23,000	23,000
2. Ghana	6,100	6,000	5,300	6,000	7,000	5,200
3. Guinea	500	500	500	500	500	500
4. Gambia	-	-	-	850	1,400	-
5. Other countries ^{a/} (estimate)	2,500	2,500	2,500	2,500	2,500	2,500
6. Total ^{b/}	31,300	26,700	29,600	29,850	34,400	32,100
7. Index	100	85	95	95	110	103

a/ Liberia and Sierra Leone

b/ The total figure includes an estimate for Gambia.

Source: National import statistics, or adaptation from these.

11. In 1964, actuated by the bumper crop of cocoa, the import of new bags in Nigeria moved up from 23,000 metric tons in the preceding year to 47,000 m. tons, although the effect was less pronounced in terms of numbers of bags and sacks. Ignoring this abnormal fluctuation - and its meaning in terms of number of bags does not correspond to the movement in weight - the current (1965) market for new bags and sacks is estimated below. The estimate is in terms of a stable market, around which a small range of upward and downward fluctuations will take place as between one year and the next.

12. The current market for imports is placed at 42,000 metric tons of new sacks and 1,000 metric tons of hessian. Output of sacks in 1965 in

the sub-region is unlikely to have exceeded 4,500 metric tons, and there was no production of hessian in the sub-region. The total current market is thus placed around 47,500 m. tons. A similar total estimate around 1956 would come to 42,500 m. tons, implying a compounded annual growth rate of the order of 1.4 per cent. The total market for new jute sacks and fabrics in 1980 would come to 59,000 m. tons if the rate of 1.4 per cent is expected to continue. If a higher rate were to be applied, say 3 per cent per year, on the basis of anticipated increases in agricultural output, the total demand in 1980 would still not exceed 74,000 metric tons per year. Anyway, in view of the strength of the various constraints on the rate of growth it might be realistic to set the demand perspective at 59,000 m. tons, and relate only 55,000 m. tons to any manufacturing programme. (It might not be economical to manufacture some of the smaller, more specialized parts of the demand). The developments, existing and proposed, in the manufacturing of bags have to be viewed in this overall context.

CHAPTER IV

EXISTING CAPACITIES, FIRM PROJECTS AND OTHER PLANS

Senegal

13. Le Société Commerciale et Industrielle du Sac (SOCOSAC) is a spinning and weaving plant manufacturing sacks as well as shopping bags, twine, cordage products and a miscellaniety of other articles, all made from imported sisal. The plant, located in Dakar, Senegal, has a current annual output of 2,300 m. tons, out of which between 1,400 to 1,500 m. tons consist of sisal sacks. A small portion of the output of sacks - about 200 m. tons-is exported to neighbouring countries.
14. Founded in 1938, SOCOSAC has experimented with varous raw materials, including imports of sisal from the Upper Volta which used to have (until 1959 or 1960) a small sisal processing plant. The general failure of the first sisal plantations all over the countries of former French West Africa has currently made the factory dependant wholly on imports of sisal from the major producers like Mozambique. Experiments have been going on for some time with hedge-grown sial, but there is no commercially certain local supply yet in sight.
15. Experiments with a jute-like fibre, "dah", which is to be found occasionally in Senegal have also not yet been of any real success.
16. In the balance, the operations of SACOSAC in the field of sack-making have remained rather small, although characterized by growth.
17. A small factory, C.A.T.C., in Dakar also makes sacks from imported fabrics.

Ghana

18. The Fibre Bag Manufacturing Corporation, a wholly state-owned company, has a bag-making plant in Kumasi. The plant, involving an initial investment of £800,000 (or \$2.4 million), was mooted in 1960 and came into operation sometime in 1962/63. In 1964, a further expansion costing

£690,000 was set going. And as of now, the plant is capable of manufacturing 12 million sacks of the B-twill type and 1.8 m. metres of hessian, in widths of 1.35 metres.

19. However, the factory was closed in the middle of 1966 for lack of spare parts and shortage of raw materials, all of which are imported.

20. The Industrial Statistics, 1962-1964, enable a picture to be drawn up of its rather unsuccessful operations. Output in 1964 is placed around 2,137 m. tons, barely 50 per cent of the then available capacity. Gross output in 1964 was £469,000 compared to the initial fixed investment of £ 800,000 or a ratio of output: capital of only 0.59 in contrast to a feasible 1.00. Total employment in the plant was 932, or 436 employees per 1,000 m. tons of annual output compared to 238 employees per 1,000 m. tons in the modern post 1948 industry built up in Pakistan.

Nigeria

21. The Nigerian market for sacks has continually attracted attention from potential manufacturers.

22. One of the first investigations was based on the possibility of growing kenaf on a plantation basis and utilizing it for the manufacture of 4 million bags (about 5,500 m. tons) of the B-twill type. The entire scheme, which involved participation by a foreign company (VKCM), the United Africa Coy. and the Northern Nigerian Government, was expected to cost £2.2 million (or US.\$6.2 million). However, the scheme implied a selling price of a bag at 3s.8d. compared to the c.i.f. price of an imported bag - 2s.6d. This scheme has not been proceeded with.

23. As of mid-1966, three major projects are in varying stages of establishment. In Western Nigeria, a £ 2 million (US.\$ 5.6 million) investment will come into production in late 1966 or early 1967. The factory will be based on imported jute from India and Pakistan and will produce 10 million bags a year. In Northern Nigeria, a plant is to be

set up in financial and technical collaboration with Pakistan based interests, involving an investment of about £2.5 million (US.\$ 7.0 million). The output will be in excess of 10.5 million bags per year, and the plant will also be based on imported jute. A third factory is being planned in Eastern Nigeria, and will involve an investment of £1.5 million. This plant will also be based on imported raw materials.

24. In other words, the total projected investment of \$ 17 million is expected to cover between 60 to 70 per cent of the current market for new sacks in Nigeria.

Ivory Coast

25. On 4 August 1965, the foundation stone was laid of EILTISAC, a jute spinning and weaving plant which is expected to produce 5.5 million bags per year. The total investment involved is \$2.8 million, and the capital is of the order of \$ 1 million. Of the latter, 20 per cent will be provided by the Ivory Coast Government and the balance is being contributed by French and Ismaili interests led by the Aga Khan. This plant is also based on imported jute.

26. Another factory - for the manufacture of sisal bags - is being planned by SACOSAC, Dakar and COTOA, a local firm. The factory will be located at Bouaké and is expected to produce 1 million sacks per year. Investment will be in the neighbourhood of \$ 500,000.

Dahomey

27. An Italian group is involved in the setting up of a plant, which will be based on kenaf grown in Dahomey on a plantation basis, for the manufacture of bags. The Government of Dahomey is also an equity holder. The entire project, plantations and factory, will involve an investment believed to be in excess of \$8 million. The total output will eventually exceed 5,000 m. tons.

Niger

28. The Development Plan has visualized one bag-making plant. The Development Bank has worked out details of a proposal for a plant with an annual output of 2,000 m. tons. The fixed capital investment envisaged is of the order of 387 million CFA Francs; and gross output is placed at 211 million CFA Francs. This proposal is also based on imported jute. No specific steps are yet known to have been taken in this connexion.

CHAPTER V

SUMMING UP

29. Existing plans and projects for jute bags, hessian, and sisal sacks thus come to about 37,000 m. tons in comparison to the overall perspective of manufacturing demand set at 55,000 m. tons for 1980. Almost all of the proposed capacity will come up, at least in the near future, on the basis of imported raw materials. It remains to be seen whether a viable commercial equation emerges in the matter of raw material supplies from within the sub-region. If it does, the extension of capacity to cover the entire sub-regional market can be easily recommended. Until it does, it would not be fair to ask exporters of primary products, who are not producing their own sacks, to pack their own exports in bags sold at prices which are not internationally competitive. The experience in Ghana, and this is the only^{1/} experience available in the field directly, is not encouraging. It is almost certain that the new industry, which will emerge as an operating entity in the course of 1967, 1968 and 1969, will have a better record of performance. But as of now, it is not clear that the cost of production can compare as an international basis, and any recommendation for additional capacity will therefore have to be placed in the context of 1972 to 1980. In the distribution of this additional capacity, it is suggested that potential producers of the raw material - Mali, Upper Volta, and Togo - that do not appear in the above list of projects or plants be given the greatest priority. In distributing the additional capacity of 18,000 m. tons, two principles should be observed. Firstly, as far as possible, no plant of less than 3,000 m. tons capacity should be allowed to come into existence; and secondly, successful existing plants/projects should have the opportunity of expanding further. The total fixed capital expenditure involved in an additional capacity of 18,000 m. tons will be of the order of \$25 million. Gross output will be in the vicinity of \$20 million and value added will be in the region of \$ 9 million.

^{1/} SACOSAC manufactures bags from sisal, not from jute or allied fibres.