UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL

OCT 1 [illegible]

Distr.
LIMITED

E/CN.14/INR/129
19 September 1966

Original: ENGLISH

ECONOMIC COMMISSION FOR AFRICA
Sub-regional Meeting on Economic
Co-operation in West Africa
Niamey, 10-22 October, 1966

THE TEXTILE SITUATION IN WEST AFRICA:
MARKETS - INDUSTRIES - PROSPECTS

M66-1217

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CHAPTER I

INTRODUCTION

1. In 1964, the base year adopted in the present study for reasons of statistical and analytical convenience, the fourteen countries of the West African sub-region imported over 146,000 metric tons of textiles. Of the imports of manufactured textiles about 12,000 m. tons served as intermediate inputs in the textile industries, traditional and modern, of the sub-region. The gross output of the sub-region amounted to 41,000 m. tons, and net of the imported inputs of manufactured textiles, the sub-regional output is estimated at 29,500 metric tons. The imports accounted for a c.i.f. value of US $ 297 million.

2. The present study is concerned with an analysis of the current structure of the market and a broad analysis of consumption patterns as these have evolved over 1951 to 1966 (Chapter II). Chapters III, IV, V, VI, and VII are devoted to a country-wise statement of the sizable industrial complex as it has evolved upto mid-1966 in terms of existing structures, and to an assessment of the results attained in a number of areas : Number of units, their equipment, employment and output, man: machine ratios, productivity levels in relation to the levels of employee remuneration; methods of financing, volume of investment and levels of capital costs, and other factors involved in the operation of textile industries. Where indicated, the analyses within the sub-region have been juxtaposed with one another and with international experience. Chapter VIII poses the rationale of rapid import substitution within a structure of viable costs and this is related in Chapter IX to the imperative need for a sub-regional orientation if import-substitution is to assume the largest scale. Chapter X provides an exercise in demand projections upto 1980 for the total textile supply and its major components. This is done in a sub-regional framework of textile development (Chapter XI). Chapter XII contains estimates of capital required, equipment and the implications of the proposed development in terms of the needs of personnel. Chapter XII, the final chapter, suggests one manner of distributing textile capacities in the context of the 1980 market.

CHAPTER II

THE TEXTILE SITUATION IN WEST AFRICA - AN OVER-ALL VIEW

Main Suppliers and the Inter-relationships in their Contributions

3. The current structure of the market for textiles (almost wholly textiles directed to personal consumption) has four main categories. Imports of manufactured textiles - yarn, cloth, articles of clothing (including second-hand clothing) and knitwear, accessories of clothing made of textiles and a miscellaniety of other personal items - exceeded 146,000 m. tons in 1964. Industries, modern and traditional, produced and processed within the sub-region 41,000 metric tons. However, a large part - 11,800 m. tons - of the home-based output involved a further manufacturing operation, whether weaving or knitting or towel-making or blanket weaving or the printing of grey cloth which was based on imported manufactured articles, yarn and fabric. In the net result, only 29,500 m. tons of textiles were wholly manufactured by the textile industries, modern and traditional, within the sub-region. The traditional hand-weavers, based on handspun yarn produced in many West African countries, supplied some 30 per cent of the supply manufactured entirely at home. The balance comprised the contribution, as defined, of the modern sector - composite spinning and weaving mills usually integrated with some measure of bleaching, dyeing, printing and finishing capacity, knitters, towel and blanket makers, and some other textile industries organized on a modern industrial basis.

4. Table 2.1 sets out the inter-relationships involved between the various sources of supply.

TABLE 2.1

Sources of Supply of Textiles: Inter-relations Assessed for 1964

Source from which manufactured inputs are derived	Output in Traditional Sector	Output by sectors other than composite mills	Output in the Composite mill sector	Total Manufactured Textiles	
(1)	(2)	(3)	(4)	(2+3+4)	
Traditional Sector	8,845	nil	nil	8,845	m.tons
Imports	5,755	4,484	1,550	11,789	"
Modern Sector	760	2,190	17,392	20,642	"
A.Total Output in Sub-region	15,660	6,674	18,942	41,276	"
B.Contribution of Impts.	5,755	4,484	1,550	11,789	"
C.Output Net of Imports (A-B) in Sub-region	9,905	2,190	17,392	29,487	"

Sources: National import statistics and analyses undertaken, country-wise and sector-wise, in the text. All figures are in metric tons.

In other words, the total demand for textiles in 1964 (a year which is regarded as broadly representative[1/] of the 1963 to 1965 textile situation) can be set out in terms of the following alternatives:-

(a) Output in the sub-region + net imports,
i.e., 41,276 + (146,275 - 11,789) metric tons = 175,762 m.tons or

(b) Imports into the sub-region plus output in the sub-region net of imports, i.e., 146,275 + (41,276 - 11,789) = 175,762 m. tons.

5. Looked at in one way, the sub-regional production thus comes to 23.5 per cent of the total needs of the market. Defined along a stricter concept - and both concepts have their relevance and validity as will be seen in the Chapters to follow - the contribution of sub-regional output is a more modest figure, 16.78 per cent.

6. It will also be seen from Table 2.1 that the traditional sector is of considerable significance both as buyer of manufactured textile inputs (i.e. yarn) and as producer of textiles. In 1964, it is estimated

1/ In terms of over-all demand.

to have contributed about 38 per cent of the final output of textiles, compared to the share, 46 per cent, of composite mills, and 16 per cent produced by knitters, blanket and towel makers, and exclusive printers on the one hand and non-personal uses (such as manufacture of bicycle tyre-cord and fishing nets), on the other. On the other hand, it is also clear that 42 per cent of its input of yarn is derived from manufacturing industries, whether located in the sub-region or in the exporting countries.

7. The converse of the above proposition is that the modern spinning and weaving sector is a producer of final output (cloth for the consumer) as well as a producer of intermediate inputs (yarn for hand-weavers, knitters and others, as well as grey cloth for the sector which is solely engaged in the bleaching, dyeing, printing and finishing activities). As of now the latter role is small, only 2,952 m. tons out of a total output of 20,642 m. tons. But in as much as imports are only a modern sector located abroad, their current volume (11,789 m.tons) affords an indication of the fact that in any major programme of import-substitution, the role of the spinning, weaving and finishing sector as a producer of final output will have to be proportionally lower than the current level.

The Role of Imports

8. The role of imports is larger in the total textile supply of West Africa than is indicated by calculations based in tonnage. In the first place, the yardage per unit of weight is larger - around 8,968 sq. yards per metric ton based on trade statistics - compared to production in the sub-region. In the second place, the role of exports in total consumer expenditure in clothing is at least twice as large as the c.i.f. value of imports, around US $ 297 million in 1964, which in turn accounts for between 15 to 20 per cent of the total value of imports in most countries of the sub-region. In the third place, and this needs to be indicated separately although its impact is recorded in the total c.i.f. value, imports are comprised of the higher quality, higher price products compared to the current types of production in the sub-region.

9. Imports of textiles, defined in the net sense indicated earlier, however, vary in the size of their role from one country to another. It is smaller in the case of the four countries with a modern textile sector in 1964 - Nigeria, Ivory Coast, Senegal and Ghana[1] - and larger in others. In the other ten countries - with the exception of Mali and Upper Volta, which have fair-sized traditional sectors - the extent of reliance reaches totality or near-totality.

The Market for 'Personal' Textiles

10. The size of the over-all market needs to be amended downwards in order to arrive at a realistic assessment of the market for personal textiles.

11. In the first place, the volume of imports is expressed as 'yarn' tonnage and in terms of fabric tonnage, and after making various adjustments for wastage involved in the conversion of yarns into different classes of fabric, the imported tonnage would come to 142,814 m. tons.

12. The net output in the industries of the sub-region, modern and traditional, is already expressed as 'fabric' tonnage and does not call for any similar downward adjustment.

13. Two further adjustments need to be made. In the first place an allowance of 2,500 m. tons is made, on a necessarily ad hoc basis, for items like sewing thread which do not become fabric per se, and other items which are not a part of the market for personal textiles at all. The second adjustment is of a different kind and concerns blankets. In view of their special characteristics in the matter of weight per unit and the kind of yarn which goes into the making up of the largest part of the weight of a blanket, it is felt that these too should be considered separately. The imports of blankets came to 4,158 m. tons, and the output of blankets in the sub-region came to 1,369 m. tons out of which only 100 m. tons were inputs arising from within the sub-region. The resulting arithmetic is summarized below:-

1/ The modern sector in Ghana textile industries was entirely based on imported yarns in 1964.

A.	Volume of imports expressed as yarn		146,275 m. tons
B.	Volume of imports expressed as fabric		142,814 "
C.	Net output in the sub-region		29,487 "
D.	Ad hoc allowance for items of non-personal use and items like sewing thread etc. which do not eventually become fabric (Imports, 1000m.tons; sub-regional industry, 1,500 m.tons)		2,500 "
E.	Allowance for the weight of blankets		
	(i) imports of blankets as blankets	4,158	
	(ii) Imports of yarn for blankets made in the sub-region	1,269	
	(iii) Sub-regional yarn used in the making of blankets	100	5,527 "
F.	Market for personal textiles (B+C - D)		169,801 "
G.	Market for personal textiles (after allowing for blankets) to be considered on a yardage basis (F - E)		164,274 "

14. The market for personal textiles other than blankets made in factories is converted below into yardage. Imports are converted on the basis of averages derived from trade data, with the obvious exception of yarn imports. Hand-weaving output of yarn is converted on the basis of 5,800 sq.yards to a metric ton, because the fabrics tend to be heavier. (The country analyses provide examples). The rest of the sub-regional output is converted on the basis of 8,000 sq. yards to a metric ton on the basis of current experience in the industries of the sub-region.

TABLE 2.2

Conversion of Textile Tonnage into Yardage (m.sq.yds.), 1964

	Textile tonnage directed to personal uses (m.tons)	Basis of Conversion (sq.yds. to a metric ton)	Textile supply in Million yards
1. Imports of cloth, clothing and yarn and cloth used for further manufacture	136,387	9,000	1,227
2. Output of handwoven fabrics (based on handspun yarn)	8,845	5,800	51
3. Output of fabrics wholly based on the modern sector	19,042	8,000	152
4. Total output of fabrics (1+2+3)	164,274	--	1,430

Source: See text.

15. In other words, 95.36 million inhabitants of the sub-region had a total supply of cloth available to them of the order of 1,430 million square yards or 14.99 sq.yards or 10.33 sq. metres per inhabitant. (See Table 2.4 for a slightly lower version, arising out of rounding of figures and statistical discrepancies).

16. Of the total supply of 1,430 million square yards, it is possible to estimate directly that around 1,158 m. sq. yds. were directly imported either as cloth or as clothing and accessories, or knitwear. Some 69 million square yards were imported in the basic form of yarn and the output of fabrics entirely manufactured in the sub-region was of the order of 152 million yards for the modern sector taken as a whole, and 51 million square yards for the hand-weaving sector. In addition, the import of greys for printing and finishing accounted for 20 million sq. yds. from the import of fabrics. Thus, the gross output of fabrics in the sub-region came in 1964 to about 292 m. square yards derived from the following sources:-

Hand-weaving sector	102 m. sq yds.
Exclusively printing plants	20 "
Output of composite mills	152 "
Output of knitters, towel makers	16 "
Wastage & statistical discrepancy	2 "

The Composition of Imports

17. The import of 1,158 million yards in the form of cloth, clothing and knitwear took the following main forms:-

Cotton yardage	697 m. sq. yds.
Woollen yardage	7 "
Towels	40 "
Table and household linen	34 "
Fabrics of man-made fibres	176 "
Imports of clothing, hosiery and second-hand clothing	204 "

18. Of the cotton yardage between 280 to 300 m. sq. yards were imported as final products; and some 20 million square yards were grey cloth imported for printing. While the figure is necessarily imprecise, another 75-80 million square yards were prints on imported man-made fabrics. A further 12 million yards of cotton cloth produced in the sub-region were also printed. In other words, the total market for prints is placed in 1964 at 400 million square yards, with a margin of upto 20 million square yards on either side.

19. It is not possible always to sort out the figures of import of second-hand clothing separately, but the figure could well be in the range of 60 to 70 million square yards. Over-all knitwear imports are placed in the neighbourhood of 30-40 million square yards, and over-all imports of new clothing and accessories are placed between 80 to 90 million square yards.

Fibre-distribution of the Market

20. A distribution of the market according to fibres is complicated by the fact that a number of items are covered only as a generic class, or are indicated in the form of mixed fabrics with a particular percentage of a particular fibre as the upper limit. Nonetheless the following table attempts a broad distribution of the market according to fibres. The basis used for imports is the somewhat larger, more embracing one rather than the more limited concept of a market for personal textiles.

TABLE 2.3

Distribution of the Total Market in Terms of Fibres

(In Metric tons)

	Cotton	Wool	Rayon and other Man-made fibres	Total
1. Imports	108,573	5,127	32,608	146,308
2. Net output in the sub-region	29,237	250	nil	29,487
3. TOTAL	137,810	5,377	32,608	175,795
	(78.39%)	(3.06%)	(18.55%)	(100.00%)

21. It is further believed that more than 80 per cent of the rayon and other mand-made fibres group consists of rayon, mostly viscose, and the greater part of the latter consists of spun rayon fabrics. The non-rayon group consists, in that rough order, of polyamide fibres such as Nylon or polyester fibres such as 'Terylene'.

The size of country-markets and levels of per caput consumption

22. The table on the next page presents an analysis of the size of individual country-markets, various sources of supply contributing to the market and the levels of per caput consumption or availability in 1964. Once again the analysis, to the extent possible, is in terms of the market for personal textiles.

TABLE 2.4

Size of Country-Markets and Per Caput Availability of Textiles for Personal Use, 1964

(All figures except those indicated otherwise, are in metric tons)

Country	Net Imports	Modern sector (Gross Output)	Traditional sector (Gross Output)	Exports[a]	Net availability	Net imports	Modern sector less blankets m.sq. yards	Traditional sector m.sq. yards	Less exports	Total	Population (1964) mill.	Level of per caput consumption of textiles sq.yds.	Est.Level of per caput consumption expenditure in 1964 $
Nigeria	41,209	15,305	8,500	..	65,014	371	122	55		548	56.28	9.74	60
Ivory Coast	17,808	4,312	825	800	22,145	160	34	5	6	193	3.74	51.60	166
Senegal	11,036	2,150	800	300	13,686	99	17	5	2	119	3.39	35.10	177
Ghana (1962)	19,020	1,870	900	..	21,790	171	15	6		192	7.54	25.46	152
Guinea (1962)	4,796	nil	N.A.	..	4,796	43	nil	N.A.		43	3.39	12.68	64
Mali (1963)	6,701	nil	2,635	..	9,336	60	nil	17		77	4.47	17.23	62
Togo	3,439	nil	N.A.	..	3,439	31	nil	N.A.		31	1.60	19.38	76
Upper Volta	3,314	nil	2,000	..	5,314	30	nil	13		43	4.67	9.21	44
Niger	5,022	nil	N.A.	..	5,022	45	nil	N.A.		45	3.17	14.20	73
Dahomey	2,211	nil	N.A.	..	2,211	20	nil	N.A.		20	2.31	8.66	62
Gambia	1,174	nil	N.A.	..	1,174	11	nil	N.A.		11	0.31	35.48	69
Sierra Leone	7,132	nil	N.A.	..	7,132	64	nil	N.A.		64	2.66	24.06	63
Mauritania	98	nil	N.A.	..	98	1	nil	N.A.		1	0.73	13.70	103
Liberia (1963)	3,407	nil	N.A.	..	3,407	31	nil	N.A.		31	1.04	29.81	102
	126,367	23,637	15,660		164,564	1,137	188	101		1,418	95.30	14.88	

a/ Estimates

N.A. Not available but believed to be small

Notes to Table 2.4:

(i) Blankets and materials for the manufacture of those are excluded throughout.

(ii) Yarn directed to other non-personal uses is excluded from the output of the modern sector. This allowance occurs to the tune of 1,450 m. tons in the case of Nigeria and 50 m. tons in the case of Senegal.

(iii) The output of the traditional sector is presented in accordance with available country-wise information as processed in country analyses in subsequent Chapters.

(iv) Yardages are calculated on the following basis:-
(a) modern sector, 8,000 sq. yds. to a metric ton;
(b) traditional sector, 6,513 sq. yds. to a metric ton, based on the over-all results established earlier; and
(c) net imports, 9,000 sq.yds. to a metric ton.

(v) 1964 population estimates are presented on the basis of studies by the Demographic Section of the ECA; and levels of per caput consumption expenditure relate to 1965 and are established as a working base for studies for the Niamey meeting.

(vi) The level of per caput consumption should be treated as a range within, say, ± 5 per cent

(vii) Basic import tonnages for eight countries - Senegal, Mali, Mauritania, Ivory Coast, Upper Volta, Dahomey, Niger and Togo - were derived from "Compendium des Statistiques du Commerce Exterieur des Pays Africains et Malgache en 1964" issued by Institut National de la Statistique et des Etudes Economiques, February 1966. For other countries, national import statistics have been used, except when these were not available. In the case of the Gambia, tonnages were derived on the basis of average prices. Statistical gaps have been

bridged, when necessary, with the help of comparable data, usually from Nigeria.

(viii) In the case of Mali, Liberia and Guinea, the use of an earlier year is rendered imperative by non-availability of 1964 statistics. However, in the case of Ghana 1964 statistics have not been used, because the 1964 volume of imports was a fraction of the normal level due to austerity measures forced on the country during that period. The 1962 figures are used because they are a fairer representation of the over-all textile situation in Ghana, and this is in general borne out by the import statistics for 1965.

23. Several propositions crystallize from Table 2.4.

24. Firstly, imports are the major source of textile supplies in every country. The presence of a modern sector in actual operation was confined in 1964 to the four largest markets - Nigeria, Ivory Coast, Senegal and Ghana. (Up to the middle of 1966, two more countries, Guinea and Togo, had actually started operation and four more countries - Mali, Niger, Upper Volta and Dahomey had firm projects in hand, in the main composite sector or the printing and finishing activity).

25. Secondly, most country-wise markets are small. Thus, ten country-markets vary between 1 and 77 million sq. yards of annual consumption of personal textiles (other than blankets). Three others are to be found in the range of 119 to 193 m.sq.yards. Nigeria alone constitutes a market of any reasonable size, 548 m. sq. yards, although this too is a proposition which needs to be severely qualified, as will be seen in the course of the Chapter dealing with the rationale of rapid import-substitution. Alternatively, the Nigerian national market is bigger than the next three national markets, Ivory Coast, Senegal and Ghana. And these four countries taken together, are a larger aggregate than the other ten countries of the sub-region put together.

26. Thirdly, levels of per caput availability vary vastly among the countries of the sub-region, from less than 10 sq. yards for Dahomey, Upper Volta, and Nigeria at the lower end of the distribution to between

30 to 52 yards in the case of Liberia, Senegal and Ivory Coast. However, in appraising the levels of per caput consumption, the figures of two countries should be regarded with special caution. In the case of Mauritania direct imports are known to be a fraction of the real imports, and a considerable quantity in fact is brought in by consumers when returning from visits to Mali and Senegal.[1/] In the case of Gambia, it has been reported perhaps half the quantity imported eventually gets smuggled into senegal.

27. In a less pervasive sense, this happens in many other countries [2/] of the sub-region, and the fugures of per caput availability are surrounded by a penumbra of inexactitude.

1/ In a study of the trade patterns of Mauritania in 1959, it was pointed out that of the total imports of 1,073 million CFA francs only 408 million CFA francs were recorded as direct imports; 288 million CFA francs were accounted for by export-import houses and the balance of 377 million CFA francs was accounted for by purchases of Mauritanian consumers returning from visits to Senegal and Mali. See B.C.E.A.O. "Contributions à l'Etude des Echanges Exterieurs des Etats de l'Afrique de l'Ouest", April 1963, Section on Mauritania, p.20 et seq.

2/ The study by B.C.E.A.O., cited in the above footnote, quotes several examples related to textiles:

(i) contraband imports into Togo were placed at 500 m.tons. (p.3)
(ii) In 1958, Senegal statistics showed imports of 6 m.CFA francs from Gambia: Gambian statistics showed exports of 58 m.CFA francs. (pp. 20-21)
(iii) In 1960, it was estimated that 1,700 m.tons of contraband fabrics came into the Ivory Coast from Ghana. (pp.14-15)
(iv) In 1959, it was estimated that 1,560 m.tons of contraband fabrics came into Dahomey from Ghana and Togo. (p.12).

The above examples do not exhaust the list but are indicative of the wide-spread unofficial shifts of textiles from one country into another. (The page references refer to the relevant sections on each country into which the contraband imports came).

28. However, within the limits set by the above uncertainties some broad relationships can be observed in relation to the country-wise levels of per caput availability. Countries with a cold climate, either during a part of the year (such as Senegal) or during a part of the day (late evenings or nights) such as Mali, tend to have a higher rate of per caput consumption than countries where the heat does not relent.

29. Levels of income per caput (or better still, levels of total consumption expenditure per caput as is done in Table 2.4), have a powerful impact on the level of per caput consumption, as may be seen below:

Rank of country according to level of per caput expenditure on total consumption (excluding Gambia & Mauritania)	1	2	3	4	5	6	7	8	9	9	11	12
Corresponding rank of country in the level of per caput consumption of cloth (Excluding Gambia & Mauritania)	2	1	4	3	6	8	9	5	7	12	10	11

30. Likewise, a relationship can be seen in the level of urbanization in a country and the level of per caput consumption of textiles. This is demonstrated below:

Rank of country according to per caput consumption of cloth (excluding Gambia and Mauritania)	Proportion of population resident in urban areas (towns with population of more than 20,000) in particular country
	%
1	7.0
2	22.5
3	7.9
4	12.3
5	7.1
6	5.9
7	4.7
8	1.3
9	6.6
10	14.0
11	3.1
12	8.3

31. Each of the relationships indicated is present in the West African textile situation, as are others of a less quantifiable character, but the whole complex of factors can be summed in a single proposition which is worked out in the next section, viz., that the quantitative response, as expressed in per caput consumption of textiles, to income rises has tended to slow down in the West African sub-region as a whole in the last seven to ten years.

Rate of Growth in Consumption of Textiles

32. In the absence of a breakdown for the years prior to 1964, it is difficult to make precise comparisons with the estimates presented. However, there can be little doubt that since 1955 the rate of growth of the total market has slowed down considerably compared to the period prior to 1955. This is demonstrated in the data on availability of fibres for home consumption compiled by the F.A.O., which however, do not include the fibre equivalent of either imports of clothing, knitwear, etc., or of the handspun portion of the output in the traditional sector.

TABLE 2.5

Availability of Fibres for Home Consumption in the Sub-region

	1951	1955	1961
Availability of fibres (m. tons)	61,880	104,170	116,520
Index	100	168	188

Source: FAO, Per Caput Fibre Consumption Levels, 1948 to 1958.
FAO, Monthly Bulletin of Agricultural Economics and Statistics, April 1964.

33. It might be mentioned that the FAO data do not go beyond 1962, a year in which availability as measured by them was lower (100,770 m. tons) compared to the data for 1961 used in the analysis above. It should also be noted that imports of clothing and knitwear have been forming a growing part of the total imports into the sub-region. Nonetheless, there cannot

be any doubt that the growth of total textile consumption has drastically slowed down in the period 1955 to 1961, compared to the period 1951-55.

34. The slowing down in the over-all rate can be considered in two senses: one, as a sort of temporary saturation at a comparatively low level of over-all per caput availability, as has happened in recent years in countries like India: and two, in the context of the West African sub-region (where the estimated compounded rate of growth of gross domestic product, in 1960-65, has been 4.9 per cent) it can also be regarded as the consumer's choice of priorities in a different balance of emphases from what he used earlier. This is illustrated below with reference to official estimates (in 1957 prices) of consumer expenditure in Nigeria, over the period 1954 to 1960, which reflect the experience of a country where in 1964 the estimate of per caput consumption is less than 10 square yards.

TABLE 2.6

Consumer Expenditure in Nigeria: Total and Individual Items, 1950-1960 (in 1957 prices)

	1950	1954	1957	1960
1. Total consumer expenditure in Nigeria (m.£)	608	771	811	865
Index	100	127	133	142
2. Consumer Expenditure on food (m.£)	470	572	568	601
Index	100	122	121	128
3. Expenditure on all non-food items (m.£)	138	200	243	264
Index	100	145	176	192
4. Expenditure on clothing (m.£)	49	71	77	74
Index	100	145	157	150
5. Expenditure on education (m.£)	8	10	15	20
Index	100	129	197	253
6. Expenditure on durables (m.£)	10	18	19	32
Index	100	177	185	310

Source: Nigerian Official Statistics. The indices have been worked out.

35. The strength of the newer claims on the consumer's franc, shilling or dollar, and the comparative weakness of the claim clothing has been able to make, is summarized dramatically in the fact that if the 1954 situation is regarded as 100, the 1960 position appears as follows:-

	1960 (1954 - 100)	Percentage change between 1954 and 1960	Index of change (change in total consumer expenditure = 100.)
Total consumer expenditure	112.13	+ 12.13	100
Food expenditure	105.12	+ 5.12	42
Non-food expenditure	132.18	+ 32.18	267
Expenditure on education	196.04	+ 96.04	792
Expenditure on durables	174.59	+ 74.59	615
Expenditure on clothing	103.80	+ 3.80	31

Source: Based on official statistics

CHAPTER III

TEXTILE INDUSTRIES IN NIGERIA

Main Categories of Textile Producers

36. The textile industries of Nigeria are the single largest complex of their kind among the countries of the West African sub-region, notwithstanding the fact that their output falls considerably short of the total Nigerian demand for textiles.

37. At one end, the complex comprises of weavers working on traditional handlooms who use both handspun and factory-made yarn. At the other and larger end, the complex consists of modern industries, often organized on a highly capital intensive basis. The modern part of the complex, in turn, covers various categories and sub-categories indicated below.

38. In the first place, a number of units are more or less horizontally organized, and as such, cover only a few of the various processes which textile industries involve. Thus, some of the units are exclusively spinners, or doublers, or weavers or dyers or printers.

39. In the second place, the largest part of the industry consists of vertically integrated units which start with spinning, go through weaving and end the manufacturing process with various types of finishing, except where the nature of the final demand (as in the case of grey bafts) precludes or limits the amount of finishing required.

40. Three further specific groups can be perceived.

41. The knitting industry, the first of these, in turn, is made up of a sizable number of units working either on a homecraft or small industry basis; knitting factories, knitting carried on as an adjunct to textile mills or doubling units; and finally, the manufacturers of singlets and other products from fabric, who more validly belong to the ranks of the clothing industry.

42. Blanket manufacturers, using tubular waste yarns as principal raw material, use specialized equipment which cannot be diverted to the production of other textile products, and as such comprise a distinct category.

43. Finally, towel manufacturers are also a further specific category.

44. Two other groups of factories - clothing manufacturers and a miscellaneous group containing of manufacturers of badges, tarpaulins and canvas covers, bed and table linen, surgical gauze and carpets - can be seen on the periphery of the textile complex as well. Clothing industries form the larger element in this group and are the subject of a separate study to be presented to the Niamey meeting. Many items in the miscellaneous group do not organically belong to a study of textiles required for personal use and in any case fall outside the scope of the present study dealing with the manufacturing of textiles.

45. Before presenting a quantified view of the main sectors, one clarification needs to be noted. While categorization, as introduced, is valid in its essence, spill-overs continually occur from one category into another. Thus, several vertically integrated mills are also equipped with printing (and finishing generally) capacity well in excess of the requirements of their own output of cloth. Or, as was mentioned earlier, knitting is carried on by one vertically integrated unit as well as by a doubling plant. And in at least one case, a clothing manufacturer is known to be interested in moving backwards into a linkage with a vertically integrated spinning and weaving plant.

Growth of the Modern Sector

46. The first step in the formation of the modern textile sector was taken in 1949 with the formation of the Kano Citizens Trading Co.Ltd., an enterprise financed in terms of equity by Nigerian merchants. The State helped out in the shape of a loan from the Northern Region Development Board and by the provision of technical advice and assistance in bringing the project to fruition. The plant was small (80 plain looms) and secondhand and its operation seemed, in Nigerian eyes, as proof of the fact that cloth could be mechanically woven under the dry atmospheric conditions prevailing in the Northern Region of Nigeria and that Nigerians could be taught to operate textile machinery including "mechanical looms".

Even as late as the end of 1954 there was a mixture of diffidence and cautious hope in most evaluations of the performance of the weaving plant at Kano[1].

47. The second step was the setting up with the advice of the Ministry of Industries, around 1955/56, of the small spinning and weaving plant of the Nigerian spinning Co. Ltd., at Mushin, near Lagos. The plant had around 1,600 spindles and 50 looms, and seems to have also been equipped with second-hand machinery from the United Kingdom. Its most distinctive characteristic - a further step in the removal of general Nigerian diffidence - appears to have been the fact that its operation marked the first use,[2] in Nigeria, of Nigerian cotton for producing machine-made yarn[3]. Around this stage in time the obvious size of the market and the presence of raw material supplies finally convinced the authorities in favour of a bold approach on a priority basis[4] for the development of textile, among other industries.

48. One of the first fruits of the new boldness in spirit was the setting up of Kaduna Textiles Ltd., in Kaduna in the Northern Region, of a vertically integrated plant in greater consonance with modern practice, involving a fixed capital expenditure of £1.25 million and capable of producing some 12 million yards of grey baft per year. The plant was highly mechanized and equipped with automatic looms. Nonetheless it is significant to note that about two-thirds of the equity capital came from the Government of Northern Nigeria and only around a third of it came from the British partners, the well-known firm of David Whitehead. Kaduna Textiles made a profit in the first year of operation[5], started

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1/ The paragraph is based on an article: "Textile Factory at Kano" in the Nigeria Trade Journal, issued by the Federal Ministry of Information, Lagos, Nigeria, October-December 1954, page 24 et seq.
2/ See Nigeria Trade Journal, April-June 1958, page 66 et seq.
3/ See reference in Economic Survey of Nigeria, 1959, published by direction of the National Economic Council, Appendix VIIIA, page 117.
4/ The priority was suggested in the first place by the Industrial Panel of the Economic Planning Commission. See Nigeria Trade Journal, Jan-Mar. 1956, page 16.
5/ See Nigeria Trade Journal, April-June 1959, page 90.

working three shifts in the end of the second year of operation, and through years of successful expansion has reached an annual output potential presently of some 46 million square yards. Also, as of now, only one-half of its output (40 m. square yards) in 1965 is of grey baft, the balance being bleached, dyed and printed fabrics. It is the largest composite plant in the entire sub-region and currently employs around 3,000 Nigerians and 60 expatriates.

49. The potential of the market, the example of Kaduna Textiles, the lure of high profits[1/] and the active support (including the imposition of high customs duties) and encouragement by the State have since stimulated the manifold development which was categorized and sub-categorized in the preceding section.

50. The achievements in aggregative growth - and the implications associated with it - are presented in subsequent sections.

Number of Units, Equipment Installed etc. in the "Spinning, Weaving and Finishing" Group.

51. One competent estimate[2/], presumably made in the end of 1965, placed the following dimensions on the capacities installed and envisaged in firm projects in the main ISIC group: spinning, weaving and finishing of textiles.

1/ In an official publication, "The Industrial Potentialities of Northern Nigeria" issued by the regional Ministry of Trade and Industry in October 1963, total capital, fixed and working, required for a mill producing 32 m. sq. yds. is placed at £4.2 million and annual profit after charging depreciation is estimated at £2.47 million, or 59 per cent on the entire initial investment. This would imply a profit of 18½ pence per square yard or 71 per cent of the c.i.f. price of comparable imports, which presumably includes the profit margin of the foreign producer. (Details from Appendix B, "Feasibility Study of a Textile Mill in Northern Nigeria", p.246-250). It should be added, to anticipate later discussion, that profits of this kind have, in fact, rarely been realized.

2/ See article "[illegible] sur l'installation de nouvelles usines textiles en Afrique" by M.Pierre Chauleur; and L'industrie Textile", both in Industries et Travaux D'outremer, January 1966, pp.5-6 and pp.9-13 respectively.

TABLE 3-1

Equipment in Existing and Projected Textile Plants in Nigeria as of End 1965

Type of Equipment	Numbers	Capacity in Terms of Annual Output
1. No. of Ring Spindles	250,000	32,000 tons
2. No. of looms	7,000	255 m. yds.
3. No. of roller printing machines	32	160 m.yds.

Source: Industries et Travaux d'Outremer, January 1966.

Above capacities were to be realized in the years 1966, 1967, 1968 and even 1969.

52. Installed capacity, which was already at work, was confined in the end of 1965 to establishments considered below. These units carried on diverse processes in varying combinations, as presented below.

1.	Total number of establishments of which,	22 units
2.	Units with spinning equipment	13 units
3.	Units with doubling* equipment	3 "
4.	Units with weaving equipment	13 "
5.	Units with knitting equipment	4 "
6.	Units with bleaching* equipment	7 "
7.	Units with dyeing* equipment	8 "
8.	Units with printing equipment	8 "
9.	Units with towel-making looms	2 "

* The number of units in these cases is likely to be somewhat understated.

53. Out of 13 units (with the exception of the uncertain small unit) with spinning equipment, one had not started operating its spinning and weaving departments, and specific information was not available about one unit. The remaining 10 units had 142,000 spindles in place.

54. All spinning units, with the exception of Norspin Ltd.,[1] a factory in Kano, were integrated in terms of the weaving, bleaching and dyeing processes. These had in place some 3,900 looms, almost entirely of the conventional automatic type.

55. The position of spindles and looms in place and at work is further summed up below:

		No. of Units*	No. of Ring Spindles	No. of Looms
1.	Composite spinning and weaving mills	11	131,000	4,400
2.	Exclusively spinning mill	1	26,000	nil
3.	Total	12	157,000	4,400

* Includes estimated spindleage and loomage for the unit about which no specif information was available, but excludes one small unit about whose position there is uncertainty.

56. In other words, the ratio of spindles to looms works out in the fully integrated spinning and weaving industry (which is not a regular seller of yarn in the local market) to approximately 30 spindles per loom which is broadly reflective of the concentration of the output in the lower range of counts (around an average count of 18 in the English system) and correspondingly coarser fabrics for the mass-end of final demand.

57. The printing end of the industries takes three distinct forms. In the first place, some of the composite spinning and weaving units go in for the printing of a part or all of their own output of cloth. In the second place, some composite units have a built-in overcapacity in the printing and other finishing sections in relation to their own output of cloth and are designed to be convertors, on a job-basis or otherwise, of cloth from outside sources (imported as of now). In the third place,

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1/ Of its output of 2,250 m. tons, 1,400 m. tons are converted into bicycle cord for a bicycle tyre factory in Nigeria.

there are two units designed solely as printing plants. However, in evaluating the performance of the printing equipment it is important to note that its greatest impact will be felt only in the production and import statistics of 1966, and subsequent years.

58. The remaining units in the general group "spinning, weaving and finishing of textiles" are a miscellaneous lot reflecting the early stage of the over-all development of modern textile industries in Nigeria. These units form the lower part of the table following which re-classifies 22 establishments in terms of their entire range of activities.

TABLE 3-2

Distribution of the "Spinning, Weaving and Finishing" of Textiles Group Establishments According to Entire Range of Activities. (Relates to end - 1965)

1.	Total number of Establishments of which,	22
2.	Composite Units (spinners, weavers, bleaching, dyeing, printing and other finishing)	12*
3.	Spinning Unit (which is also a major producer of bicycle tyrecord)	1
4.	Printing Units (with other finishing sections)	2
5.	Doubling plant specializing in threads	1
6.	Towel manufacturing plants (one with a knitting department)	2
7.	Dyeing plant (also classified as knitters)	1
8.	Weaving, bleaching, and dyeing plant	1
9.	Unclassified (very small plants)	2

* Includes the unit which has not started spinning and weaving operations.

59. As of the end of 1965, the above establishments were estimated to employ around 14,000 employees. They further represented a known investment of £21.90 million and a broadly estimated further investment of £8.79 million for plants where specific information was either not available or was partial, making a total fixed capital investment (with possibly some inclusion of working capital) of the order of £30.69 million or

US$ 86 million in the capacity installed and at work.

60. The total capacities created by this investment are indicated below:

		Annual output potential
(i)	Installed yarn spinning capacity at work*	53 m. lbs. (24,000 m.tons)
(ii)	Installed weaving capacity at work*	158 m.sq.yds.
(iii)	Installed printing capacity at work	80 m.sq.yds.
(iv)	Doubling capacity	2-4 m.lbs. (909-1,818 m.tons)
(v)	Tyre cord (bicycle) manufacturing capacity	3 m.lbs. (1,400 m.tons)
(vi)	Towel manufacturing capacity	No precise information available, but believed to be less than 2 m.sq.yds.

* Includes one composite mill whose spinning and weaving sections [illegible] and excludes possibly up to half a million yard of weaving capacity in 2/3 small units.

The Knitting Industry

61. Knitting was one of the earlier activities to be established in the modern textile sector in Nigeria at least in the allied sense of making garments (mostly singlets) from imported interlock fabric. Early growth was rapid and sometime in the mid-fifties output is believed to have reached a level of 770,000[1] dozens per year. Thereafter, until 1959 or 1960, output continued to drop. The latest available estimate relates to 1963[2] and places the output of this group (which really does not belong to the manufacturing sector of textiles) at 1.5 million dozen singlets per year, with the value of gross output possibly varying between £1.5 to £2.0 million.

62. The knitting industry proper, in the end of 1965, consisted of eight major producers.

1/ Details from Economic Survey of Nigeria, 1959, op. cit., p.117
2/ Details from Facts about Nigeria. (No.3A) Industrial Development, Federal Ministry of Information, Lagos, p.6.

63. Four of these have been accounted for in the "Spinning, Weaving and Finishing" group: one as an adjunct to a composite spinning and weaving mill; one as an adjunct to a doubling plant making threads; one as an adjunct to a towel manufacturing plant; and one unit as a dyeing plant with knitting equipment.

64. The other four units are almost exclusively knitting plants. Three of these manufacture knitted cloth (this is generally true also for the earlier group of knitting plants existing as adjuncts to other major lines of textile manufacturing) and one of these makes hosiery (socks, stockings, etc).

65. Almost all plants in the knitting industry proper are of comparatively recent origin (say, the last five or six years) and their output[1] (along with a small quantity of imports) forms an intermediate input for the manufacturers of singlets referred to in the opening paragraph of this section.

66. It is difficult to form any precise estimate about the installed capacity of most of these plants, but it has been reported that the entire Nigerian output of knitted fabrics in 1963 amounted to 1.2 m. lbs,[2] and it might be surmised that in 1964 the output was well in excess of 2.0 million lbs. It might be further surmised that at least half of the estimated 1964 output was, in turn, derived from cotton yarn produced by the Nigerian industry.

67. It is estimated that in the end of 1965, the knitting industry functioning as an independent entity and not as an adjunct to other textile manufacturing activities employed between 300 - 400 employees, and possibly a similar number was employed in the main textile group.

1/ This obviously does not apply to the small part of the output which is produced as singlets, and also to the production of hosiery.

2/ Based on data in Industrial Survey, Nigeria, 1963, Federal Office of Statistics, Lagos, 1966, pp. 23-24.

The Blanket Manufacturers

68. Two blanket manufacturing plants, using tubular yarns made from cotton waste, are now in existence in Kano. One of these began production in 1962 and the other plant began operations in 1964. The two plants taken together, are believed to possess 125 blanket weaving looms and ancillary machinery. Output originally consisted of the blankets weighing 2 and 3 lbs. per blanket,[1] and has since diversified further. The total output is currently (1965) placed around 2 million blankets weighing 1,808 m. tons, which is considerably in excess of the quantity estimated to be imported in 1965,[2] viz. 563 m. tons.

69. Total employment in the sector, at the end of 1965, is estimated around 900 - 1000 employees.

Trends

70. At the conclusion of the sector-wise survey, it might be useful to make a broad, quantified statement of the trends in output and where possible, in employment.

TABLE 3.3

Output and Employment Trends in Nigerian Textile Industries, 1959 to 1966 (Estimates and Actuals).

Sector	1959	1960	1961	1962	1963	1964	1965-66
1. Spinning, Weaving and Finishing							
a. Total output of cloth (m.sq. yds)	12.5	31.5	40	..	48	67	100
b. No. of employees	1300	..	..	6720	8063	..	14,000

1/ Details from the 'Nigeria' section of Barclays Bank, Overseas Review, June 1962, page 60.

2/ Import figures for seven months, January to July 1965, raised to cover the whole year.

TABLE 3.3 (cont'd)

Output and Employment Trends in Nigerian Textile Industries, 1959 to 1966 (Estimates and Actuals)

Sector	1959	1960	1961	1962	1963	1964	1965-66
2. Knitting Industries (inclusive of knitting carried on as an adjunct to other textile activities)							
a. Output of knit fabric (m.lbs.)	Neg.	..	..	..	1.2	over 2.0	over 2.0
b. Employment					..	..	700-800
3. Blanket Manufacturers							
a. Output (Nos)					750,000	1,250,000	2,000,000
b. Employment					N.A	N.A	900 - 1000
4. Output in the Hand-weaving sector							
a. Output		N.A	50 m.sq.yd.	N.A	N.A	50 - 80	50 - 80 m. sq.yds.
b. Employment: Over 50,000 (1957)							

Source: See text.
Economic Survey of Nigeria, 1959.
Okigbo, P.N.U.; Nigerian National Accounts, 1950-57. Trade Journals and other periodical publications. Industrial Potentialities of Northern Nigeria, 1963.

71. The output in the modern sector might be further differentiated as shown below:-

TABLE 3.4

Output of different categories (Estimates and actuals), 1959 to 1966

Category		1959	1960	1961	1963	1964	1965-66
1. Yarn production (mostly for consumption in the composite units)	m.lbs.	3.5	9.14	12	17	22	31
	m.tons	1,590	4,150	5,300	7,700	10,000	14,000
2. Doubling of yarn for threads	m. lbs					1.25	
	m. tons					570	
3. Production of yarn							
- for sale (to the doublers and others	m.lbs.					5.0	
-for bicycle tyre cord	m.tons					2,250	
4. Production of towels	m.yds.					2.0	
	m.tons					225	
5. Production of knit fabrics	m. lbs.				1.2	2.0	2.0
	m. tons				545	910	910
6. Production of blankets	m. nos.				0.75	1.25	2.0
	m. tons				675	1,100	1,800
7. Output of cloth in the spinning, weaving, finishing sector							
- m. sq.yds.		12.5	31.5	40.0	48.0	67.0	100.0
- m. tons		1,600	4,000	5,200	6,500	9,100	13,600
8. Output of							
(i) Greys (m.sq.yds.)		12.0	..	30.0	..	40	45
(ii) Bleached and picee dyed(m.sq.yds.)		0.5	..	10.0	..	3	30
(iii) Prints (m.sq.yds.) (inclusive of printing done on imported cloth)		nil	nil	nil	nil	24	40

72. The diversification of output in the modern sector and its increasing significance compared to the hand-weaving sector are processes which have to go consiserably further, however, as the analysis of the role of two sectors in the next section compellingly brings out.

Role of Modern and Handweaving sectors compared to Imports: 1964

73. In the next table, textile tonnages are set out in the direct context of the various sources of supply in contrast to the role of imports. It will be seen that in a 'gross' sense - i.e. without excluding imports of yarn for use in the various sectors - home-made supplies equalled 50 per cent of imports, or one-third of the total supply. On a net basis - i.e. after making allowances for various kinds of imports of yarn - home-made supplies form 39 per cent of the volume of imports and only 28 per cent of the total supply.

TABLE 3.5

Contribution of the Modern and Hand-weaving sectors to the Total Supply of Textiles for Personal Consumption, 1964

NOTE: the item numbers are continued from Table 3.4 in the preceding section in order to facilitate cross-reference.

9.	Total textile tonnage for personal consumption (2 + 4 + 5+ 6 + 7) in 1964 in the modern sector	16,405 m. tons
10.	(9) - allowance for contribution by imports	13,800 m. tons
11.	Approximate Tonnage produced in the hand-weaving sector in 1964	8,500 m. tons
12.	Assumed contribution of imports to the hand-weaving tonnage in 1964	3,000 m. tons
13.	Net tonnage produced in the hand-weaving sector in 1964	5,500 m. tons
14.	Gross tonnage Produced for personal consumption in 1964 (9 + 11)	24,905 m. tons
15.	Tonnage produced for personal consumption in 1964 net of the contribution of imports as intermediate inputs (10 + 13)	19,300 m. tons

TABLE 3.5 (cont'd)

Contribution of the Modern and Hand-weaving sectors to the Total Supply of Textiles for Personal Consumption, 1964

16.	Ratio of the total output of Nigerian Textile complex as percentage of imports (49,000 m. tons) for personal consumption	
	- Modern Sector	33 per cent
	- Hand-weaving sector	17 per cent
	- Total	50 per cent
17.	Net share of Nigerian Textile complex in relation to imports for personal consumption in 1964	
	- Modern sector	28 per cent
	- Hand-weaving sector	11 per cent
	- Total	39 per cent

Outstanding Projects in the Course of Realisation

74. A considerable expansion of the textile industry is on way in the shape of announced projects at varying stages of implementation. A broad statement of the magnitudes involved is presented below, although no statement can hope to be totally accurate or up-to-date in view of the fact that announcements do not occasionally fructify.

TABLE 3.6

Approximate Capacities in Varying Stages of Realization, end 1965

1.	No. of spindles	93,000
2.	Annual yarn production potential of (1)	8,000 - 10,000 m. tons
3.	No, of looms	2,600
4.	Annual cloth production potential of (3)	97 - 100 m. sq. yds.
5.	No. of roller printing machines	18 to 20
6.	Annual printing capacity of (5)	80 m. sq. yds.

75. The widening out in the ratio of spindles to looms from a current level of 30:1 to about 36:1 is an indication of a moving away from the current concentration on lower counts of yarn (mostly 16s, 18s and 20s) to higher counts at least up to 36s.

76. The total period involved in the full realization of the above magnitudes might be roughly placed up to the end of 1969, and fixed capital investment involved is likely to exceed US $ 40 million. This is

expected to carry Nigeria fairly close to self-sufficiency[1] in the supply of cotton textiles.

Financing of Fixed Capital Investment

77. The various regional governments in Nigeria, their marketing boards, development corporations and investment agencies have played an active role as co-sharers, along with foreign financial interests, in the basic equity. Nigerian private capital has been involved to an extent in some of the smallest projects, but its over-all significance is limited. The following data covers some 23 companies and includes units in the 'spinning, weaving and finishing' and the knitting groups.

TABLE 3.7

Sources of Paid-up Capital for 23 Nigerian Companies, as of 1963

	Source	Amount	Share
1.	Private Nigerian Interests	£ 173,434	4 per cent
2.	Federal Government	nil	nil
3.	Regional Governments	£1,452,959	33 per cent
4.	Total Nigerian capital (1+2+3)	£1,627,393	37 per cent
5.	Private Non-Nigerian Interests	£2,809,434	63 per cent
6.	Total (4 + 5)	£4,435,827	100 per cent

Source: Basic data from Industrial Survey of Nigeria, 1963, Tables 8 & 9.

1/ Total self-sufficiency in cotton textiles is expected to be achieved by 1972, but it is not so defined as to cover the cloth needed for ready-made garments.

78. The ratio of paid-up capital to total investment varies from a low of 1:0.8 and rises through a more or less continual spectrum to a high of 1:4. The gap between equity capital and total investments is bridged by a variety of sources including loans by development corporations and investment corporations,[1] supplier credits and transactions involving sub-negotiations under bilateral credits,[2] as well as self-financing of expansion based on the internal cash flow of successful companies.

79. Among others, the nationalities represented in the private non-Nigerian group include the British, West Germans, Chinese interests from Hongkong, Japanese, Sudanese, Americans and in one case a combination of the Swiss and theItalians joining with the U.S. based Chase Manhattan Investment Corporation. Indians are involved in the technical, commercial and managemental supervision of one composite unit, but it appears that this takes place on the basis of a profit-sharing plus fixed fee arrangement and not on the basis of a substantial holding of equity.

80. One case of foreign participation - in Norspin Ltd. - is of particular interest. The United Africa Co. of Nigeria with its British/Dutch origins and extensive interests in the economic life of Nigeria have combined with Dunlop Rubber Co. (who own rubber plantations in Nigeria and who are the prime equity-holders in a tyre manufacturing plant operating in Lagos) and the English Sewing Cotton Co., (who are the main equity holders in a thread-making plant in Apapa). The United Africa Co.,

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1/ The capital of investment corporations - such as Northern Nigeria Investments Ltd. or the Industrial and Agricultural Co.Ltd., in Eastern Nigeria - has in some cases been jointly subscribed to by the regional government acting through its development corporation and the Commonwealth Development Corporation. (See 'The Industrial Potentialities of Northern Nigeria, Ministry of Trade and Industry, Northern Region, 1966 pp. 191-193). As of 1965, the stake of the Commonwealth Development Corporation extended, through the modality of these corporations, to one textile unit in Eastern Nigeria and six textile units in Northern Nigeria. (Details quoted from the Annual Report; see West Africa, 5 June 1965, p. 627).

2/ This was, for example, the case with a textile factory involving an investment of £3.8 m. in the Mid-western Region. It is usual in these cases for the loan to be tied to the purchase of equipment in the supplying country. Some details are to be found in Intra Bank, Monthly Bulletin, May 1964.

undertake the marketing of a part of the output and supply the general commercial supervision. The English Sowing Cotton Co., are technical partners and also assured buyers of a part of the output for their own doubling plant. The Dunlop Rubber Co., are likewise buyers of another specific part of the output in the shape of bicycle tyrecord.

A Review of Some Operational Aspects

81. In this section is undertaken a brief review of certain aspects of the operation of the Nigerian Textile Industry: its high capital costs, even when compared with current European levels, in relation to the volume of output; its simultaneous failure to achieve adequate economies in the use of its workforce, workers and non-workers; and the general impact of employee costs, especially in the non-worker and expatriate categories, on levels of cost of production.

Higher Capital Costs

82. Available data pertaining to six composite units enable the following exercise in the amount of investment in fixed capital needed to finance one million yards of final output.

1.	Investment in Fixed Capital for 6 composite units (i.e. spinning, weaving, and finishing)	£ 13.90 m.
2.	Total Equipment Financed: (a) 102,000 ring spindles (b) 3,350 looms	
3.	Annual cloth output capacity as stated by the six factories	102.40 m.sq.yds.
4.	Fixed Investment per one million yards of capacity (net output)	£135,742 or US.$380,078

83. This level of costs[1/] - $380,000 for a million yards of final output - is 50 per cent higher than more sophisticated plants require currently in Europe as is seen below:

1/ A feasibility study made around 1962 and quoted with approval by a regional government (see the Industrial Potentialities of Northern Nigeria, op.cit, pp.246 et seq.). would yeild the following results:
(i) Fixed investment per million yards, using new equipment: £120,563 or US $337,576
(ii) Fixed investment per million yards, using initial reconditioned equipment: £ 95,938 or US $268,626

TABLE 3.8

Comparative Capital Costs in Europe and Nigeria per one Million Square Yards of Final Output

	Europe (1962-1963)	Nigeria (six Compcsite Units)
Investment in Fixed Capital per Million Yards of Final Output	US $ 260,000	US $ 380,000
Index	100	146

Source: Nigerian data as worked out in the text. European data, which relates to a more sophisticated plant and output structure, is derived from modern Cotton Industry - a Capital Intensive Industry, O.E.C.D., 1965, p.97

84. It is assessed that the following are among the main factors at work in increasing the level of capital costs in Nigeria, although there is no attempt at arranging the factors in any sequence of comparative order:

(i) Higher building costs,

(ii) Additional building, comparatively speaking, needed for staffing expatriate and other staff in most, if not all Nigerian locations;

(iii) Expatriate remuneration in installation work has to be incurred at total costs 75 to 100 per cent higher than in Europe. In one part this is a case of higher emoluments; in another of transport costs; and in still another part of more expensive ancillary costs, such as hotel accommodation, etc;

(iv) The requirements in air-conditioning plant are greater due to climatic conditions, and

(v) The role of contractor finance and supplier credits is necessarily great when equity capital provides, on an average, a mere one-third of the total fixed investment. And it is universal experience that these arrangements add to the initial prices of machinery.

85. There is ground to believe that the fixed investment costs per million yards of annual capacity have risen further in the case of projects now in the course of implementation.

Ratio of Employees and Employee Costs

86. The capital intensity of the modern European textile plant has a two-sided impact. It leads to a drastic reduction in the number of employees required and therefore, in total employee remuneration costs. The reduction in employee costs is however offset partially by a great enhancement in the financial changes, depreciation and interest.

87. In the Nigerian context - and indeed to a lesser or larger measure, in the context of most textile industries in the sub-region - the reduction in the number of employees is limited, and paradoxically, the enhancement of financial changes is amplified further by the higher costs of initial equipment. Thus, it is calculated that the composite industry in Nigeria requires in 1965 around 92 employees per one million yards of capacity compared to 14 employees for a similar output in a modern European plant.

88. Another way of comparing employee costs is posed by the next set of figures, which uses data from three different countries for comparison - Nigeria, India and the United Kingdom.

TABLE 3.9

International Comparisons in the Employee Situation in Textile Industries: India, Nigeria and the United Kingdom

	Nigeria (1963)	India 1960	United Kingdom (1958)
1. Average annual wage per worker	US $ 384	US $ 366	A. US $ 972 B. US $1,070
2. Average annual remuneration per non-worker employee	2,713	743	A. 2,145 B. 2,038
3. Average annual remuneration per non-Nigerian, non-worker employee	6,121	-	-

NOTE: A: Spinning and doubling of cotton etc.
B: Weaving of cotton, linen and man-made fibres

Sources: Based on data from Industrial Survey, Nigeria 1963; Annual Survey of Industries, India, 1960; and the Report of the Census of Production for 1958, United Kingdom.

89. The proportion arising from the preceding exercise can be expressed in another manner. The Nigerian worker does not cost his industry more than the average Indian worker does.[1/] In fact, considering the significantly higher man: machine ratios in the Nigerian industry, the level of wage costs might be regarded as something of a bargain. But the employee other than the worker, the expatriate more markedly and the Nigerian in a less emphatic manner, costs the industry almost four times as much. It would also appear that the number of non-workers per 1,000 workers is larger in Nigeria as compared to India, the ratios being 70 and 82 respectively. In the net result, as the following comparison demonstrates, salaries are a greater burden on the Nigerian textile industry compared either to the United Kingdom or India:

	Dollars paid in salaries per every 100 dollars paid in wages
India (1960)	14
U.K. (1958) -	
(a) spinning	20
(b) weaving	19
Nigeria (1963)	58

Elements in the Cost of Production

90. In this section, a resume in broad terms is supplied of the factors that increase costs of production in Nigeria and indeed render them unviable in terms of the costs attained by international exporters.

(i) Cotton The raw material is cheaper because it is home-grown and there is a saving in transport costs. On the other hand, the raw material is of a higher quality in relation to the range of counts spun up to 1964, although the factor is offset to some extent by increased efficiency (through reduced breakages) in the spinning industry.

1/ The calculations are made in terms of the old exchange rate: US $ 1 = Rs.4.76.

(ii) Employee remuneration The wage per worker is comparable to countries like India and Pakistan, and an advantage when the higher maintenance man-machine ratios (900 spindles to an attendant and 8 to 16 automatic looms to a weaver as general practice) are taken into account. But compared to European or Japanese practice, the man-machine ratios are low.

Salary costs are unavoidably high, and the factors involved have been reviewed in the preceding section.

The net effect of all factors taken together - wage levels, salary levels, man:machine ratios, machine efficiency and worker productivity - is to render employee remuneration a higher absolute charge (in the neighbourhood of 5 U.S. cents per square yard in 1963 compared to less than 2 US cents in Japan and 4US cents in the U.S.[1]), and a proportion (around 19 per cent) more comparable to a labour-intensive modern textile industry like India's[2] than to the capital-intensive industry that Nigeria has invested in.

(iii) Power costs These tend to be somewhat higher, in one part, because the dry atmospheric conditions of Northern Nigeria make a greater demand on air-conditioning plants. Anyway, these do not constitute a major factor.

( ) Stores and spares In the absence of a developed local market for these items, more stocks have to be carried by individual factories; and the arrival of these from overseas, in response to the small, separate demands of individual mills, makes for higher transport and handling costs.

(v) Financial charges include depreciation and interest. These are vastly higher because the machinery is not only capital intensive, but made more expensive (by as much as 50 per cent or more) by the considerations noted earlier.

1/ Data derived from the Textile industry in Latin America: Brazil, ECLA, 1963, page 90 Table 13. In view of the vast range of textile products, and the varying shares of various items of cost, data of this type are to be regarded indicative and not as accurate measurement.

2/ Employee remuneration for the entire cotton textiles industry in India was 23.72 per cent of gross output in 1960. But the Indian industry has a vast stake in the count ranges well above the Nigerian level, which imply a much higher proportion of employee remuneration in costs than is indicated by the aggregative figure and a significantly lower figure than the average for the output structure comparable to Nigeria's in 1963.

(vi) Overhead costs are obviously included in the above discussion. But two aspects, which tend to make these higher per unit of output, are conveniently treated separately.

91. One, many textile units fall in a comparatively low range of average size - 10,000 to 15,000 spindles and 300 to 400 looms. While these sizes compare with minimum sizes, they fall short of the optimum production unit, that is, the production unit which makes for the best distribution of employees.[1/] In European practice this is defined as 20,000 spindles working in three shifts and having looms to match, say around 600 looms. In the Nigerian context, when as many as 26 to 30 expatriates are employed per 1000 Nigerians at a level of emoluments twice as high as in Europe, this deviation from the optimum production unit makes for larger overhead expense per unit of output. Secondly, while individual units work three shifts a day or 7,200 hours a year (8 hours x 3 shifts x 300 days in the year), the average for the whole industry does not seem to exceed 5,400 hours a year. Alternatively, the industry is a producing operation only for 75 per cent of the maximum feasible utilization.

Cost of Production

92. The net effect of the various elements mentioned is probably to make the cost of production of a square yard of textiles in Nigeria some 15 - 20 per cent higher than the c.i.f. price of a comparable imported product. This of course relates to the industry as a whole and individual units are bound to be found on either side of the average.

93. The total cost of production is estimated below and is partly derived from data adapted from the results of the Industrial Survey, 1963.

1/ See Modern Cotton Industry, a capital Intensive Industry, O.E.C.D., 1965, pp.96-7.

TABLE 3.10

Estimated Breakdown of Costs for Nigerian Textile Industry per one Million Yards of Final Output.

1.	Cotton	US$	85,220	32.19%
2.	Other materials		10,000	3.78%
3.	Total Materials (1 + 2)		95,220	35.97%
4.	Fuel, electricity and other industrial costs		43,400	16.40%
5.	Employee remuneration		49,970	18.88%
6.	Estimated depreciation @ 8.33%		31,666	11.96%
7.	Financial costs (i.e. interest on the borrowed portion in fixed capital expenditure which is taken at 2/3rds of the total fixed capital expenditure of $380,000 for 1 million yards of final output) and interest on working capital, the latter being taken at 1/3rd of annual turnover		20,240	7.65%
8.	Total costs (3+4+5+6+7)		240,496	90.86%
9.	Profits prior to taxation		24,204	9.14%
10.	Sale proceeds, ex-factory (7+8)		264,700	100.00%
11.	Profits prior to taxation, after charging depreciation (9) as percentage of fixed capital expenditure, $380,000		6.37%	
12.	Profits prior to taxation, after charging depreciation (9) as percentage of equity, i.e. 1/3rd of $380,000, viz. $127,000		19.06%	

94. The fixed output: capital ratio works out to 0.70, and would move upto 1.0 or 1.10 if machine efficiencies could be made to reach around 90 per cent in the weaving sector and the number of hours worked per year increased from 5,400 hours in the year to 6,500 hours[1/].

95. In conclusion, the overall industrial climate offered by Nigeria has demonstrated its capacity to stimulate and multiply the industrial structure and output. The industry, however, has yet to achieve viable investment and production costs, comparable on an international standard, which reflect greater concern for the shortage of investible capital in a developing economy and for the consumers who partly sustain it as investors, through the agency of their governments, and as buyers of its products.

1/ This is not an unfair standard in comparison with the best performances in 1962:

	No. of hours worked spg.	No. of hours worked wvg.
Hongkong	7,140	6,340
South Korea	6,600	6,440
Pakistan	7,200	5,910
Taiwan	6,700	5,150
Israel	6,200	4,800
United States	6,080	6,420

(Data from the O.E.C.D. study cited earlier, p. 66)

CHAPTER IV

TEXTILE INDUSTRIES IN THE IVORY COAST

96. The traditional handweaving sector in the textile industries of the Ivory Coast has a comparatively limited role, its aggregate consumption of yarn being estimated[1] as follows:-

(i)	Handspun yarn	300 to 400 m.tons
(ii)	Yarn sold by local factory to hand-weavers	400 m.tons
(iii)	Imports of yarn (ad hoc figure)..	75 m.tons
(iv)	Total estimated volume of yarn consumption	825 m.tons, approximately

97. The modern sector comprises the following sub-categories:-

(i) Les Etabissements Gonfreville with 15,000 spindles, 223 looms and a range of finishing equipment;

(ii) ICODI is a printing and finishing plant;

(iii) D.R.A. and S.A.B. are two major knitting establishments; and

(iv) two very small knitting establishments, about which no specific information is available;

1/ The production of handspun yarn is of course not known adequately, although it seems common ground that its use has not increased. A study issued by the Ministere des Finances, des Affaires economiques et du Plan (Situation economique de la Cote-d'Ivoire, 1961, p.42) placed the output in 1960 at 300 to 400 m.tons. The same study indicated that the output of yarn for sale by Ets. Gonfreville covered the bulk of the handweaver's requirements of factory-made yarn. In 1960, the sales of yarn by the local factory amounted to 562 m.t., and it is surmised that 75 per cent more or less, were sold to weavers. (The sales figure for 1960 is taken from Annex II, p.79, of "Implantation d'Artisanat Industriel du tissage en Afrique, Niger, Chad, Cameroon, Haute Volta, a study by S.E.D.I.A.C. presented in January 1964)

In subsequent sections each of the first three sub-categories is detailed.

Les Ets. Gonfreville

98. This company represents the first attempt at founding a modern textile industry not only in the Ivory Coast, but in the entire West African sub-region.

99. This company, in its earlier form, was founded in 1921 or 1922, although spinning on a commercial scale commenced around 1926 in a very small plant with 1,600 spindles. The yarn produced was coarse and directed to the hand-weaver market all over the countries of the former French West Africa. A small dyeing plant was added around 1928, and this was followed in the 1930's with the installation of 28 or 29 looms and the necessary preparatory equipment. However, spinning remained the staple and continued to be so until fairly recently as might be seen below.

TABLE 4.1

Growth of the Spinning and Weaving equipment in the Ets. Gonfreville,1926/1965

Year	Number of ring spindles	Number of looms	Output of yarn (m. t.)	Output of cloth (m.tons)
1926	1,632	nil	250	nil
1950	1,632	29	275	82
1951	3,232	29	383	-
1954	5,424	29	693	-
1958	8,136	29	1,700	-
1960	10,848	29	2,000	420
1961	11,300	32	2,100	579
1962	15,368	88	2,422	841
1963	15,368	-	3,180	1,037
1964	15,368	100	3,477	1,361
1965	15,368	223	3,700	2,400

Sources: Chambre d'industrie de Côte-d'Ivoire, Bulletin Mensuel. l'Industriel de Côte-d'Ivoire, Bulletin de Liaison du Syndicat des Industriels. Marchés tropicaux et méditerranéens. Industries et travaux d'Outre-Mer.

100. In addition, over the years: the Ets. Gonfreville have acquired a range of bleaching and dyeing equipment (other than roller printing). A further major expansion, inclusive of roller printing and garmment-making and developments along previous lines, is expected to get going in the course of 1966[1/].

101. The Ets. Gonfreville are firm believers in continual renewal of machinery and their plant is thought to be fully modern.[2/] They have also been avid practitioners of 3-shift working (144 hours a week,[3/] three shifts of eight hours each day) and as a result their working hours per year are 7,200 or more, a level which compares with the highest rates of utilization of machinery anywhere in the world. As a direct consequence of the former, and notwithstanding the wide and higher range of counts of yarn spun - their average count would seem to be in the neighbourhood of 28s, English system, and they spin from 7s to 50s - Gonfreville produce 247 kgs of yarn per spindle in place per year, which is comparable with the highest world standards.

102. The superiority of Gonfreville in the matter of output per machine is reflected in its man:machine ratios as well. Thus, in 1951 a sider looked after 200 spindles; in 1963, the factory has moved on to 900 spindles per sider with the progressive objective set at 2,000 spindles.

1/ See "Chambre d'industrie de la Côte-d'Ivoire, Bulletin Mensuel, Sept. 1965, p.50

2/ In 1941, the old proprietary establishment was converted into a limited liability company, and currently the Gonfreville family do not have a managerial stake in the company.

3/ See Chambre d'industrie della Côte-d'Ivoire, Bulletin mensuel, September 1965, p.50.

The number of employeesper million yards of final output of cloth ir more difficult to estimate because the mill sells yarn for sale (which in turn calls for considerable additions to the workforce in the reeling department). However, a rough assessment would be around 50 employees per 1 million yards compared to 92 in the case of Nigeria. (Total employment presently is 1,600).

103. The results outlined above have been attained, only partly for reasons associated with the long history of the factory, at a considerably lower capital cost than in the case of Nigerian industry. The book value of their plant at the end of 1965 was 1,600 million CFA francs or US$ 6.5 million. In terms of Nigerian costs of investment, the total investment expenditure would have been in the neighbourhood of US$ 10 to 11 million. Nonetheless, it cannot be disputed that the level of capital intensity (as measured in terms of fixed capital expenditure per worker) has practically increased by 150 per cent from $1,602 over 1953-56 to $ 2,107 in 1958 to $ 4,063 in 1965 - over the last twelve years. In a sense, this figure might even be an under-estimate inasmuch as the proportion of 3-shift working in 1953-56 was considerably less than in the years thereafter.

104. Alternatively, the output: capital ratio for Gonfreville in 1965 works out to approximately 1:12:1 compared to 0:7:1 in the case of the Nigerian industry. This result is even more impressive when it is realized that the textile industry in Ivory Coast pays a wage per worker which is higher; and employs a higher proportion of expatriates per 1,000 workers, although the latter are paid a higher level of emoluments in the case in Nigeria. These facts are documented below to the extent of available information.

TABLE 4.2

Emolument levels in the Textile Industries of Ivory Coast (1961) and Nigeria (1963)

	Ivory Coast 1961	Nigeria 1963	Nigeria as % of Ivory Coast
1. Average annual wage/salary per employee	US$ 804	US$ 549	68
2. Average wage per worker	" 620	" 384	62
3. Average annual remuneration per expatriate	" 4,821	" 6,121	127
4. Number of expatriates to 1,000 workers	43	26 to 30	65

Sources: Data for Nigeria as indicated in the chapter dealing with Textile industries in Nigeria.

Data for Ivory Coast from Situation Economique de la Côte-d'Ivoire, 1961, p.126 (cited earlier).

105. The above data pertains to the entire textile industry - the modern sector as defined as well as the twine and cordage factory - and not to Gonfreville alone. Anyway, it points to a basic failure[1] in creating a technical, managerial and supervisory cadre even larger than is true of the Nigerian industry.

106. Gonfreville, located in Bouaké, in the heart of the cotton-growing areas of the Ivory Coast is however not as lucky in the matter of saving transport costs on supplies of cotton as mills in Northern Nigeria. It derives some 30 per cent of its cotton supplies from Dahomey, Upper-Volta, Nigeria and one or two other countries in the West African sub-region.

1/ In early 1963 three Ivoriens were reported to be technicians in the Gonfreville plant, inclusive of one under training in France. Details from l'Industriel de Côte-d'Ivoire, op.cit., February-March-April 1963, p. 114.

107. In the broadest sense, however, it is clear that Gonfreville have successfully evolved a viable pattern of costs which has been consistent with three different end-results: successful and consistent marketing of a substantial portion of its output[1] in the markets of neighbouring countries; internal financing of a large part of its growth; and a consistent level of profits[2].

I.C.O.D.I.

108 ICODI is a bleaching, roller printing anf finishing plant organized as a limited company with a registered capital of 240 million CFA Francs, and is an affiliate to a French firm.

109. The plant is designed to produce prints from grey cloth purchased and has a rated capacity of 3 m.metres. Output, however, has been in excess of rated capacity and amounted to 2 m.metres in 1964[3] and 4 m. metres in 1965.

110. Total investment has been of the order of 460 million CFA Frs. (US.$ 1.9 million), considerably higher than the orginally envissged 243 m. CFA Francs. Juxtaposing the output in 1965 against total investment, it is seen that investment has been of the order of $470,000 per million metres of prints from grey cloth .

1/ Thus, during 1960 to 1962, Gonfreville's sales of yarn in countries other than the Ivory Coast constituted more than 62 per cent of its total sales of yarns. Details adapted from Annex II, Table 2, p.79 of the S.E.D.I.A.C. study: "Implantation d'Artisants industriels du tissage en Afrique: [illegible] Tchad, Cameroun, Haute-Volta", 1964.

2/ Thus, Gonfreville reported for 1964-65 a net profit, after depreciation and other provisions, of 132 million CFA Francs on a total turnover of 1,793 m. CFA Frs, or of the order of 7.38%, which compares very favorably with the levels of general profitability current in the Nigerian industry. (See chapter dealing with Nigerian industry, Table 3.10). Details about Gonfreville are gathered from Marchés Tropicaux et Méditerranéons, 13 July 1965, p.1757.

3/ Trial runs started in February 1964, and the plant was officially inaugurated on 14 April 1964. The output in 1964 therefore does not represent full-scale operation for the entire year.

111. The initial market response to its products and prices has been satisfactory and further expansion will take its annual capacity to over 6 m. metres sometime in 1966. Incidentally, this will reduce the investment per million metres to $ 412,000.

D.R.A. and S.A.B.

112. D.R.A., the largest knitting factory in the Ivory Coast, has now been in existence in Abidjan for more than 12 years and manufactures a wide range of knitted products, both outerwear and underwear. Its annual capacity is rated at 3 million pieces and its output in 1964/65 was placed at an annual rate around 2 million pieces of all kinds of garnments. The annual consumption of yarn, cotton and other, is estimated to be around 250 m.tons, and 70 to 75 per cent of this is believed to be derieved from the Gonfreville plant, the balance being imported yarn.

113. The prices of D.R.A. are reported to be cheaper by 30% than the comparable prices of imports. Employment exceeds 700.

114. S.A.B. is a recently set up factory, with an investment in excess of $ 180,000 (45 m. CFA francs) and its eventual capacity (and output in 1965) are rated at 90 m. tons of knitwear and hosiery manufactured from imported yarns.

115. The parties running S.A.B. are Lebanese.

116. No significant information is available about the two very small additional knitting plants reported in the 1962 enumeration of enterprises.

Trends in Total output

117. Inasmuch as Gonfreville constitute the bulk of the output, the trends in output have been indicated. Nevertheless, it might be useful to take a broad sweep of the overall situation. The next table brings together details for selected years over the period, 1952-1965.

TABLE 4.3

Trends in Output of Textiles in Ivory Coast, 1952 - 1965 (in metric tons)

	1952	1956	1963	1964	1965
Output of yarn	430	871	3,180	3,477	3,700
Yarn for sale	-	-	-	2,100	1,300
Output of cloth	82	90	1,037	1,361	2,400
Output of prints	nil	nil	nil	250	500
Estimated output of knitwear	nil	125	200	250	340
Estimated output of handweaving sector	825	825	825	825	825

	1964	1965	
Output of cloth:			
(i) Gonfreville	1,361	2,400	metric tons
(ii) Prints(ICODI)	250	500	
(iii) Knitwear	250	340	
(iv) Hand-weaving	825	825	
Total output of cloth	2,686	4,065	
less import content	400	740	
Net textile tonnage produced at home (inclusive of yarn exported)	3,827	4,050	

Sources: As indicated in the text. Output of prints has been converted at the rate of 7,927 sq. metres to a metric ton.

118. Imports in 1964 of personal textiles amounted to 18,478 m.tons, and taken together with the net tonnage entirely manufactured in the Ivory Coast, the total market came to 22,305 m.tons. Thus home-based tonnage, whether manufactured entirely or partially in the country, contributed a little over 17 per cent of the total requirements. Based on the 1964 level of imports, the proportion of home-based tonnage defined in this extensive sense rose to 18 per cent of the total market.

Gross output and value added: 1964

119. The gross output in 1964 of the modern textile sector is broadly assessed to be in the neighbourhood of 2,650 million CFA francs or US $ 10.75 million. Value added is assessed at 45 per cent of gross output, i.e. 1,200 million CFA Frs. of US.$ 4.9 million. An element of guesswork necessarily enters into these figures.

New Projects

120. Three major moves can be discerned.

121. In the first place, it is believed that Gonfreville will be involved in the creation of a second textile complex. The new complex will practically double the current output of Gonfreville. However, available information is scanty and no further statement can be made on any significant aspect.

122. In the second place, a printing plant is envisaged in co-operation with the Japanese firm of Nishibo-Nishimen (40 per cent of capital) and two European companies, Beaujolin and Comagnie hollando-africaine, which will supply another 40 per cent of the equity. The Ivory Coast will supply the remaining 20 per cent of the equity. The project will involve the setting up of a roller printing plant with a rated capacity of 5 to 8 million metres, and will be based on imported grey fabrics, mostly from Asia. The addition of a weaving plant is also eventually visualized. If the I.C.O.D.I. ratio of investment to capacity holds valid in the present case, investment will be around US $ 2.5 million.

123. The third major project is for the printing of authentic wax prints, a process on which the Dutch hold the patents, for the first time out of Holland. The chief promoters are Niger - France (the United Africa Co.) and their associates in the Ivory Coast on the one hand and Texoprint, N.V., a Dutch comany, on the other hand. Investment is visualized at US $ 5.26 million or 1,300 million CFA. Francs in the first place when output will be of the order of 5 m.metres, roughly 60 per cent the current consumption of Ivory Coast of this product. The employment

in the first phase will be of the order of 300, out of which 90 will be expatriates. The second phase of expansion will take output to 8 m. metres and employment will reach a total of 400. The enterprise is expected to secure some 38 per cent of its requirements of grey cloth from within the Ivory Coast. Production is expected to start sometime in the second half of 1968.

CHAPTER V

TEXTILE INDUSTRIES IN SENEGAL

124. The traditional hand-weaving sector in Senegal is small in relation to the size of the market, and in any case, in the absence of locally grown cotton it is almost entirely free from dependence on handspun yarn. Its total consumption of yarn is unlikely to have exceeded 800 metric tons of yarn, cotton and others, per year since 1963.

125. The modern sector presently comprises of the following units:

(i) ICOTAF and Manufactures de Rufisque, two affiliated companies in Dakar, have spinning and weaving plants, supplemented in the case of ICOTAF by a blanket-manufacturing plant;

(ii) Another spinning plant, Cotonnière du Cap Vert located at Thiaroye, is also a doubler of yarns and manufacturer of threads and fishing nets;

(iii) SOTIBA and Simpafric are two printing and finishing plants, the former catering specifically to the output of ICOTAF and Rufisque, the spinning and weaving plants;

(iv) Etablissement René Tardy and T.M.S. are the two main knitting establishments; and

(v) Finally, there is the blanket-making plant of Société Cotonière Transocéanique.

In subsequent sections each of these groups is reviewed in some detail.

ICOTAF and Manufactures de Rufisque

126. ICOTAF was established in 1951, and started production in 1953. Presently, the plant possesses 11,500 spindles; 100 looms of wide reed space capable of weaving cloths up to 140 cm. (60") width; a dye-house with an annual capacity of 3.6 m.metres; and a cotton blanket manufacturing plant which produces approximately 250,000 blankets per year.

127. The output of ICOTAF consists of 140 cm. wide cloths (2.2 m.metres per year); of drills, cretonnes, peroales, guinea cloth and heavy canvas for a local shoe-making factory; and blankets as well as yarn for sale.

128. The factory employs 550 employees.

129. Rufisque is affiliated to ICOTAF and started production in 1953. Presently, it has 9,000 spindles, 100 looms of smaller width than ICOTAF, and a yarn processing plant. Its annual output is reported to be in the region of 5.5 million metres and consists of cretonnes, greys and guinean cloth. Employment is reported to be in the region of 350.

Cotonnière du Cap Vert

130. Cap Vert is a small spinning plant - 5,000 spindles, 2,600 doubling spindles - and produces strings, fishing nets, hosiery and possibly a small amount of threads for sale. Its annual production of yarn is placed around 250 m. tons, considerably short of its capacity of 400 m.tons. About 80 per cent of its output is believed to be used for various artisanal and industrial uses, and the balance is utilized for the making of fishing nets and threads.

SOTIBA and Simpafric

131. SOTIBA was founded in 1952 in order to process the grey products of ICOTAF and Rufisque.

132. It has bleaching, dyeing and finishing departments with a reported capacity of treating 10 m.metres per year; and a thread bleaching, dyeing, finishing and packaging plant.

133. It is reported to employ about 300 persons.

134. Simpafric, on the other hand, is a roller printing plant (with allied departments) with an annual capacity of 6 m.metres and a current annual output of 5 million metres. Simpafric affords employment to 100 employees. The company was established in 1957.

Etablissement René Tardy and T.M.S.

135. Founded in 1956, ERT has 14 modern knitting looms and employs 60 persons. T.M.S., the smaller of the two plants, was founded in 1961

and has plans to expand. The production of both plants consists of underpants, undershirts and T-shirts, and is placed at 1.5 million garments (some 250 m. tons) per year presently.

Société Cotonnière Transocéanique

136. SCT was founded in 1957 and production started to come to the market in the beginning of 1959. SCT manufactures a wide range of blankets, and production was estimated early in the 1960's at 420,000 blankets per year. The factory is capable of processing all kinds of waste, cotton, wool, jute, and rayon staple; and rags of all kinds of textile materials.

137. The output consists of cotton blankets as well as mixed blankets in both single and multiple colours. Approximately 80 per cent of its output is devoted to lower price products which comprise the mass-end of the market. The balance of its output consists of higher price products and very large blankets which are bought by other sectors of the market.

138. The reported employment is 220 Africans, and the plant is also reported to be working on a 2-shifts per day basis.

139. It might be recalled that ICOTAF also possesses a blanket-making plant, which has 16 looms.

Trends in Output

140. Table 5.1 summarizes the trends in the main categories of output

TABLE 5.1

Trends in Textile Output in Senegal, 1953 to 1965

(metric tons)	1953	1956	1959	1960	1963	1964	1965[1]
Yarns for sale	90	556	300	359	646	360	308
Cloth	-	710	967	1,211	1,178	1,213	1,092
of which,							
Prints	-	N.A.	300[2]	N.A.	N.A.	800[3]	N.A.
Blankets	nil	209	209	292	258	245	237
Total output[2] of yarn	N.A.	N.A.	1,380	N.A.	N.A.	1,700	N.A.

141. It will thus be seen that, with the exception of prints, the output situation in Senegal has remained stationary for practical purposes since 1960. Some factors arising from the situation and explanatory of it at least to an extent, are dealt with in the next section. However, prior to that it might be useful to set out the extent of disappointment by comparing the results envisaged in the Second Plan for the Year 1964 with actualities:

	Plan Anticipations for 1964	Actuals and Estimates for 1964
Total output of yarn	4,160 m. tons	1,700 m. tons
Weaving output	3,430 "	1,092 "
Output of prints	1,730 "	800 "

1/ Official data for the first ten months of 1965 has been raised proportionally.

2/ Data from Deuxième Plan Quadriennal de Développement Economique et Social, 1965-1969, République du Sénégal, p.53

3/ Estimated

Sources: (1) Bulletin Statistique et Economique Mensuel, République du Sénégal March 1961 and November 1965
(2) Estimate for prints for 1964 is derived, in very rough terms, from the situation described earlier in the text.

A Partial Examination of Factors in the Stagnation in the Modern Textile Sector

142. In the first place, it appears that in the wake of independence and the attendant loss of Dakar's status as capital of French West Africa, Senegal lost a number of political and economic advantages the country previously held. It is not proposed to examine these factors or to assess their significance, but it is sufficient to mention that in Senegal these are regarded as a major element in the situation.

143. In the direct context of textile industries, however, several analyses can be offered.

144. The industry, on the whole, is working at extremely low levels of output per machine, and was probably doing so at all times in its history. Its current output of yarn (for 1964) per spindle in place is not more than 65 kilograms per year in contrast to the extremely moderate standard of 115 kg. attained by the Nigerian industry and is a mere one-fourth or so of the level attained by Gonfreville in Ivory Coast. It is difficult, in the state of available information, to apportion the blame between (1) fewer hours of work per year, (2) less efficient use of machinery, (3) lower levels of employee and supervisory capacities, and (4) the condition of the machinery. But the final result is a compelling, adverse verdict, indicative of very high overheads.

145. The wage and salary expense of the industry is distinctly on the high side, and the data analysed below for 1959 is likely to present an under-estimate of the situation in 1966.

TABLE 5.2

Comparative "Wages and Salary" Levels in Three West African Countries

	Senegal (1959)	Ivory Coast (1961)	Nigeria (1963)
Average wage and salary per employee	US$1,195	804	549

Note: The data for Senegal is derived from national accounts, and divided by the highest estimate of workers. The result involves some understatement.

Ivory Coast and Nigeria figures have been established earlier in the text.

146. Since 1959, wage and salary levels in Senegal[1] have moved up further by at least 25 per cent, and a more realistic comparison for 1963 is likely to be a figure around $1,500, almost three times the level current in Nigeria.

147. There is prima facie case that the man:machine ratios are low: around 85-105 men per million yards of final (not greys alone) output, very broadly comparable to (and possibly worse than) those obtaining in the Nigerian industry. In other words, there is a basic inconsistency between the man: machine ratios obtaining and the average level of emoluments per employee in the Senegalese textile complex.

148. The unviable nature of Senegalese costs is reflected in the feeling in industrial circles that "some commonly used articles could justifiably be given 100 per cent protection."[2] The items specifically mentioned are drills weighing less than 500 grams per metre, cotton yarn and cotton blankets.

Extent of Reliance on Imports

149. Excluding the feeding of locally made greys as inputs into the printing industry, it is broadly estimated that the gross output (3,400 m.tons) of the textile industries, modern and traditional, formed 27 per cent of the 1964 volume of imports, viz., 12, 416 m.tons. Net of the import content, the contribution of local industries (3,035 m.tons) would be around 24 per cent. In terms of the total market, the gross share of local industries would be 21 per cent and the net share would be slightly lower at 19 per cent.

1/ Marchés Tropicaux et Méditerranéens gives a graphic account of the wage and salary position in Senegal at the beginning of 1964, which by implication points to a greater differential between Nigeria and Senegal than is allowed for in the text.

See special Number on the Senegalese Market, English version, 24 October 1964, pp. 70-71.

2/ Ibid., p. 108.

CHAPTER VI

TEXTILE INDUSTRIES IN GHANA

The Traditional Sector

150. The traditional hand-weaving sector of Ghana produces a remarkable cloth, the kente, which is both very expensive and has an exceptionally high weight per square yard. A mere indication of the unusual dimensions one is dealing with are provided by a look at the statistics of imports of imitation kente cloth. In 1962, the weight per square yard exceeded 9 ounces, and the c.i.f. value per square yard was 5 to 6 times as high as the average value for other imported cloth. Genuine kente cloths, first woven on handlooms in 9" wide strips, often weigh as much as 10 lbs. per piece (3.5 yds. x 3.0 yds.) or just less than 16 ounces to the square yard. Typical women's kente cloths are sold in the retail at prices ranging between GL 15 to 35, and reaching in the case of the more exotic varieties to L 75 per cloth. Men's kente cloths are even more expensive and a range of GL 90 to 150 was mentioned in the course of inquiries undertaken early in 1963.

151. In other words, the commonly mentioned figure of 2 million square yards of output per year might well represent 2 million lbs. or so of yarn consumption, all of the latter being imported. There is occasional reference to a small quantity of handspun yarn being used for artisanal weaving in the northern parts but cotton is not a commercial crop in Ghana yet and the quantities involved probably are not of statistical significance.

152. Another unusual aspect of the traditional sector lies in the fact that around 3,000 workers are organized in industrial establishments, distributed as follows according to plant-sizes measured by employees.

TABLE 6.1

Kente-weaving Establishments Distributed according to Volume of Employment, 1963

Volume of Employment	No. of Establishments	Estimated Total Employment
1. 6 to 9 persons	23	184
2. 10 to 29 persons	129	2,580
3. 30 to 49 persons	5	185
4. 50 to 99 persons	2	150
Unclassified	1	..
Total	160	3,099

Source: Directory of Industrial Enterprises and Establishments, Central Bureau of Statistics, Republic of Ghana, October 1963, p. 254. Employment is estimated on the basis of approximate mid-values.

The Modern Sector

153. The modern sector in the textile industries of Ghana began under the shadow of an adverse policy evaluation by Prof. W. Arthur Lewis in his famous Report on Industrialization and the Gold Coast in 1953. He classified the weaving of cotton and rayon as well as knitwear as "marginal industries", and recommended a slow, three-step development,: "Begin with grey, spread into bleached and dyed, and start spinning; printing comes only when these other processes are fully established".[1/] Subsequent thinking at policy-making levels, as reflected in the official annual Economic Surveys, incorporated this approach, and it was only around 1958 that studies in the building up of a modern textile sector were taken up.[2/]

1/ Quoted from page 6 of the Report, published by the Gold Coast Government, 1953.

2/ The Economic Survey, 1958, reported (p.41) that negotiations were in hand for the establishment of a textile mill. The survey for 1959, p. 42, reported studies being made for a textile printing plant.

154. In the meanwhile, an enterprising Lebanese firm was in the process of setting up a towel-weaving plant, which was to become the forerunner of the modern textile complex. As of 1966, the modern sector consists of the following:

(i) Two spinning, weaving and finishing plants are located in Tema;[1/]

(ii) One textile printing and finishing plant is also located in Tema;

(iii) The Millet Corporation runs a towel-weaving plant in Accra;

(iv) The Ghana Blanket Manufacturing Co., runs a blanket-making plant, based on the import of tubular waste yarns;

(v) The Intra-Knitting Works runs a major knitting factory, and is possibly supplemented by some very small units.

155. The following sections review the major developments.

The Composite Plants

156. The Ghana Textiles Manufacturing Company was set up in the course of the early 1950's as a small weaving plant with 38 looms and producing only grey baft. By 1962 it had grown, possessed looms varyingly reported as 120 or 188, and produced some 11.7 million square yards of grey baft. In subsequent years, bleaching and dyeing plants have been added,[2/] among other equipment. A major expansion is currently in progress, and by the end of 1966, it is expected to possess 546 looms, matching spinning equipment which will make it entirely independent of imported yarns, and finishing equipment other than roller printing. The total capacity will be 25 million square yards, and at that stage the total fixed capital

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1/ The construction of a further composite complex at Juapang near the Akosombo dam was stopped when close to completion. The plant - involving an investment of G£ 1.75 million under a technical and economic agreement with the Government of Mainland China and designed to have an annual capacity of 20 million square yards - was close to completion. See Marches Tropicaux et Mediterranéens, 26 March 1966, p. 963.

2/ The output has also diversified. Shirtings were 33 per cent of the total output in 1964; and the new expansion will enable the manufacture of tussore drills, including khaki drills.

involved will be somewhat over G£ 2.5 million, or an initial investment of US$ 280,000 to a million yards of final output. The plant is believed to be completely owned by private overseas Chinese interests.

157. The other composite plant at Tema was started under State auspices and was initially based on a pre-financing arrangement with S.A.C.M., a French company and its affiliates. Eventually, the Anglo-Dutch Textile Investigation Group (ADATIG) in which Unilever have an interest bought a 49 per cent interest in the plant, and the Government of Ghana, in a kind of swap agreement, acquired a 49 per cent interest in the Lever Brothers soap factory at Tema. As of now, the Government of Ghana therefore holds a 51 per cent interest in the factory, which came into operation sometime in the second half of 1965. The plant is operated by the ADATIG group under a management contract which provides for a commission based on sales.

158. The plant has 20,000 spindles, 480 automatic looms, a full-fledged finishing plant complete with roller printing machines and two screen-printing machines. The printing capacity is adequate for the entire output potential of 20 million square yards, and this is certainly one factor explaining the high capital cost, G£ 3.5 million or US$ 490,000 per million yards of final output. It is not possible to determine what contribution, if any, to the high capital cost arises out of the maze of financial arrangements which attended the eventual fruition of the project.

159. The plant is now believed to be running at its full capacity and is reported to employ 1,200 workers. It is surmised that this implies a ratio of 65 employees or so to one million yards of final output, a ratio which is much better than 92 employees per one million yards in the Nigerian industry, which in any case does a lower proportional amount of final processing including printing.

160. As indicated earlier, the erection of the Chinese-supported composite mill has stopped short of completion, and no decisions have yet been taken on commissioning it into operation. This factory, equipped with

machinery from Mainland China, was likely to have realized one of the lowest ratios of investment to output (US$ 245,000 per one million yards of final output) in the last ten years in the West African sub-region.

The Printing Plant at Tema

161. Wholly State-owned, the printing and finishing plant at Tema has a capacity of 7 million square yards, and an investment outlay of G£ 1.030 million. The ratio of investment to output is thus of the order of US$ 400,000 to one million yards,which compares favourably with similar plants set up in recent years in Ivory Coast. The plant was built under a pre-financing arrangement with a British firm, and has taken more than 5 years to set up. The plant began production on a commercial scale in the beginning of 1966.

The Towel Manufacturing Plant

162. The plant, based on imported yarns, started operations around 1960. It had 25 looms of 64" reed space around 1962 and is believed to have expanded since. In 1964, output was reported to be 3.3 million pieces of all sizes, or around 300 million tons. Employment in 1964 averaged 241 persons.

The Blanket Manufacturing Plant

163. The blanket-making plant is also based on imported yarns. The initial investment was of the order of G£ 150,000 and annual capacity was rated at 450,000 blankets per year. Expansion was envisaged at that stage which would take output to an annual level of 1.25 million blankets. The latter target does not seem to have been realized, however, and in 1964 output (82,000 blankets) was well below capacity, even after taking into account the operation of the plant over a period of only seven months or so.

The Knitting Industry

164. The Intra-Knitting Works, the largest factory of its kind, opened in October 1964. It involved an investment of G£ 50,000, and its output

per year is unlikely to exceed 80 to 90 million tons per year. Some small-scale capacity is additionally known to exist, but available information permits only the generalization that its total output is not likely to equal that of the Intra-Knitting Works.

Trends in output

165. Any quantified assessment of output of significance will be feasible only when the data for 1966 come to be collected, because it is only in 1966 that the total investment of GL 9 million in the composite plants and the printing plant would have had, for the large part, an opportunity of reflecting itself in the volume and composition of output.

166. The following table indicates the broad movements up to 1964, and is necessarily reflective of the limited character of the industry up to that date.

167. Inasmuch as the entire output is based on imported yarns, the 1964 output of textiles net of imports is a non-existent quantity. In gross terms, home-based textile tonnage forms 12.49 per cent of the 1962 level of imports 22,328 million tons.

168. The established capacity of the composite plants will be 45 million yards in the end of the current year; and inclusive of the interrupted plant, 65 million square yards. Out of this total 20 million yards will be capacity for prints. The printing plant constitutes another capacity for 7 million square yards of prints. On the basis of full-scale operation, this should imply a capacity of the order of 7,600 million tons per year, or an annual output (say from 1967 onwards) four times as large as in 1964 from the modern sector. The preceding paragraph, on extent of reliance on imports in 1964, has to be seen in this context.

169. The gross output, at ex-factory prices, in 1964 is not likely to have exceeded GL 2 million (or US$ 5.6 million), and value added is likely to have been of the order of GL 400,000 (or US$ 1.12 million).

TABLE 6.2

Trends in Textile Output, Ghana, 1962 to 1964

	1962	1963	1964
1. Output of cloth (m.sq.yds.) of which:	1.17	8.0	12.5
greys	1.17	N.A.	8.4
bleached shirting	Nil	N.A.	4.1
2. Output of cloth expressed as estimated tonnage (metric)	150	1,000	1,550
3. Output of towels			
- No. of pieces	N.A.	N.A.	3.3 million
- Estimated tonnage (metric)	N.A.	N.A.	300
4. Output of blankets			
- No. of Units	Nil	Nil	82,000
- Estimated tonnage (metric)	Nil	Nil	19
5. Estimated output of knitwear in knitting factory (metric tons)	Nil	Nil	20
6. Output in the hand-weaving sector (million tons)	900	900	900
7. Total output of textiles in the modern sector (million tons)	250[a/]	1,200	1,889
8. Total output (million tons)	1,150	2,100	2,789

Sources: Industrial Statistics, 1962-1964, Republic of Ghana, p. 82, Table 49.
As estimated in the text.
Conversions into tonnage are based on ratios common in West Africa.

a/ Includes an allowance for the output of towels.

CHAPTER VII

TEXTILE INDUSTRIES IN OTHER COUNTRIES OF THE SUB-REGION

Guinea

170. The textile complex in Guinea consists of a single plant in the modern sector, and it was officially inaugurated in May 1966, after initial expectations that the plant would be in a position to commence operations in October 1965.

171. The plant will be commissioned in stages and will eventually produce 24 million square metres of fabric per year (29 million square yards), and the plant will have 22,000 spindles; 780 looms; and a bleaching, dyeing, printing and finishing department.

172. The investment involved is of the order of £ 3.5 million (or US$ 304,000 per million yards of final output of cloth), and the building of the plant is entrusted to Platt Bros. of England who are heading a consortium of British firms, and the latter, in turn, are backed by coverage from the Export Credit Guarantee Department of the United Kingdom.

173. This will be the first plant in the West African sub-region to use imported cotton[1/] (in the first place, cotton from the United States under P.L. 480), but it is hoped that eventually cotton grown in Guinea will replace it.

174. The plant will employ 1,200 persons and about 36 expatriates in addition.

Mali

175. The output of the traditional hand-weaving sector in Mali is, an important dimension, placed around 2,400 metric tons, derived as follows:

Output from handspun cotton yarn	1,995 metric tons
Output from handspun wool yarn	250 metric tons
Output from imported cotton yarn	790 metric tons

1/ From outside the sub-region.

The total output of hand-weavers is thus estimated around 2,400 metric tons,[1] or around 18.4 million metres. The output, in the main, takes two forms: mixed fabrics of cotton and wool used as coverings weighing about one kilo each, and "kassas" which weigh around 1.4 kilos per piece.

176. In their planning of the State-owned textile plant at Segou the market afforded for yarn by hand-weavers has been taken into account.

177. The proposed factory will be constructed in financial and technical co-operation with Mainland China, and will involve an investment of 1,000 million Mali francs or US$ 4.03 million, and will go into operation probably sometime in 1967.

178. The mill will have the following equipment:

20,000 spindles;
4,500 doubling spindles;
384 looms; and
a dyeing, bleaching and finishing department.

179. The output will consist of about 2,000 metric tons of textiles, distributed as follows:

800 metric tons of yarn for sale;
350 metric tons of grey cloth; and
800 metric tons of bleached and dyed cloth.

180. In alternative terms, the output of cloth will be in the neighbourhood of 10 million square yards per year. Employment of the order of 600 workers is envisaged.

Togo

181. The traditional hand-weaving sector is of minor importance in the economy of Togo. Thus, yarn consumption by hand-weavers was valued at a mere francs CFA 26 million or US$ 105,000 some years back;[2] and the

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1/ The above assessment relates to 1959. But the imports of yarn indicate the general validity of the analysis for 1964. The fact that the proposed complex will also produce 800 metric tons of yarn for sale supports the acceptance of the 1959 analysis. Details are taken from Comptes Economiques de la République du Mali, 1959, pages 53, and 66 et seq.

2/ See Banque Centrale des Etats de l'Afrique de l'ouest, Comptes Economiques, Togo, 1956-1957-1958, p. 130.

original intention[1] of producing 50 metric tons of yarn for sale was dropped in working out the details of the composite textile plant.

182. The composite plant at Dadja, in the heart of the cotton-growing regions 95 km north of Lomé consists of 10,000 spindles, 300 looms, and a bleaching, dyeing, printing and finishing plant. The plant was inaugurated in March 1966, and has an annual capacity of over 6 million square metres.

183. The company (Sté d'Industrie Textile Togolaise) has a capital of francs CFA 248 million, or US$ 1.05 million, less than a quarter of the total investment of francs CFA 1,100 million, or US$ 4.46 million. The investment works out to US$ 743,000 per one million yards of final output in contrast to the level in Nigerian industry, viz., US$ 380,000 per one million yards. On the other hand, its projected level of employment of 550 employees,[2] implies an over-all employee : output ratio comparable with the Nigerian industry.

184. The capital has been subscribed to in the following manner:

Private West German interests	60 per cent;
Republic of Togo	25 per cent; and
Private Togolese interests	15 per cent.

185. The gap between investment and the registered capital has been bridged by financing obtained through West German financial and credit guarantee institutions.[3]

Upper Volta

186. The traditional hand-weaving sector in Upper Volta is of considerable size, and in fact, will form the demand on which the proposed textile plant will be based.

1/ See Plan de Développement Economique et Social, 1966-1970, pp. 199-200.

2/ Ibid.

3/ B.C.E.A.O., Conjuncture Economique Togolaise, Notes d'Information et Statistiques, No. 13, December 1964, p. 17.

187. The hand-weaver depends on hand-spun yarn prepared by women during the slack season in farming activities from local cotton. The volume of this category of yarn consumption is estimated variously at 1,200 - 1,300[1] metric tons and 1,500[2] metric tons. In addition, the hand-weaver uses all of the imported cotton yarn. In 1964, this amounted to 550 metric tons, and total consumption/output in 1964 is thus placed at around 2,000 metric tons. An important sub-sector in the traditional group is the presence of an active group of dyers whose gross turnover was estimated[3] in 1962 at around francs CFA 90 million or US$ 365,000.

188. The textile mill, although a composite mill in name, is in the main directed to catering to the demand for yarn posed by the traditional sector. As such, the plant will consist of 4,800 spindles, only 16 looms,[4] and a dyeing plant. The plant will be located at Ouagadougou.

189. The company (VOLTEX) was formed in January 1961 and consists of the following subscribers to its capital of francs CFA 300 million: the Government of Upper Volta (40 per cent); Gonfreville (25 per cent); C.F.D.T., an organization interested in raw cotton in a number of French-speaking West African countries (10 per cent); and a number of other interests (25 per cent), including le Banque Nationale de Développement. The capital - francs CFA 300 million - forms however only one-third of the total investment envisaged, viz. francs CFA 900 million (or US$ 3.65 million), a figure which includes working capital. The gap between capital and investment will be bridged by long-term financing from agencies like FAC, CCCE and the Kreditanstaldt.

190. The FED (Fonds Européens de Développement) participates in an indirect manner by agreeing to finance the setting up of a central thermal plant for electrifying Ouagadougou.

1/ Bureau Internationale de Travail, Rapport au Gouvernement de la République de Haute-Volta sur l'Artisant à Ougadougou, Bobo-Dioulasso et Leur Environs, 1962, p. 17.

2/ S.E.D.I.A.C., L'Industrialisation de la Haute-Volta, June 1962, p. 62.

3/ Etude sur d'Artisant Voltaique par S.A.T.E.C., Feb.-March, 1962, p. 28, (République de Haute-Volta).

4/ These however will be of very large width, possibly 64" reedspace.

Niger

191. Inferences about the scale of activities of the traditional sector tend to be highly speculative and are not based on adequate data. Thus, Comptes Economiques, 1959,[1] assessed total annual output at only francs CFA 22.4 million or US$ 91,000 and suggested that 30 per cent of it was marketed, the rest being self-consumed by the producers. On the other hand, a study by textile technicians[2] granted the difficulty of making estimates, and yet came up with a partial estimate which could be interpreted to mean an over-all value of output between francs CFA 400 to 500 million or US$ 1.6 to 2.0 million.

192. Anyway, the over-all import of industrial yarns is comparatively small, 170 metric tons in 1962, and in the studies of the possibilities of setting up a textile complex, the Banque de Développement de la République du Niger has consistently worked on the assumption that the plant should be a composite one, relying on local cotton, but directed to the production of cloth, as the final output.

193. The Bank has visualized a project[3] in the following terms. A composite plant, with an annual output of 1,200 million tons (say, some 10 million square yards), is estimated to involve a total fixed capital expenditure of francs CFA 1,250 million, of which 75 per cent will be on imported items, and the balance will represent local expenditure. Annual output will result in a turnover of francs CFA 600 million (or a capital : output ratio of 2:1, and fixed investment of US$ 506,000 per one million yards of final output of cloth), out of which value

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1/ République du Niger, Sécretariat d'Etat aux Relations avec les Etats de la Communauté, January 1961; see Annex I, page 45.

2/ Deputed by S.E.D.I.A.C., on request of the Governments of Niger, Upper Volta, Chad and Cameroon. The study is entitled "Implantation d'Artisants Industrials du Tissage en Afrique: Niger, Tchad, Cameroun, Haute-Volta", January 1964, pp. 8 and 32. The main basis of the estimate is controversial (pp. 21-22). Thus, it is estimated that there are 25,000 marriages a year and that a bride takes six blankets (or coverings) to her husband's family, giving a total annual output of 150,000 coverings.

3/ Exercise 1964, page 42.

added will constitute 50 per cent or francs CFA 300 million. Financial charges are expected, in the exercise, to amount to 11 per cent of the gross output (sales). However, the import content of the annual current expenditure is visualized at only 10 per cent.

194. Subsequent to the above exercise a scheme has been worked out in financial and technical co-operation with an Italian firm(s), involving 12,000 spindles and 300 looms.[1] The annual output is expected to be 2,000 metric tons per year,[2] and the investment is foreseen at francs CFA 1,500 to 2,000 million or US$ 6.1 to 8.0 million. No other details are available at the time of preparing this study. Construction is to commence in 1967 and output is expected to start flowing in 1969.

Dahomey

195. A project has been mooted in collaboration with the French company, S.A.C.M. The mill will be a composite unit: 5,000 spindles and 100 looms. Although no specific details are available, the inference from the high ratio of spindles to a loom is that a part of the output of yarn will be available to the small traditional sector.

Liberia

196. At one stage in 1965, it was reported[3] that the Lebanese trading community was interested in the setting up of a textile factory, and further that the idea had approval in principle from the President of the Republic. No progress has however been reported.

1/ Details of equipment and nationality of co-sponsors from industries et Travaux d'Outre-mer, January 1966, p. 13.

2/ This and subsequent details are quoted from a statement by the President of the Republic, as reported in Enterprises et Développement Africain (Afrique Service), No. 150, 6 July 1966, page D.

3/ See Africa South of the Sahara, Agence France-Presse, No. 1188, 20 July 1965, p. 18.

Sierra Leone

197. Interest in setting up a textile plant, on the part of private interests, has been reported several times.[1/] But the only tangible development to date has been the formation of a company, Sierra Leone Knitting Mills Ltd., which will set up a knitting plant.

Mauritania and Gambia

198. No information is available on any textile plants, projects or plans.

1/ Barclays Bank, Overseas Survey, 1964, reported a proposal under consideration. In its issue of 1 May 1965, West Africa reported interest on the part of a US firm (p. 486).

CHAPTER VIII

RATIONALE OF RAPID IMPORT SUBSTITUTION

The Logic of Import Substitution

199. Powerful economic reasons dictate a policy of rapid development of the textile industries in the West African sub-region. Indeed, the present and projected development - involving a total fixed capital expenditure of over US$ 227 million - is an indication of the growing recognition of the economic sense of pushing import substitution in the matter of textile supplies. However, it is also clear that the total of present and projected capacity - around 70,000 metric tons - is a fraction of the current level of imports, around 146,000 metric tons in terms of yarn.

200. The main factors in favour of a rapid policy of import substitution are, briefly, as follows:

201. In the first place, as a sub-region the countries of West Africa currently produce more than 70,000 metric tons of cotton fibre, the bulk of which is exported.[1/]

202. The possibilities of growing additional supplies of cotton in the sub-region as a whole without a necessarily adverse effect on the export trade of the sub-region with the outside world have been favourably commented upon by the FAO.[2/] In many French-speaking countries of the sub-region - Ivory Coast and Guinea, to quote only two examples - major efforts are on the way in the immediate present.[3/] In other words, the presence, current and potential, of cotton supplies within the sub-region taken as a whole is a highly permissive, cost-saving factor.[4/]

1/ The sub-region's output of cotton fibre amounted to 62,800 metric tons over 1959-61, and exports amounted to 45,400 metric tons. Details from FAO, West African Pilot Study of Agricultural Development, 1960-1975, Vol. II, Table IV.3.5, p. 171.

2/ Ibid., Part I, p. 52.

3/ For a quick resumé of the current situation, and the near-doubling of output of the commercial sector in cotton production in six French-speaking countries in the sub-region during 1956 to 1963, see B.C.E.A.C., Rapport d'Activité, 1964, pp. 120-125.

4/ See the section dealing with costs of operation in the Chapter on Nigerian textile industries.

203. The raw material equation is further reinforced by possibilities of creating within the sub-region sources of man-made raw materials of both cellulosic and non-cellulosic origin. The possibilities are detailed in a study[1/] on chemical and pharmaceutical industries.

204. Secondly, the nature of the factors involved in the comparatively high costs of production current presently, and the limited extent of the differential when compared with fair c.i.f. prices of comparable imports are both indicative of the potential of the West African textile industries to be fully competitive on a basis of viable costs. The high man : machine ratios general in the sub-region, the comparatively low wage per worker, the feasibility of operating machinery for longer hours and thereby reducing the incidence of financial charges and overhead costs generally per unit of output - all these and several other factors also point to the capacity for viable costs. It is true that the hope is not a current, generalized realization, but establishments in Ivory Coast have managed to realize the hope, and also built a substantial export trade to their neighbours, and so have individual plants in the Nigerian industry.

205. Thirdly, the need for import substitution has to be seen in the context of the over-all increase in the demand for textiles, even when assessed on a conservative basis. This assessment is provided in a subsequent chapter, and the details are best considered there. But the impending need over the years 1965 to 1980, to provide an additional 1,200 million yards has to be weighed in the background of the various restraints on the rate of increase in the capacity to export raw materials at adequate prices and the surging claims of other categories of demand on the foreign exchange till.

206. Fourthly, it is obvious that the textile industry can provide one of the largest elements in industrialization in the next decade and a half or two, both in terms of output and employment as well as in the augmentation of the pool of industrial skills.

1/ E/CN.14/INR/109.

207. Finally, the arithmetic of import substitution, delineated in the next section, is indicative of its capacity to generate an extensive flow of investible resources in terms of foreign exchange savings over the life-time of an investment in textiles.

The Arithmetic of Import Substitution

208. Table 8.1 summarizes the over-all implications in terms of the outlay of foreign exhcnage on an investment in the textile industry.

209. The exercise is worked out on the basis of current experience in the Nigerian composite industry and is related to a million yards of final output.

210. The basic assumptions are typical in some respects and severe in other respects, and are stated below:

(i) The fixed capital expenditure for a million yards of capacity (and output) is envisaged at US$ 380,000.

(ii) Equity is visualized at one-third of the fixed capital expenditure, i.e. US$ 127,000; the balance US$ 253,000 is contributed by supplier finance, a fairly typical experience in Nigeria and other countries of the sub-region.

(iii) Supplier finance is implied to involve (a) higher initial price for the plants; (b) repayment of the principal over a period of seven years after the plant goes into operation; and (c) interest on the reducing balance is allowed for an annual rate of 8 per cent. Thus, over the seven-year period after the plant goes into operation, the servicing of the supplier finance will cover (1) repayment of US$ 253,000, the principal, and (2) US$ 81,200 in interest charges. The total repayment will thus involve US$ 334,200 and this is taken into account by making an annual provision of US$ 48,000 for a period of seven years.

(iv) Recurring foreign exchange costs are calculated on the basis of Nigerian experience as follows:

(a) Cotton is home-grown.

(b) Employee remuneration costs are broken up into salaries and wages paid to nationals on the one-hand and to expatriates on the other. Of the payments made to expatriates, remittance abroad is deemed to account for one-third, and it is further argued that the pattern of expatriate consumption expenditure will involve an additional foreign exchange expenditure amounting to about 26 per cent of the unremitted portion of expatriate remuneration. This is deemed to be a generous provision in view of the fact that the foreign exchange outlay is measured in c.i.f. prices whereas consumer expenditure will take place in terms of substantially higher retail prices.

Likewise, it is assumed that employee remuneration paid to the nationals will lead to a foreign exchange outlay arising out of their expenditure as consumers. This is taken at 10 per cent of the total emoluments, and is also obviously stated in terms of c.i.f. prices.

(c) Thirty per cent of the costs of raw materials other than cotton is treated as derived from imports.

(d) Of all other industrial costs - fuel and power, stores and spares, etc., about 28 per cent are taken as foreign exchange outlay, direct and indirect.

(e) The burden of repayment of supplier finance - which in the sense of operation by a particular unit has to be met from the profits prior to taxation and depreciation (when this is an actual charge against gross profits, and not merely an accounting description) - is provided for as indicated in item (iii) above.

(f) The remittance of profits is worked out on the assumption that the equity of US$ 127,000 (see item (ii) above) is provided in the ratio of 1:2 by local and foreign capital. It is assumed that profits do not attract taxation (that is only true to a limited extent under the investment codes, and therefore leads to over-provision for foreign exchange outlay) and that two-thirds of the profit, corresponding to the foreigner's stake in the equity, is remitted abroad. The assumption about such total remittance is obviously unrealistic, but this only supplies greater rigour to the exercise.

(v) It is also assumed that the cost of importing one million yards is US$ 211,760, and that the ex-factory value of producing similar goods is higher by 25 per cent, i.e. US$ 264,700. This assumption is deliberately unfair to existing West African industry.

(vi) It is further assumed that the entire machinery is replaced at the end of a fifteen-year life-cycle; and that construction of the plant takes 2 years in the first place, and that only one-half of the productive capacity is actually realized in the first year of operation, i.e., the third year in Table 8.1 which follows.

TABLE 8.1

Foreign Exchange Implications of a Textile Investment Per One Million Yards of Output and of Not Making the Investment

(In '000 US$)

Year	Imports of Cloth in the absence of Industrial Investment	In the presence of an industrial investment					
				Foreign Exchange Outlay			Total of Imports
		Imports of cloth	Imports of machinery	Financial servicing of supplier finance	Recurring foreign exchange costs	Remittance of profits	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(3 + 4)
1	212	212	170	nil	nil	nil	382
2	212	212	83	nil	nil	nil	295
3	212	106	nil	48	12	6	106
4	212	nil	nil	48	24	12	
5	212	nil	nil	48	24	12	
6	212	nil	nil	48	24	12	
7	212	nil	nil	48	24	12	
8	212	nil	nil	48	24	12	
9	212	nil	nil	48	24	12	
10	212	nil	nil	nil	24	12	
11	212	nil	nil	nil	24	12	
12	212	nil	nil	nil	24	12	
13	212	nil	nil	nil	24	12	
14	212	nil	nil	nil	24	12	
15	212	nil	nil	nil	24	12	
16	212	nil	170	nil	24	12	170
17	212	nil	83	nil	24	12	83
Total over 17 yrs.	3,604	530	506	336	324	162	1,036

Source: As indicated in the text.

211. In other words, the foreign exchange costs of importing instead of industrializing over the 17-year period are US$ 3.6 million. The foreign exchange costs of industrializing are:

(a)	Imports of cloth during the period of setting up the plant	US$ 530,000
(b)	Foreign exchange costs of servicing supplier finance	US$ 336,000
(c)	Recurring foreign exchange costs of operation and their indirect implications	US$ 324,000
(d)	Foreign exchange implications of total remittance of profits by the foreign equity holder	US$ 162,000
(e)	Foreign exchange costs of replacing the entire machinery at the end of the life-cycle of the initial investment	US$ 253,000
(f)	Total foreign exchange costs involved (a to e)	US$ 1,605,000

The Implication of Import Substitution

212. The net saving in foreign exchange costs over the entire life-cycle of the machinery (strictly speaking, the replacement should be placed in the 18th and 19th years) thus comes to US$ 2 million, or 56 per cent of the cost of a supply based on total imports. Alternatively, even under conditions of supplier finance, the initial import of US$ 253,000 in machinery can be repeated almost eight times from the foreign exchange savings over a period of 17 years, and possibly as many as ten times over if the conditions of supplier finance are no longer permitted to affect the initial price of subsequent investments.

213. If it is assumed that the savings in foreign exchange arise from the fifth year onwards and continue up to and including the fifteenth year (in the 16th and 17th years the machinery of the initial plant is being replaced), and it is further assumed that the savings are invested in similar investments (US$ 253,000 in foreign exchange outlay for every million yards of final output) which result in similar ratios of further

saving (adjusted for the lower period of time available), a further saving of US$ 3.8 million is arrived at in the course of the 17-year period. In other words, the total saving is capable of yielding about 22 million yards of additional capacity compared to one million yards of the initial investment.

214. In practice, of course, such ratios will not be attained. Gestation periods of industries taken as a whole can be notoriously longer than those of an individual unit; and those of individual units might themselves be longer. Other conditions of growth - such as the availability of the foreign exchange saving to the particular industry or the component of national capital needed to match the foreign exchange outlay - might well be insufficiently present. Or, conditions of profitability might be such as to deny the validity of foreign exchange saving as a sufficient criterion. None of these possible constraints, however, is a denial of the rationale of rapid import substitution in West Africa. It can only be an abridgement, major or minor, of the process which has been at work over more than ten years now, and for which further scope is ample in the sub-region taken as a whole. In fact, it is the main argument of the next sections: the scope for import substitution with all the implications is immense in a sub-regional framework; and limited if the development of textile industries in the sub-region is going to be a matter of merely adding up the possibilities in individual country-markets taken as separate entities.

CHAPTER IX

THE IMPERATIVE NEED FOR A SUB-REGIONAL FRAMEWORK

Basic Considerations

215. The setting out of the horizons for the development of textile industries must contend with three fundamental elements in the textile situation.

216. In the first place, textile markets are crowded with end-products running into several thousands in sheer number. The basic range of human needs in textiles is multiplied into a vast complex when the distinctions introduced by sex, age, climate, income, habits and tastes crisscross with each other to shape that eventual totality, the total demand for textiles. Thus, it has been estimated[1/] that Indian textile mills produce over 60,000 varieties of cloth, quite apart from the contributions made by millions of handlooms or the point might be made from the experience of developed countries in Europe. Thus sixteen member countries of the OECD imported exported textiles worth US$ 2,141 million (or over seven times the total value of imports of textiles in 1964 in the sub-region) from each other in 1962. Table 9.1 illustrates the criss-cross of movements in the case of a few countries.

217. In other words, the heterogeneity of end-products creates the necessity for a vast exchange of textiles in all but the largest textile markets such as the USA, the Soviet Union, India, China and Japan.

218. In the second place, economies of scale are achieved fairly early in most textile industries (with the notable exceptions of the manufacture of rayon and filament and other man-made fibres). Thus, even current European practice[2/] regards 10,000 spindles as the "minimum balanced unit"; and the "optimum production unit" which makes for the best distribution of employees is placed at 20,000 spindles. On the

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1/ See Mehata, S.D., The Indian Cotton Textile Industry, an Economic Analysis; Textile Association (India), 1953, p. 162.

2/ See Modern Cotton Industry, a Capital Intensive Industry, OECD, 1965, pp. 96-97.

TABLE 9.1

Trade in Textiles (code S.I.T.C.65) among European Members of the OECD, 1962

	Imports from European Member States of OECD	Exports to European Member States of OECD
	(in million US$)	
1. Germany (Federal Republic of)	629	307
2. Netherlands	282	225
3. France	107	352
4. Italy	83	292
5. Switzerland	102	153
6. Ireland	44	26
All OECD (Europe) countries	2,144	2,144

Source: Textile Industry in OECD Countries, 1962-63, OECD, Table 29.

weaving side, the same concepts similarly yield figures like 144 conventional automatic looms and 400 - 480 conventional automatic looms. The very high level of expatriate emoluments would tend to make these figures somewhat higher in the West African context, but without affecting the basic proposition that economies of scale are attained fairly early in most textile industries.

219. At first glance the second proposition might appear to be in contradiction to the need for a large industry in the context of heterogeneity in end-products. But the contradiction is unreal. The first proposition relates to the size of the national industrial complex, and the second to individual units comprising the complex.

220. The two propositions, as made, might be supplemented further. Heterogeneity of end-products and smallness of individual scale of unit operation usually make for a fair-sized small industry sector in

a number of textile branches: especially, spinning of fancy yarns, weaving of fancy goods, knitting and the manufacture of small wares. In some countries, such as India, the "small" sector tends to be larger than warranted by these market-cum-technical considerations on account of other economic factors, especially the significantly lower wage level prevalent in the "small" sector, compared to what the law and unions make the bigger units pay, and the large supply of cheap, second-hand looms disposed of by the bigger units. It is believed that the kind of considerations valid in the Indian context have limited significance in the West African sub-region in the time-perspective this study deals with, although the basic validity of the proposition is relevant and provided for.

The Size of Country-markets and Extent of Reliance on Imports

221. There is a direct inverse correlation between the size of a country-market and the extent to which it has to rely on imports of textiles. The larger the market, the smaller is the extent of reliance on imports, and vice versa. Tables 9.2 to 9.4 crystallize the point with reference to countries in Europe and outside, all members of the OECD.

TABLE 9.2

Apparent Consumption of Yarn and Thread and Reliance on Imports, 1963

(in metric tons)

Group	No. of markets covered	Average size of the country market in each group	Extent of reliance on imports in each group
A	5	24,192	33%
B	5	84,908	19%
C	4	1,359,887	1%

TABLE 9.3

Apparent Consumption of Cotton Fabrics and Reliance on Imports, 1963

(in metric tons)

Group	No. of markets covered	Average size of the country-market in each group	Extent of reliance on imports in each group
A	4	7,307	56%
B	8	65,792	29%
C	2	897,570	3%

TABLE 9.4

Apparent Consumption of 'Other Fabrics' and Reliance on Imports, 1963

(in metric tons)

Group	No. of markets covered	Average size of the country-market in each group	Extent of reliance on imports in each group
A	8	17,724	51%
B	2	43,364	23%
C	2	3,918,545	8%

Source: Tables 9.2 to 9.4 relate to non-EEC members of the OECD. (The conclusions are valid for EEC countries, but the data excluded intra-EEC trade in their case). The basic data was re-worked from figures given in the OECD study cited earlier, Table IV, p. 71.

The Need for a Sub-regional Framework

222. It was seen in Chapter II, Table 2.4, that the average size of the total market for textiles in West Africa is small - less than 12,000 metric tons in 1964. It was further seen that only in one country, Nigeria, the size of the market touched 65,000 metric tons. Three

markets - Ivory Coast, Senegal and Ghana - were in the 14,000 to 22,000 metric tons group. All other markets ranged between 100 and 9,000 metric tons, and averaged a mere 4,500 metric tons. If these figures were to be adjusted for the import of second-hand clothing, for the breakdown between fibres, for the use of handspun yarn, and if allowance were made for products which cannot be considered for import substitutions on account of adverse cost, skill or other economic considerations, the average size of the average market in the sub-region would be seen in the neighbourhood of 7,500 metric tons or so in the case of cotton fabrics and around 1,500 metric tons in the case of rayon fabrics. To put it bluntly, the average size of West African markets would barely make for 50 per cent possibility of import substitution. And if Nigeria were excluded, reliance on imports would have to be around 60 to 70 per cent in perpetuity.[1/] A generous estimate is provided below of the possibilities of home production and extent of import reliance indicated in the broad perspective of Table 9.2 to 9.6

TABLE 9.5

Possible Development of Industries in the Context of Current Sizes of West African Markets

(in metric tons)

	Total market in 1964	Extent of feasible home production %	Extent of reliance on imports %	Estimated production potential
A. Nigeria	65,000	60	40	39,000
B. Ivory Coast, Ghana and Senegal	58,000	45	55	26,000
C. Ten other countries in the sub-region	42,000	40	60	17,000
D. Total	165,000	say, 50	say, 50	82,000

Source: See text.

1/ The argument is posed entirely in the context of viable costs of production. It also excludes the possibility, as a general proposition, of each country developing a Hong Kong-like, export-based viability in terms of market size.

On the other hand, if the entire sub-region is visualized as a single market of 165,000 metric tons, the perspective would be set well above the average size of markets in Group B in Tables 9.2 to 9.4, and an over-all industrial potential of 80 per cent might well be an under-estimate. In terms of the time-perspective of 1975/1980, one could even visualize an industrial potential of the order of 85 to 90 per cent without doing injustice to the basic logic of textile markets and textile industries.

223. At 80 per cent, the sub-region's current industrial potential would be around 132,000 metric tons, which is 67 per cent higher than the sum of country potentialities considered as individual markets, viz., 82,000 metric tons. In the textile context, the sub-regional whole is definitely and impressively larger than the sum of its country-parts. This approach informs the lines of projected development presented in the following pages.

CHAPTER X

DEMAND PROJECTIONS: 1980

224. The demand projections for 1980 are presented in Table 10.1. The main considerations underlying the data are stated below:

(i) As was indicated in Chapter II, the quantitative response to income increases has been considerably slower in recent years, even in countries like Nigeria which are at the lower end of the ladder of per caput consumption levels. There is no ground, economic, statistical or other, to presume that the pressures of other demands on the consumer's dollar - such as the demand for education, for durables and so on - will relent in the course of 1964-80 so as to permit, one, a vast increase in expenditure on clothing and, two, enable the increase in expenditure to fully translate itself into the quantitative demand for cloth.

(ii) The demand projections are placed in the context of per caput levels of consumer expenditure as provided in the Industry Division of ECA. These are a better aggregate to correlate with in the case of a mass-level consumer item like cloth than levels of GDP per caput, which are bound to be subject also to the increased demands of capital formation in general and domestic saving in particular.

(iii) Population estimates are provided in terms of "medium" projections by the Demographic Section of ECA, or are extrapolated from these.

(iv) A higher estimate for 1980 of demand is also provided later, but this is not worked upon.

(v) The method adopted for arriving at the 1980 estimate of per caput level of consumption is as follows. The countries of the sub-region are divided into four groups according to

their level of per caput total consumer expenditure (hereafter called TCE) and also according to levels of per caput consumption of cloth as assessed for 1964 in Chapter II, Table 2.4. From this analysis, the following grouping is arrived at.

(a) Countries with low levels of per caput TCE and low levels of per caput cloth consumption - Nigeria, Guinea, Upper Volta, Niger and Dahomey;

(b) Countries with low levels of per caput TCE but characterized by relatively higher levels of per caput cloth consumption - Sierra Leone, Mali and Togo. Gambia also falls in this group, but in view of the unreliability of its per caput consumption level (see Chapter II) the total Gambian market for 1980 is kept at the same level as 1964;

(c) Countries with medium or high levels of per caput TCE but with a low level, relatively speaking, of per caput cloth consumption - Mauritania, Liberia and Ghana; and

(d) Countries with high levels of per caput TCE and high levels of per caput consumption of cloth.

225. It is believed that countries in groups (a) and (c) above will show a higher response to a unit increase in TCE than the countries in groups (b) and (d). This rate of response is placed at 0.50 for groups (a) and (c) and at 0.35 per every increase of 1.00 in TCE per caput.

226. No uniqueness is claimed for the ratios used, but three considerations are relevant. The argument in Chapter II clearly excludes any ratios approaching unity, in the first place. Secondly, inasmuch as an improvement in the qualitative aspects of the cloth consumed is a characteristic of the textile situation in the sub-region, the elasticity of monetary expenditure for clothing is higher than indicated by the ratios used. Thirdly, in any case, an approach in terms of

perspective planning has to be subject to further scrutiny when working out the short-term, say five- or seven-year plan on a firm basis.

TABLE 10.1

Demand for Textiles: 1964 and Perspective for 1980

Country	TCE per caput 1964 US$	TCE per caput 1980 US$	Ratio of increase in relation to increase in TCE	Cloth Consumption per caput, sq.yds. 1964	Cloth Consumption per caput, sq.yds. 1980	Population (mil.) 1980	Total market mil. sq. yds. 1980
Nigeria	60	79	.50	9.74	11.28	91.00	1,026
Ivory Coast	166	235	.35	51.60	59.11	5.38	318
Senegal	177	235	.35	35.10	39.13	4.63	181
Ghana	152	189	.50	25.46	28.56	12.13	346
Guinea	64	85	.50	12.68	14.76	5.08	75
Mali	62	76	.35	17.23	18.59	6.48	120
Togo	76	106	.35	19.38	22.06	2.37	52
Upper Volta	44	77	.50	9.21	12.66	6.41	81
Niger	73	92	.50	14.20	16.05	4.67	75
Dahomey	62	78	.50	8.66	9.78	3.35	33
Gambia	69	85	.35	35.48	38.36	0.49	11
Sierra Leone	63	109	.35	24.06	30.21	3.66	111
Mauritania	103	235	.50	15.00	21.73	0.89	2
Liberia	102	235	.50	29.81	43.42	1.24	54
Sub-region	76	103	-	14.88	16.82	147.78	2,485

Source: Table 2.4. See Text.

227. In over-all terms, the implication of the above exercise is that for every increase of 1 per cent in TCE, the quantitative consumption of cloth per caput moves up by about 0.37 per cent. Higher assumptions of per caput consumption would change the total size of the market as follows:

	Assumed rate of cloth consumption per caput	Total size of market in 1980
Rate adopted	16.82 sq.yds.	2,485 m. sq.yds.
Other assumptions:		
(1)	18.00	2,606 m. sq.yds.
(2)	19.00	2,808 m. sq.yds.
(3)	20.00	2,956 m. sq.yds.

228. Inasmuch as the 1964 market is for 1,418 million sq.yds., the adoption of a basis for 1980 around 2,500 million sq.yds. does not appear to be unrealistic.

The Market in 1980

229. The analysis hereafter takes place in terms of "yarn equivalent" in order to ensure comparability of yarn and cloth data.

230. The 1980 market is visualized as a somewhat lighter fabric than the 1964 market, and cloth is converted at 8,750 sq.yds. to a metric ton, instead of the approximate figure of 8,618 sq.yds. to a metric ton for 1964. The 1980 market is thus placed at 284,500 metric tons in terms of fabric and at 289,600 m. tons in terms of yarn equivalent.

231. The 1980 market is expected to undergo a further shift in favour of rayon and synthetic fabrics and a corresponding, small reduction in the proportional importance of cotton. Nonetheless, the market as a whole is envisaged primarily as a market for cotton goods. Table 10.2 provides details of the assumed breakdown, and the resultant quantities.

TABLE 10.2

Assumed Breakdown of the 1980 Market in Terms of Fibres

	Breakdown in 1964 as assessed in the text %	Breakdown in 1980 as assumed %	Quantity in 1980 (m. tons)
Cotton	78.39	74.00	214,000
Wool	3.06	3.00	9,000
Rayon	14.84	16.50	87,000
Other man-made fibres	3.71	5.50	16,000
	100.00	100.00	290,000

232. With these broad facts in hand, Chapter XI sets out a feasible industrial development programme in a sub-regional framework.

CHAPTER XI

A PROGRAMME OF DEVELOPMENT IN THE CONTEXT OF THE 1980 MARKET

233. The first task in working out a programme is to establish the nature and extent of reliance on imports. Table 11.1 does this in terms of the distribution of demand according to fibres. As will be clear later, this does not imply that industries are confined to any one fibre.

TABLE 11.1

Extent of Reliance of Imports and Scale of Production in the Sub-region, 1980

(in m. tons)

Fibre	Size of the market	Reliance on imports		Extent of production in sub-region a/	
		of cloth	of yarn	cloth	yarn
Cotton	214,000	10,000	10,000	-	-
Wool	9,000	8,000	1,000	-	-
Rayon	87,000	28,000	30,000	-	-
Other man-made fibres	16,000	12,000	4,000	-	-
Total	290,000	58,000	45,000	232,000	187,000

a/ Details are worked out in the text.

234. In other words, import substitution of the final product, cloth, is visualized to the tune of 80 per cent as argued in Chapter VIII. But it is clear that the process cannot be carried out to the same extent in terms of yarn output as well in view of limitations imposed by considerations of cost, skill, scale of market and heterogeneity in the demand for end-products.

235. The total output of fabrics in the sub-region is visualized as arising from the following producers:

(a)	Hand-weaving	24,000 m. tons
(b)	Towel-making	12,000 m. tons
(c)	Knitters (knit fabric or knit wear)	15,000 m. tons
(d)	Decentralized weaving	15,000 m. tons
(e)	Composite mills	166,000 m. tons

236. In addition, it is assumed that an exclusively printing and finishing industry will exist with an annual output of 25,000 m. tons. It is further assumed that this industry will draw its output of greys from composite mills in the sub-region, from decentralized weavers and from imports.

237. All estimates above are in the nature of informed guesses based on the current realities of the situation in the sub-region, and are rooted in the kind of basic considerations referred to in Chapter IX dealing with the sub-regional framework.

The Pattern of Yarn Consumption

238. It is difficult to visualize, with any sense of precision, the composition of yarn supplies in individual sectors. Nonetheless, the following distribution is offered on the basis of observed characteristics of various producing groups, and is further based on the assumption that the capacity to manufacture required quantities of rayon staple and filament yarn will come into existence.

TABLE II.2

Possible Inter-relationships in Sources of Yarn Supply

Sector	Sources of yarn					
	Imports	Production in the sub-region				Total
		Cotton	Spun Rayon	Filament Rayon	Hand spinning	
Hand-weaving	9,000	3,000	1,000	2,000	9,000	24,000
Knitters	5,000	5,000	3,000	2,000	nil	15,000
Towel-makers	3,000	8,000	1,000	-	nil	12,000
Weaving	9,000	3,000	1,000	2,000	nil	15,000
Composite mills	19,000	130,000	13,000	4,000	nil	166,000
All Sectors	45,000	149,000	19,000	10,000	9,000	232,000

Source: See text.

239. It is obvious that different relationships can be envisaged but the essence of the argument will remain, viz. many sectors in the textile industries will need manufactured inputs - viz. yarn - and that the volume of spinning capacity will have to match this demand as much as the internal needs of a composite industry. It is also obvious that many activities will exist as separate entities as much as adjuncts to other textile activities.

240. It might also be useful to convert the above picture, which relates only to the market for personal textiles (other than blankets), by making two further adjustments:

(a) 12,000 metric tons of blanket-making capacity, and
(b) an ad hoc provision of 10,000 metric tons for non-personal uses of yarn.

241. The effect of the above would be to raise cotton spinning requirements to 159,000 metric tons, and to add a further sector with a demand for tubular waste yarns and which will also cause a further addition of say 1,000 metric tons to the cotton and spun rayon requirements for weft yarn. In the present exercise it is proposed to commit this addition in its entirety to cotton spinning requirements, and as a result total requirements under this heading will rise to 160,000 metric tons.

242. Before detailing the investment requirements for a development programme of this dimension, it might be useful to recount the major capacity requirements for the 1980 market as these have emerged.

243. Existing capacities and capacities firmly projected, in the middle of 1966, for the sub-region as a whole, are as follows:

(a)	Output of cotton cloth/yarn (in mostly composite mills) over	58,200 m. tons
	say	60,000 m. tons
(b)	Exclusive printing capacities	5,000 m. tons
(c)	Hand-weaving (current output)	16,000 m. tons
(d)	Towel makers	600 m. tons

(e)	Blankets	1,500 m. tons
(f)	Knitters (based on output and a margin added to account for non-coverage)	1,500 m. tons
(g)	Miscellaneous small-scale capacity (ad hoc basis)	100 m. tons

244. The above categories, with the exclusion of printing capacity organized in exclusive units - item (b) above - works out to 79,700 metric tons, or say 80,000 metric tons, as compared to the current (1964) size of the total market around 146,000 metric tons. This comparison is somewhat misleading because the total output in the sub-region was only 41,000 metric tons in 1964 and probably will rise to 52,000 metric tons in 1966.

TABLE 11.3

Industrial Capacity Requirements for 1980

(in metric tons)

		Yarn Spinning Capacity	Output of cloth Capacity
A.	Hand-weaving	9,000	24,000
B.	Knitters	nil	15,000
C.	Towel makers	-	12,000
D.	Weaving on decentralized basis	-	15,000
E.	Composite mills	168,000	166,000
F.	Additional spinning capacity needed to meet requirements of weft yarn for blanket makers and other non-personal needs	11,000	-
G.	Exclusive printing plants	-	25,000
H.	Blanket-making capacity	-	12,000
I.	Capacity for the manufacture[a/] of rayon staple and filament yarn: 29,000 metric tons		

Source: See text.

a/ This capacity in the sub-region could be larger, depending upon the findings of a separate study on chemical and pharmaceutical industries.

CHAPTER XII

INVESTMENT AND OTHER IMPLICATIONS OF THE DEVELOPMENT PROGRAMME

Coefficients used

245. The estimates of fixed capital expenditure worked out in Table 12.1 are based on the following coefficients derived from West African experience, to the extent possible.

A. Composite mills, which do not have an unduly high proportion of printing equipment: US.$ 380,000 per one million sq.yards or 118 m.tons.

B. Exclusively printing and finishing plants : US $ 400,000 per one million sq.yds. or 118 m.tons.

C. Knitting and hosiery factories: US $ 150,000 per 100 m. tons

D. Blanket-making : US $ 100,000 per 100 m.tons

E. Towels (no spinning) : US $ 150,000 per 100 m.tons

F. Hand weaving (ad hoc) : US $ 200 per m.ton

G. Spinning of cotton/staple yarns US $ 1,950 per m.ton

H. Weaving on a decentralized basis (ad hoc figure) (no finishing) US $ 100,000 per one million sq.yards or 118 m.tons.

246. The coefficients are fari averages, and reflect neither the best achievements nor the worst failures in the sub-region.

247. In Table 12.1 these coefficients are juxtaposed against additional capacity needed under each category. In a subsequent step, a composite average is derived for the modern sector for an indicative statement of the implications in a country-wise context.

TABLE 12.1

Additional Capacities Required and Investment Required in Fixed Capital

(Units metric tons; million dollars)

Sector	Existing/ projected capacity, mid-1966	Capacity required 1980	Balance (3) - (2)	Investment required for balance (4)
1.	2.	3.	4.	5.
1. Handweaving	16,000	24,000	8,000	2
2. Knitters	1,500	15,000	13,500	20
3. Towel makers	600	12,000	11,400	17
4. Blankets	1,500	12,000	10,500	11
5. Exclusive printing plants	5,000	25,000	20,000	68
6. Weaving on a decentralized basis say	100	15,000	14,500	12
7. Composite mills	60,000	166,000	100,000	323
8. Additional spinning capacity [a]	-	13,000	13,000	25
9. Manufacture of rayon staple and filament yarn [b]	-	29,000	29,000	Not calculated
Total, excluding exclusive printing plants (5)&(9)	79,700	257,000	170,900	410
Total, inclusive of (5) but excluding (9)	84,700	282,000	190,900	478

Source: See text.

a/ Includes the excess of 2,000 m.tons of spinning requirements over those for fabrics.

b/ These are treated as indicated earlier, in a study of chemical and pharmaceutical industries.

248. In global terms, Table 12.1 has several major implications.

(a) In the modern sector, the total capacity to be created by 1980 is of the order of 258,000 m.tons, exclusive of the capacity to manufacture rayon staple and filament yarn; and the additional capacity required is of the order of 182,900 m.tons.

(b) The volume of investment required for the additional capacity in the modern sector is of the order of US$ 476 million. Thus, in 1980 (exclusive of capacities then in the course of erection for demand patterns valid only after 1980) total investment in the modern sector will be of the following approximate order:

(i)	Fixed Investment in Existing Capacities (including an ad hoc margin for the Senegalese industry):	US$ 121.00 million
(ii)	Fixed Investment in firm projects	84.00 million
(iii)	Fixed Investment requirements leading to the 1980 pattern of production as visualized	US$ 476.00 million
(iv)	Total fixed investment in the modern sector upto 1980 (i + ii + iii)	US$ 681.00 million

(c) It is also obvious that a much larger portion of the requirements of fixed capital than is true of existing capacities and firm projects will be directed to smaller plants in various branches, and that these cannot be expected to rely on the kind of financing patterns obtaining in the textile industries presently. The role of the State, large as it is, will have to expand to cover in part, the financing implications of this development.

(d) It is further clear that either the volume of financing undertaken by the State will have to expand manifold or be distributed in a more active policy of 'seed money' on a revolving basis.

(e) It is also seen that the two main factors among others, in high costs of production are the level of expatriate emoluments on the one hand and the burden of financial changes that comparatively

higher capital costs create, on the other. The inter-relationship between the two factors is of course less than total, but it emphasizes the need for a major move in the matter of training and education of technicians within the sub-region. Considering the basic fact that it takes at least ten years after formal education to turn out a senior spinning or weaving master and bleaching, dyeing and printing men of similar status, it is important that the financial support of the State be extended, on a periority basis and with a sense of immediacy, to the tasks of setting up these institutions required. In view of the capital intensive choices being inevitably made in the textile industries of the sub-region it is imperative that the standards of formal training approach Japanese,[1/] European and American levels. Training of technicians from among the nationals of the sub-region is a matter of vital financial significance - the lack of it makes for higher current costs, higher capital costs, and changes the burden on foreign exchange resources both by way of remittances from emoluments as well as the more generalized effect arising from the larger share of imports in expatriate patterns of consumption.

(f) It has not been consistently possible to exclude every trace of working capital from the estimates of existing capacities, although it is believed that the figure of US $681 million is a valid approximation of fixed capital expenditure. This, in turn, is expected to lead to gross output, ex-factory of the order of US $750 million, or an overall output: capital ratio around 1.10. This is considerably higher than current Nigerian experience and implies around 6,500 hours of work for the machinery per year, and improvement in machine efficiencies. A very approximate distribution of the gross output in 1980 is attempted below:

1/ A small technical training centre in Ghana is being sponsored by Japan.

	Component of gross output (1980)	
	%	Amount (mil.$)
Raw materials (cotton, rayon staple, rayon filament, other yarns and greys)	40	300
Employee remuneration	20	150
Stores and spares	4	30
Other industrial costs	16	120
Depreciation and financial charges	12	90
Profits prior to taxation	8	60

(g) The above distribution takes into account the higher proportion of industries based on imports of manufactured inputs, such as yarn and cloth; and the fact that the financial product-mix in 1980 will consist of lighter materials, higher counts of yarn and of somewhat more expensive fabrics. It also takes into account the fact that the setting up of a major clothing industry will call for greater technical competence (clothing industries require greater lengths without blemish in contrast to the private buyer of baft whose maximum requirement per piece is only around 12 yards) and higher quantities of supervision.

(h) It is also further assumed the ratio of employees to a given level of output will average only about 2/3 yards of the levels current today. In other words, the entire investment of US $681 million is expected to create direct employment between 190,000 to 225,000, inclusive of existing levels of employment and allowing for higher ratios in several less capital intensive parts of the modern sector.

(i) The major groups of technical personnel required in the modern sector in 1980 are broadly estimated as follows:

1.	No. of senior weaving technicians and technical managers	250
2.	No. of other weaving technicians	1,900

3.	No. of senior spinning technicians and technical managers	275
4.	No. of other spinning technicians	2,200
5.	No. of bleachers, dyers and printers - senior.	200
	- other	900
	Total	5,725

(j) In addition, there will be need for 200/500 senior persons of the general manager level.

(k) Other professional personnel - accountants, lawyers, cotton purchasers, stores managers and so on - of both senior and other levels will number 2,000.

CHAPTER XIII

A POSSIBLE DISTRIBUTION OF CAPACITIES: 1980

249. The central problems in suggesting a pattern of distribution of textile capacities on a country-wise basis in a sub-regional framework are as follows:

(i) Difficulties in quantitative assessment of the gains in additional output/capacity, country by country. This is a task of immense complexity in a year-to-year sense, compared to a static target in 1980.

(ii) How far are high-cost producers to be protected? How is the extent of difference in cost to be measured in an industry characterized by a range of man-machine ratios, wage levels, product patterns, etc., in a manner which is consistent as between one country and another?

(iii) Granting that capacities are organized in a sub-regional framework, how are over-all imports from outside of the sub-region to be limited in the context of each country? What shape should be given to the mechanism for ensuring that exports and imports from each country are in the kind of balance that ensures adequate utilization of capacity in each country? Does the latter imply that each unit in each country is to be assured of adequate markets irrespective of efficiency, viability of costs and attunement to demand patterns?

(iv) The general problem of prices is in one sense a reflection of costs of production or costs of importing. In another sense, it is a question of transport over varying distances under non-uniform cost (of transport) conditions and of varying systems of distribution.

(v) And finally, how is a system of distributing capacities/output/markets to be prevented from being a mere protective device for manufactures at the cost, in price, quality, availability and choice, to the consumer?

250. These and other questions are not only complex, but the answers will obviously differ with the emphasis attached to various aspects. The solution suggested in the next section might or might not therefore be regarded as adequate. Anyway, it is based on three main considerations.

251. In the first place, it is clearly predicated on the thesis presented in Chapter II on the imperative need for a sub-regional framework.

252. In the second place, it is believed that given the capital intensive choices being made in the textile industries of the sub-region, the level of wages, the availability of raw materials (cotton, rayon staple, etc.), current and potential, at competitive prices, no justification exists for non-viability of costs on any fair basis of international comparison over an extended period. In other words, minimal arrangements in the matter of importing final textile products - whether these take the shape of predetermined ceilings for over-all imports from outside of the sub-region on a country-by-country basis or a small measure (say 5 to 10 per cent) preference in the matter of customs duties when materials are imported from within the sub-region - are deemed sufficient.

253. Thirdly, it is felt that the cost to the consumer - in price, quality, availability and choice - should be minimal. Indeed, if the basic argument in this study is valid, the cost to the consumer will only arise from the gestation period of the industry when production within the sub-region is small in relation to the total market (or more precisely the several textile markets). Once production within the country is adequate, the level of customs duties will not be a source of profit to the efficient producer in the country by raising the price at which competing imports can enter the market at all, but merely become the ring within which the competitive battles must take place.

254. In the light of these considerations it is proposed that the gains of the sub-regional approach in terms of capacity be distributed among countries in such manner

(i) that a measure of industrialization in the textile field be made available to each country;

(ii) that this development be adequate in the smallest markets for more modern concepts of scale of operation, although there is not attempt to fetter the discretion of the country in the composition of units;

(iii) that over-all capacity, whether in the shape of existing capacities or firm projects, is not allowed at any given time to exceed by 10 per cent the level of demand in a particular class of demand;

(iv) that subject to the former, there should be no limitation on the speed at which the smaller markets - say, up to 9,000 m.tons in 1980 - reach their targeted capacity; and

(v) that the targeted capacity be, as far as possible, at least equal to the size of the total market (other than handspun and handwoven fabrics) in the case of the smaller markets.

255. Table 13.1 tries to put these concepts into therigours of an exercise in country-distribution of capacity.

256. The estimate of investment on a country-wise basis is derived, on a purely indicative basis, by dividing the total investment of US$476 million by the total of capacities as indicated in the breakdown in Table 12.1, and as amended for exclusion of handlooms. No attempt is made in the above table to choose any particular composition of sub-categories.

TABLE 13.1

Proposed Distribution of Textile Capacities in the Modern Sector, 1980 (units: metric tons; million dollars)

Country	Size of market[a] 1964	1980	Existing capacity and projects (mid-1966)	Proposed Distribution of total capacity 1980	Additional capacity to be created by 1980	Approximate investment
Nigeria	65,014	119,569	32,000 + 3,000[c]	105,000	63,000	164
Ivory Coast	22,145	37,059	5,000 + 1,000[c]	32,500	25,000	65
Senegal	13,686	21,094	3,000 + 300[c]	18,500	114,000	36
Ghana	21,790	40,322	7,700 + 750[c]	34,000	22,000	57
Guinea	4,796	8,740	3,400	8,500	5,500	14
Mali	9,336	13,985	2,000	12,000	10,000	26
Togo	3,439	6,060	1,000	6,000	5,000	13
Upper Volta	5,314	9,440	1,100	9,000	7,900	21
Niger	5,022	8,740	2,000	8,000	6,000	16
Dahomey	2,211	3,846	1,000	4,000	3,000	8
Gambia	1,174	1,282	nil	2,000	2,000	5
Sierra Leone	7,132	12,936	..	11,500	11,500	30
Mauritania[b]	107	233	nil	500	600	1
Liberia	3,407	6,293	nil	6,500	6,500	17
Sub-region	164,564	289,600	63,000[d]	258,000	182,900	473[e]

a/ Relates only to the market for 'personal' textiles other than blankets. If blankets and 'non-personal' items were added, the 1980 market in the sub-region would increase to 301,600 m.tons.

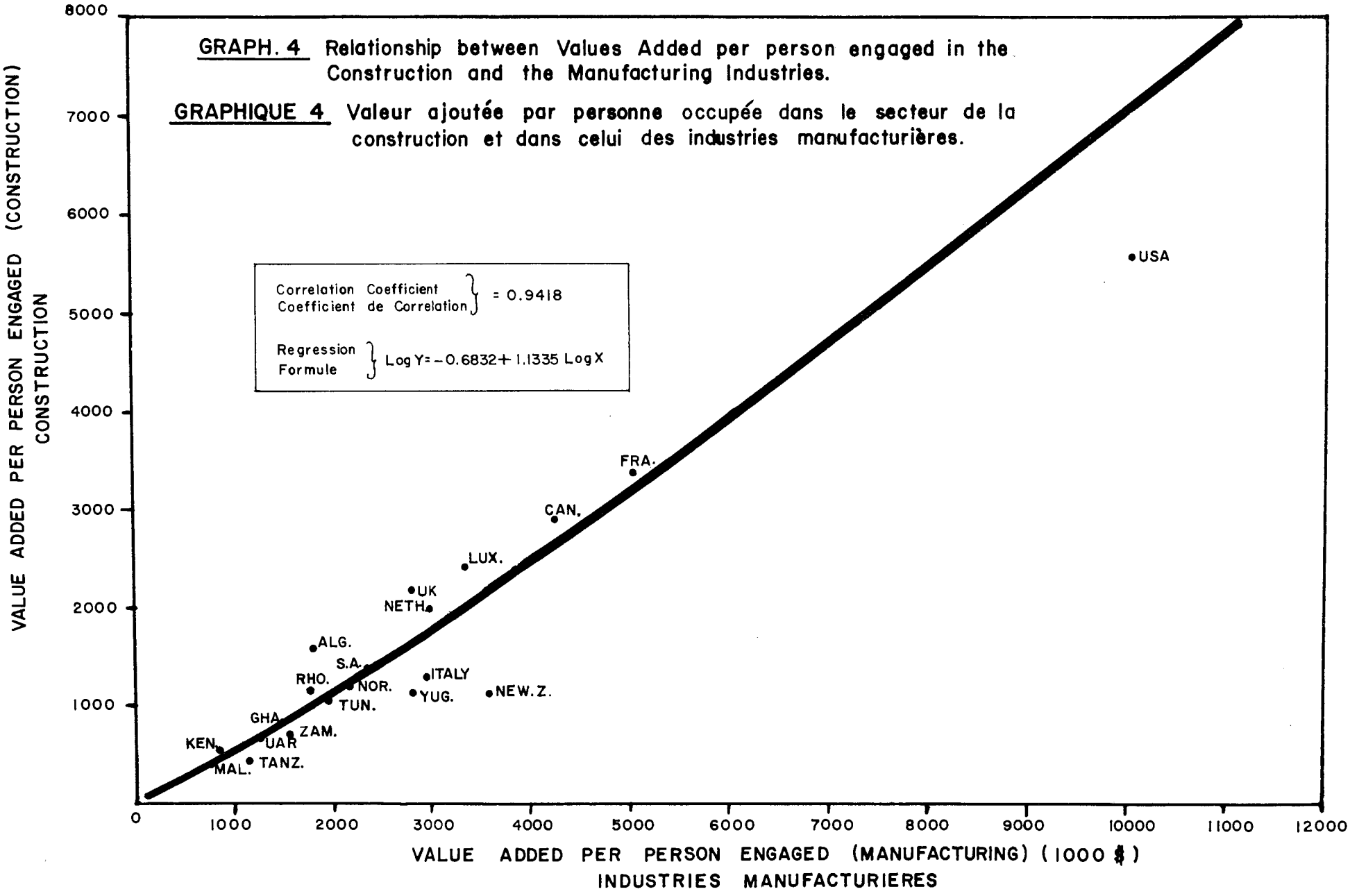
b/ A higher base figure of 15 sq.yds. for 1964 is adopted, and the market raised accordingly for 1964; the total has not been adapted, however.

c/ The figures in addition to the main item represent printing capacity in exclusively printing plants. If allowance were made for excess printing capacity used by composite mills in a manner identical to sole printing plants, the figure could rise by another 3,000 m.tons or so. Senegalese figures are difficult to assess because a separately organized printing plant is devoted to the treatment of greys from a composite mill in physical proximity.

d/ Exclusive of towel-making, blanket-making, knitting etc.

e/ The figure of US$473 million is understated by US$ 3 million on account of rounding of individual items.

257. In concluding this study, it only remains to be pointed out unequivocally that the target of 80 per cent import substitution is regarded as capable of current realization in a sub-regional context. That goal is not set in relation to an exercise for 1980 or for a market of the size indicated by the exercise for 1980.


GRAPH. 4 Relationship between Values Added per person engaged in the Construction and the Manufacturing Industries.
GRAPHIQUE 4 Valeur ajoutée par personne occupée dans le secteur de la construction et dans celui des industries manufacturières.
Correlation Coefficient
Coefficient de Correlation
= 0.9418
Regression Formule
Log Y = −0.6832 + 1.1335 Log X
VALUE ADDED PER PERSON ENGAGED (CONSTRUCTION)
CONSTRUCTION
VALUE ADDED PER PERSON ENGAGED (MANUFACTURING) (1000 $)
INDUSTRIES MANUFACTURIERES
0
1000
2000
3000
4000
5000
6000
7000
8000
9000
10000
11000
12000
USA
FRA.
CAN.
LUX.
UK
NETH.
ALG.
S.A.
RHO.
NOR.
ITALY
YUG.
NEW.Z.
TUN.
GHA.
ZAM.
KEN.
UAR
MAL.
TANZ.