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## A STUDY OF THE TEXTILE SITUATION IN THE NORTH AFRICAN SUB-REGION

### CONTENTS

CHAPTER	Paragraphs
I. INTRODUCTION . . . . .	1 - 4
II. SOME ECONOMIC AND TECHNICAL ASPECTS . . . . .	5 - 34
III. THE TEXTILE SITUATION IN THE UNITED ARAB REPUBLIC.	35 - 76
IV. THE TEXTILE SITUATION IN ALGERIA . . . . .	77 - 91
V. THE TEXTILE SITUATION IN MOROCCO . . . . .	92 - 110
VI. THE TEXTILE SITUATION IN TUNISIA . . . . .	111 - 123
VII. THE TEXTILE SITUATION IN LIBYA . . . . .	124 - 129
VIII. THE TEXTILE SITUATION IN THE SUDAN. . . . .	130 - 136
IX. THE RATIONALE OF RAPID IMPORT SUBSTITUTION AND THE NEED FOR A SUB-REGIONAL FRAMEWORK. . . . .	137 - 144
X. A GLOBAL PERSPECTIVE: 1970, 1975 and 1980	145 - 152

### APPENDIX

- I. Figures of per caput availability of textile fibres in the North African sub-region
- II. Production, demand, employment and investments: 1960-1966
  - Cotton and viscose staple fibres yarns
  - Cotton fabrics
  - Hosiery and knitted products
  - Nylon filaments, stretch yarn and staple fibres

- Viscose filaments and staple fibres
- Textiles from artificial fibres
- Wool yarn
- Wool cloth
- Wool blankets and carpets
- Jute fabrics, sackings and twine
- Flax yarn, twine and cordage
- Ready-made garments
- Sisal and manila twine and cordage

III. Supply/demand balance and trade matrix: North Africa

- Cotton and viscose staple fibre yarns
- Hosiery and knitted products
- Cotton fabrics
- Viscose filaments and staple fibres
- Textile from artificial fibres

## CHAPTER I

## INTRODUCTION

1. This study is divided into nine substantive chapters.
2. Chapter II provides a statement of some main economic and technical characteristics of the various groups of textile industries.
3. Chapters III to VIII contain a country-wise analysis of the current textile situation, as well as an assessment of the overall supply and its components in 1964, the base year adopted.
4. Chapter IX indicates the need for a sub-regional framework and Chapter X provides an assessment of future demand in accordance with "the rough first orientation about the planned future economic development of the sub-region" made available. The cost factors and obstacles indicated in the country-wise chapters need to be evaluated by the harmonization team, and a further frame of reference is needed of the overall scale of growth desired in the sector under study. When the latter is done, a more definitive programme of development can be worked out, although it should be appreciated that the information asked for in the frame of reference is just not available in many cases.

## CHAPTER II

## SOME ECONOMIC AND TECHNICAL ASPECTS

5. This chapter is directed to the provision of a few propositions of immediate relevance in evaluating the textile situation, current and prospective, in the North African sub-region. The propositions are made primarily with reference to the conventional techniques of today and do not necessarily encompass the outer reaches of current practice in textile technology represented by weaving machines working on air jets and water jets, among others.
6. In the first place, the various process sequences - spinning, doubling, yarn preparation for weaving, bleaching, dyeing, mercerizing, calendering and a dozen others - are capable of varying degrees of sequential integration, as well as of separate organizational existence. In most textile industries the world over, the composite plant or the vertically integrated plant has tended to emerge in recent decades as the pre-eminent mode of organization, but the extent of its prevalence varies widely for reasons of historical development, different combinations of economic and technical variables and in at least some countries, for reasons which can be conveniently summed up as economic philosophy.
7. In the second place, the textile industries are users of different kinds of raw materials - cotton, wool, silk, etc.; hard fibres like sisal, abaca and henequen; soft fibres like jute and kenaf; rayon (which is available both as staple fibre, as well as filament yarn); and other more truly man-made fibres and yarns - which in turn have given rise to different systems

of spinning and weaving which more or less uniquely balance the technical characteristics of the raw material and the kind of product characteristics which are readily marketable. Thus, increasing use of mixed raw materials - cotton and rayon staple and wool and polyester fibres, to quote two of the more prevalent examples - indicates a degree of interchangeability, but textile men are more impressed by the differences rather than by the limited element of commonality in the various systems.

8. The vast range of textile products calls for a differentiation in terms of products (and usually of machinery requirements) as well. Thus, plain weaving, dobby weaving, jacquard weaving, smallware (lace, ribbons, etc.), blanket weaving and carpet weaving become distinct groups with characteristic variations in machinery. Plain weaving, in turn, involves other differences between fabrics (you do not weave the peasant's grey cloth and the Swiss full-voile on the same type of plain loom) and different raw materials (thus, cotton looms and rayon looms are clearly separable). Once again interchangeability and possibilities of adaptation are not altogether ruled out - some machines are more versatile than others - but the differences which exist are real and often find expression in the setting up of corresponding production organizations.

9. In the net effect, the textile industries divide into all kinds of producing sub-sectors based on processes, raw materials, mechanical systems and products (and the varying extent of integration of these elements). These comprise the real textile world and the International Standard Industrial Classification necessarily has limited relevance in assessing the textile situation in any country.

10. One important effect of the proliferation of sub-sectors is to limit the comparative significance of gross output figures as between the industrial structure of one country and another. Thus, an integrated spinning-weaving-finishing industry (or unit) will have a gross output figure considerably smaller than the same final output spread over three different units each specializing in one sub-sector. Alternatively, intermediate consumption (in an input-output table sense) will appear as a larger quantity and proportion in an industry characterized by greater proliferation of sub-sectors than it would if the element of integration in the same industry was substantially larger.

11. A higher share of value added in ex-factory output, or a higher figure of value added per employee might be reflective of greater efficiency. On the other hand, the higher value might merely represent higher remuneration levels of employees and high financial charges which might or might not be matched by superior (i.e. lower) unit costs of production (this, of course, is not peculiar to the textile industries). Again, the situation is complicated by the fact that the man-machine ratios obtaining in a textile industry are a function, to a greater extent, of (i) management and labour attitudes; (ii) the fineness or coarseness of the counts of yarn spun or woven; than they are of (iii) the capital-intensity of the machinery in operation.

12. Gross output, in a physical sense is a function of many variables. Thus the annual gross output of cloth stated as running metres or yards is to be related to the number of looms in operation, the stoppages of the looms during operation, the efficiency of the weaver, the speed of the looms, the number of picks per inch or centimetre in the cloths produced, the number of hours in a shift, the number of shifts in a day, the number of days worked in the year and the skill of technical and administrative management. The output, expressed as square metres or square yards, is only an arithmetical transformation based on standard ratios of the linear measures except that the cloth might be wanted in linear terms and not in surface area. However, when output is expressed in terms of units of weight, additional issues have to be faced. Thus, superior cloths are normally made of more expensive (i.e. cleaner, stronger and longer staple length) <sup>1/</sup>materials, but might comprise more (say, mull and voiles) or less (for example, trouser materials) surface area per unit of weight. The same unit of weight, in turn might contain different ratios of warp and weft yarn. In other words, the different ways of indicating output (running lengths, surface area and weight) are often not substitutive of each other.

13. The demand for textile products in an ultimate sense can be divided into the following four groups.

- (a) The demand of households which comprises of items of personal clothing, household articles ranging from upholstery and curtain materials to kitchen swabs;
- (b) The demand of public administrations ranging from police and military uniforms to the special table linen for presidential banquets, the floor mop for offices and the hose for fire services;
- (c) The demand of industry, agriculture, commerce and other sectors for products more or less finally consumed in the performance of their respective roles. Examples in this category would include the production of tyre cord yarns; industrial hose, belting, bandings and tapes; jute bags and bagging materials; cordage products; fishing nets and so on;
- (d) The demand constituted by the various sub-sectors of the textile industries as they carry further the sequential process of manufacturing directed to the requirements of the three preceding groups.

14. The first three groups are additive and together constitute what might be called the final demand. To each of these three groups there is a direct textile raw material input attached, whereas there is no separate, additional textile raw material input attached to the fourth category of demand. In other words, the input-output table manner of expressing gross output <sup>2/</sup> as the sum of consumption by (i) households and (ii) public administrations and (iii) intermediate consumption is likely to be misleading. In the textile context the following arithmetical representation is positively more realistic.

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<sup>1/</sup> The correlation of strength and cleanliness with longer staple length is only broadly valid.

<sup>2/</sup> Ignoring imports and exports for the purposes of the present analysis.

Final demand for textiles (say, represented by the final product equivalent of 10,000 physical units of raw material input - hereinafter called PRMI)

equals:

(a) The demand of households (say, represented by the final product equivalent of 7,000 units of PRMI);

plus

(b) The demand of public administrations (say, represented by the final product equivalent of 1,000 units of PRMI);

plus

(c) The ultimate demand of agriculture, commerce, industry and other sectors as indicated earlier (say, represented by the final product equivalent 2,000 units of PRMI).

15. The intermediate demand constituted by the various sub-sectors of the textile industries (whether 2,000 or 5,000 or 7,000 units of PRMI depending on the extent of organizational integration) is irrelevant to the size of the final demand when the latter is seen in a direct, industrial sense.

16. The physical raw material inputs progressively decline in weight as the various processes are undertaken. The values described below are of common occurrence, but it should be clear that the attainment of lower waste percentages might well be the hallmark of superior management.

1.	Initial raw material input, say	10,000 tons of cotton;
2.	becomes yarn output, depending on whether the yarn is carded or combed	9,000 to 7,000 tons of yarn
3.	The yarn output, after winding and warping (and in some cases, reeling) will become	8,820 to 6,650 tons of fabric
4.	will become	7,650 to 5,900 tons of knitted materials or garments
5.	After finishing (bleaching, dyeing, mercerizing, calendering <sup>1/</sup> , etc.) the output of cloth will amount to	8,750 to 6,350 tons of finished fabric
6.	If the entire output of finished fabrics is converted into clothing in factories, the weight of the finished clothing will be in the neighbourhood of	8,000 to 5,700 tons of ready-made clothing

<sup>1/</sup> In calendering itself, many managements will subject the cloth to a process of controlled stretching so that the surface area of cloth might be greater than the input of material.

17. Alternatively, it might be said that the waste products become more expensive per unit of weight as the sequential processing of textiles moves forward. A portion of the spinning wastes - especially soft waste and comb waste - will be re-usable in the spinning process itself. Other spinning wastes are saleable at varying prices depending on their further use - some are useful only for cleaning the stains on the hands of garage mechanics and others might be turned into condensed yarns for cheaper blankets or used stuffing for mattresses. The disposal of weaving wastes will be directed to a variety of uses - rags for the paper industry, rags for cleaning in home or factory and rags for the shoddy manufacturers. Cloth will further divide into three broad groups:

- The 'firsts', which satisfy the commercial requirements in respect of freedom from defects and minimum saleable lengths;
- The 'seconds', which are primarily different from the firsts because they do not satisfy minimal saleable length requirements; and
- The 'fents', which are pieces of varying small lengths (but not so small as to be regarded as rags) and characterized by various defects. These products are almost exclusively directed to the cheaper end of the consumer market.

18. Or to put this in another way, textile industries are producers not merely of yarn, cloth, knitted materials or clothing, but also producers of wastematerials of varying degrees of re-usability and saleability, both within and outside of the textile industries group.

#### The nature of depreciation

19. Most textile machines in the spinning and weaving sectors comprise of parts which can be entirely substituted. As a result, successful enterprises will often have extensive renovation and overhauling programmes as a part of their routine operations. The effect would be to make repairs and consumption of stores and spares appear higher but their machinery will be capable of yielding the same production results 15, 20 and even 40 years after the date appearing on the frames of the machines. Other enterprises, usually for financial reasons, will scrimp on renovation and maintenance and production results will tend to progressively deteriorate. Apart from obsolescence (and this is a specific to be judged in the wage context and the qualitative production needs of each unit) this is a situation different in kind from the position in the case of machineries like cement kilns or blast furnaces which do progressively deteriorate over time notwithstanding the quality and extent of maintenance.

20. Attention might be directed to the general characteristics of the group: clothing industries.

#### General characteristics of clothing industries 1/

21. Clothing industries, so defined as to distinguish them from the provision of tailoring as a retail trade or service, afford in all developed countries an employment dimension comparable to the textile industries in general.

1/ This and the subsequent section are in substance similar to the corresponding chapters of ECA document, Clothing Industries in the East African Sub-region, E/CN.14/INR/95, September 1965.

Thus, in the United States <sup>1/</sup> total employment in "Apparel and related products" industries (in plants employing 20 persons or more) is close to 1.2 million, some 29 per cent above the comparable figure for "Textile Mill Products". In the six countries of the EEC <sup>2/</sup> clothing industries employ 606,000 persons as compared to 1,715,000 in the textile industries. In six other European countries - Denmark, Austria, United Kingdom, Switzerland, Ireland and Turkey - the clothing industries employed, in 1961, 556,000 persons compared to 984,000 in the textile industries. These dimensions in employment, broadly speaking, might be seen as a reflection of the fact that consumers' expenditure on clothing) in the widest sense of the term) forms between 9 and 18 per cent of total private consumption <sup>3/</sup>. In more specific terms, the aggregate size of the clothing industry is added to or subtracted from by various factors.

22. In the first place, cloth often serves as clothing. The best examples of cloth that is directly clothing are the Indian dhotee and saree, the Ghanaian kente cloths, the Ethiopian shama cloths, the East African khangas, the "pagne" worn by women in Central Africa, and the traditional dress of Sudanese women, etc. To the extent to which these types of cloth are significant, tailoring must have less scope, and by extension, this must remove these fabrics altogether from the scope available to clothing industries.

23. In the second place, and somewhat similar to the first group, are mill-produced blankets, shawls, mufflers, etc., and the extent to which these serve (as they do in all poor countries) as clothing as much as parts of bedding, they substitute the stitching and making up of garments.

24. In the third place, the need for a clothing industry is not relevant in the case of fabrics which need to be stitched up only marginally (and which is done either in the factory of the fabric producer or inside the home). Sheeting and towelling fabrics often fall under these groups. In-so far as higher rates of growth of per caput GDP as well as the spread of habits induce larger numbers of households to use more sheeting and towelling, an additional demand characterized by high elasticity of growth to be provided for.

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1/ Figures relate to 1958, and are derived from Bureau of Census, US Department of Commerce, Statistical Abstract of the United States, 1960, Table No. 1068, pp. 784-785.

2/ These and subsequent figures in the paragraph are taken or derived from OECD, the Textile Industry, Statistical Study, 1961-62, Manpower Tables. The lower proportion of employment in European clothing industry is accounted for by the greater prevalence of smaller shops and individual tailoring, compared with the United States.

3/ Op. cit., Table 9.



25. In the fourth place, the role of knitting factories as producers of garments (as distinguished from producers of warp-knit or circular knit fabrics) like singlets, vests, knit underwear, T-shirts, etc. is relevant. A shift of consumer preference in favour of knitwear produced directly by knitting mills might thus have, other things being equal, an adverse effect on the share of stitched garments.

26. In the fifth place, to the extent to which garment-making takes place inside the home on the basis of the housewife's personal skills there is an abridgement of the general scope for commercial and industrial making of garments. In the context of the countries of the sub-region, the trends in the imports of domestic sewing machines indicate simultaneously a fair stock of current domestic tailoring skills as well as the possibilities of substantial growth in this category.

27. Sixthly, imports of clothing in most cases cause a subtraction from the possibilities of national clothing industries. Of course, imports in an industry with a vast array of heterogeneous end-products serve other important purposes as well. (This will be considered further in the next section).

28. Finally, the availability of tailoring skills as a retail trade or service, and the price at which these are available, either increases or decreases the scope for garment-making on an industrial basis. Thus, in the developed countries, custom-made tailoring is the hall-mark of the highest incomes, of maximum clothes-fastidiousness and designing skills, and a necessity imposed by odd sizes and odd shapes in human beings. On the contrary, custom-made tailoring in the populous land masses of Asia is the cheaper tailoring and therefore a major barrier to the growth of clothing industries <sup>1/</sup>. In countries of the sub-region a complex situation prevails in this connexion, which conforms more to the fuller, more expansive patterns of the developed countries than to the constricting patterns of the poorer Asian countries. However, before turning to consideration of the textile situation in the sub-region, it is useful to lay out the main techno-economic aspects of clothing production on a non-individualized basis.

#### Technical and economic characteristics

29. The output of clothing industries is characterized by the most prolific kind of heterogeneity of end-products. In one sense heterogeneity is inherent in the raw material - namely, fabrics. The variation in fabrics arises from the fibre or fibres used, the diameter, twist and weight of yarns, weight of cloth, thickness of cloth, kinds of weave and types of knitting, non-fibrous matter left in cloths, finishes, fabric widths, colours, fabric densities and surface contours. These variations of physical characteristics are compounded by "hand" or "feel" characteristics, visual features, utility and durability characteristics. In terms of the operation of the clothing

<sup>1/</sup> Thus, in India the employment in registered factories manufacturing "wearing apparel and other made-up textile goods" is only 6,100, compared to more than 1,200,000 employed in the various textile industries (other than jute mills). Details are derived from the Annual Survey of Industries, 1962. In more recent years the factory sector has made considerable progress without changing the basic validity of the proposition, however.

industries, the immense heterogeneity of cloths gets further multiplied when it is realized that human beings vary in size and shape. The geometry of the adult male form is thus divisible into twelve or fourteen distinct groups, depending on the system utilized. When correlated to proportional differences in the body structure the variation in the geometry of the adult male form makes for very short and changing runs in the clothing industries. The variability in the runs for women's clothing is even greater although it proceeds more from changes in fashions and somewhat less from variations in the geometry of the adult female form. Age variations cause further changes, and boys' and girls' wear and infants' wear therefore become distinct product groups.

30. The net result of these fabric variations, form variations, fashion variations and, of course, product variations (such as shirts, slacks, trousers, blouses, jackets, etc.) is to make most establishments in apparel production rather small, a tendency reinforced by the character of machinery utilized. Even in the United States, as many as 23,000 establishments employ less than 20 persons as compared to 13,000 establishments which employ more than 20 persons. Of these 13,000 establishments, about 11,000 employ between 20 to 100 employees, and only 3 employ over 2,500 employees. The tendency for clothing industries to operate on small or moderate scale is in fact universal. The following table relating to the men's shirts industry in the UK brings out that even when enterprises become large, they tend to expand more by building separate establishments than by adding to the size of single establishments.

Table 2.1 : Structure of men's shirts industry in the UK 1958

Average No. employed <u>a/</u> by enterprise	No. of enterprises <u>b/</u>	No. of establishments <u>c/</u>	Average No. of establishments per enterprise in each range	No. of operatives <u>d/</u> per establishment in each range	Net output per employee
25-49	105	108	1.03	32	439
50-99	88	96	1.09	59	428
100-199	62	85	1.37	92	491
200-299	28	44	1.57	145	430
300-399	8	12	1.50	205	503
400-499	13	30	2.30	174	437
500-749	8	20	2.50	227	546
750-2,499	8	28	3.50	291	492
Total	320	423	1.32	103	470

Source: Based on UK Board of Trade, the Report on Census of Production for 1958, Part 98.

a/ Employees include operatives and others.

b/ Enterprise represents one or more establishments, depending upon common ownership and/or management.

c/ See preceding note.

d/ Operatives only.

31. The above table further shows that increases in sizes of enterprise are only very modestly and discontinuously correlated with increases in net output per employee in the clothing industries; that 200-300 workers form the upper limit, as it were, to the size of most larger establishments; and that managements seek expansion by adding establishments in the upper ranges, or alternatively, managements do not see economies of overheads as a very relevant factor in the operation of their plants beyond certain sizes. As a matter of fact, it is not uncommon to come across managements who altogether look askance upon shift-working in this group of industries.

32. Clothing industries are primarily involved in varying sequences of three operations - cutting, sewing and pressing. Sewing, in one form or another and on general purpose machines or special machines, involves between 55 to 65 per cent of the total staff on the factory side. Various degrees of development have taken place in sewing machines, ranging from the near-universal electric motor attachments to the most specialized kinds of machines, but in its essence the one-man one-machine equation of tailoring is more or less unchanged although it obtains at substantially higher levels of labour and machine productivity. In the other operations, namely, cutting and pressing, similar progress has been made, but it is still true to say that there are no indivisibilities in the technical sense to be found therein which would not be matched by full utilization in a factory employing, say, 100 workers, and possibly less.

33. There are, nonetheless, major differences between industrialized garment-making and mere tailoring. In the first place, tailoring is a labour-intensive operation characterized by low labour productivity. Conversely, industrialized garment-making is a capital-intensive process in comparison. In the second place, the industrial process is more economical of the raw material input, inasmuch as the amount of cloth required per garment is lower than in tailoring. For example, in the case of shirt-making this saving is likely to vary between 17 and 25 per cent. Thirdly, as a consequence, industrialized garment-making economize on the total requirement of textile output (and therefore, capacity) without reducing demand as stated in terms of the number of garments required. Fourthly, in all developed countries and several (but not all) developing countries the cost of individual tailoring is higher than the final consumer price resulting from industrialized garment-making. Fifthly, as a general rule, elements of designing and special effects (on collars and cuffs of shirts, for example) favour the factory rather than the general run of individual tailors. This element is less pervasive in the case of women's clothing, however. Finally, garment buying vastly enhances the convenience of the consumer, who is now called upon to make an instantaneous purchase of final consumer's goods rather than effect the purchase of an intermediate product - cloth - and to undertake all subsequent steps and expenditure of time to convert the intermediate into the final product.

#### Summing up

34. A conscious attempt has been made in the pages that follow not to run away from the realities of the textile world into some broad aggregation which is only half relevant. Availability of information, however, limits the scale of realistic treatment in several cases.

### CHAPTER III

#### THE TEXTILE SITUATION IN THE UNITED ARAB REPUBLIC

35. The most viable textile industrial structure in the Northern sub-region (and probably in the whole of Africa) exists in the UAR. Based very largely on home-grown cotton and home-made supplies of most other raw materials, the current situation implies minimal reliance on imports of raw material, fabrics or clothing, although the latter in part is definitely a function of the administrative control of imports. In the largest part, the textile industries of the UAR are State-owned although growth up to 1961 (when the industries were nationalized) took place under private ownership and control.

##### Output patterns

36. Table 3.1. summarizes the trends in output in recent years, which are reflective of an immense overall growth in the years after 1952.

37. In order to enable a more integrated view of overall trends, the details of the export performance are presented in Table 3.2, and the minor relevance of imports is summarized in Table 3.3.

38. The main aspects are summarized below.

39. Under the active investment programme of the State, the main textile sector (cotton spinning, weaving and finishing industries) has progressed rapidly. In 1966, over 28 per cent of the yarn output and 16 per cent of the cotton cloth output were exported.

40. The importance of the export sector in the case of cotton yarn is understated in the abovestatement because the average count of yarn exported has been consistently and substantially higher than the average count of all yarn produced, as might be seen below:

- Sources for Table 3.1:
- (1) Prospects of Development in the UAR Cotton Textile Industries (Presented by the Government of the UAR), E/CN.14/AS/II/b/1, 29 September 1965;
  - (2) Central Bank of Egypt, Economic Review;
  - (3) United Nations, Monthly Bulletin of Statistics;
  - (4) International Cotton Advisory Committee, Cotton World Statistics;
  - (5) The Egyptian General Organization for Spinning and Weaving, 1963, Second Annual Report;
  - (6) Information supplied by the UAR Government (see Appendices); and
  - (7) Africa Research Bulletin (Economic, Financial and Technical series).

Note: Various official sources occasionally contain major discrepancies and an element of judgement has entered in choosing the item presented.

Table 3.1 : Output patterns in the textile industries of the UAR, 1952 to 1967

	1952	1960	1961	1962	1963	1964	1965	1966	1967
1. Cotton yarn	64,346			121,074	122,896	130,791	138,100	147,900	158,400
2. Woollen yarn	2,000	6,300	7,100	9,000	9,000	9,000	9,846	10,475	
3. Rayon yarn	4,000			12,000	11,300	16,000	7,100	6,900	
4. Nylon yarn		240	230	370	320	490	560	570	
5. Flax yarn, twine & cordage	300	1,200	1,400	2,100	3,800	3,300	2,800	2,200	
6. Jute yarn	1,700					24,000			
7. Linen yarn a/			632	661	959				
8. Silk fabrics			2,148	2,429	2,805				
9. Cotton fabrics	40,000	64,000	71,000	78,000	80,109	87,981	88,880	84,635	
10. Woollen fabrics	800	2,500	2,500	3,200	3,700	3,500	3,468	3,668	
11. Rayon fabrics	4,200	7,200	6,500	7,300	9,200	8,700	8,200	8,100	
12. Nylon fabrics									
13. Linen fabrics a/	245		196	188	491				
14. Knitwear	3,000 <sup>b/</sup>	7,000	5,000	11,000	13,000	16,000	18,000	18,000	
15. Wool blankets & carpets		3,200	3,800	3,800	4,000	4,000	4,000	4,100	
16. Jute fabrics & products	1,600	11,800	22,900	21,500	23,600	22,900	17,100	18,100	
17. Ready-to-wear clothes	10,000	10,000	12,600	24,300	26,100	28,700	31,400	32,500	

a/ The data relate to 1960-61, 1961-62 and 1962-63, respectively.

b/ Ad hoc estimate based on later figures in pieces and weight.

Table 3.2 : Exports of textile manufactures from the UAR: 1960 to 1966

(All figures are in metric tons)

	1960	1961	1962	1963	1964	1965	1966
1. Rayon staple				1,900	1,000	1,000	1,300
2. Cotton yarn				28,752	27,590	41,156	40,737
3. Rayon yarn	200 <sup>a/</sup>	1,600 <sup>a/</sup>	2,600 <sup>a/</sup>	2,100	1,600	900	1,600
4. Cotton cloth	13,000	11,000	13,000	14,515	13,296	14,496	14,611
5. Rayon cloth	1,500	1,500	700	681	441	300	500
6. Ready-to-wear clothes			200	400	400	200	200
7. Hosiery and knitted products	100	200	200	200	1,100	400	900
8. Silk products <sup>b/</sup>		1,572	2,335	3,959			
9. Linen products <sup>b/</sup>		329	652	1,846			
10. Wool blankets and carpets		100	100	100	100	100	200

<sup>a/</sup> Includes rayon staple.

<sup>b/</sup> The figures relate to 1960-61, 1961-62 and 1962-63 respectively.

Sources: See notes to Table 3.1.

Table 3.3 : Imports of textile manufactures into the UAR, 1963 & 1964

	1963	1964
Imports of textile yarns	355	159
Imports of woven cotton fabrics	120	144
Imports of jute, lace, emb.	50	11
Imports of textile products	250	250
Imports of clothing & related products	33	56

Source: Based on Central Agency for Public Mobilization and Statistics, UAR Foreign Trade According to Standard International Trade Classification, (Revised), 1963 and 1964, Ref. No. 230/65, September 1965.

	Average count of cotton yarn produced	Average count of cotton yarn produced
1956	18.8	27.3
1960	21.2	24.9
1964	23.3	31.0

Source: See source note (1) to Table 3.1.

41. The implication above is that the cotton spinning and weaving sectors of the UAR are essentially coarse producers - the domestic consumption being made up of yarns with an average count between 18 s and 20 s.

42. Inasmuch as the Egyptian cottons used (the Ashmouni crop is almost entirely consumed at home) are capable of yielding much higher counts of yarn, the industry has a raw material equation which is more expensive per unit of cotton used than other international producers of coarse yarns and fabrics, although this is offset by a lower requirement of cotton per unit of yarn produced and higher spinning and weaving efficiencies.

43. On the other hand, it is clear that the spinning sector has become finer (less coarse) during recent years, and in so far as this has reflected itself in cloth production there has had to be an upward adjustment of the spindle-hours required to match each loom-hour of operation.

44. Table 3.4 indicates the changes in yarn production according to ranges of counts.

Table 3.4 : Production of cotton yarn according to range of counts:  
1952 and 1964

	(metric tons)	
	1952	1964
Coarse (less than 24 s)	50,819	81,600
Medium (24 s to 60 s)	13,189	47,100
Fine (more than 60 s)	344	2,091
Total cotton yarn output	64,346	130,791

Source: Central Bank of Egypt, Economic Review, Vol. V, No. 4, 1965.

Alternatively, in 1952 21 per cent of the cotton yarn output of the UAR comprised of yarns other than coarse yarns. In 1964, the ratio of non-coarse yarns had moved upto 38 per cent.

45. The overall importance of exports in the entire textile sector is appreciated from the following official information:

Output in the spinning and weaving sector (organized under the State agency): 1966-67	£ E 273.55 million
Exports from the spinning and weaving sector: 1966-67	£ E 50.07 million
Exports as per cent of output: 1966-67	18.30%

46. The trade matrix tables in the Appendices indicate the destination of exports in 1966. Two observations are, however, called for. The North African sub-region took less than half of a per cent of the exports of yarns (cotton and viscose) but 14 per cent of the exports of cotton fabrics. The great significance of the East European countries, which is not explicitly stated, in the yarn trade is indicated by the fact that they took 49 per cent of the cotton yarn exports in 1964.

47. The cotton spinning and weaving sector has, to a limited extent, also become a producer of spun rayon yarns, mixed yarns, spun rayon fabrics and mixed fabrics. This is indicated by the fact that the industry (along with some other sub-sectors) used 5,300 metric tons of rayon staple in 1965. Predominantly, of course, the sector remains a producer of pure cotton fabrics.

48. The impressive growth in the rayon sector is to some extent substitutive (the converse developments in 1965 and 1966 are to be probably attributed to foreign exchange problems) and the minor role of the synthetics group is to be attributed to State policy rather than to lack of consumer preference.



49. The wool fabrics industry is based almost entirely on imports of wool, mostly from the United Kingdom and is increasingly a producer of mixed fabrics.

50. The wool blankets and carpets group (these are in the main distinct groups) relies to a large extent on local supplies of raw wool, waste materials from the wool fabrics and probably to some extent on local cotton waste as well.

51. The shift to factory-made garments, mostly in terms of consumer preference, is to be seen in the rapid growth of knitwear production and the output of ready-to-wear clothing other than knitwear. Their role in domestic supply has enlarged at a rate many times faster than the increase in overall production or the increase in the overall domestic supply.

52. To sum up, the cotton spinning and weaving sector has become oriented to exports on a large scale and to a large extent is becoming (and has become) a supplier of intermediate inputs to the knitwear and clothing industries. Some details of growth in so far as information permits are presented in a later section.

#### Gross output, value added

53. An amount of inexactitude surrounds figures of gross output and value added, as may be seen in Table 3.5. Apart from statistical discrepancies and anomalies, considerable double counting is involved in gross output data wherein for example yarn gets counted three times: first as yarn output; then as the yarn content of cloth or knitwear, and finally as the yarn content of the ready-made garment industry. Likewise, cloth gets counted twice to the extent to which it is used in the ready-made garment industry.

54. Alternatively, it can be said that the somewhat incomplete series in Table 3.5 - item E, gross output of some sectors - deals with 326,000 metric tons of outputs whereas the total raw material consumption during the year was less than 200,000 tons. This is an industry where quantities shrink sizably as processing moves forward. With this reservation in mind the data in Table 3.6 serves to indicate the relative significance of various sub-sectors of the textile group in the UAR in 1964.

Table 3.5 : Gross output and value added in the textile industries, 1952 to 1967

	(in million Egyptian £)									
	1952	1957	1958	1961	1962	1963	1964	1965	1966	1967
<u>Gross output</u>										
A. Textile industries <u>a/</u>		110		175 <sup>b/</sup>						
B. Spinning, weaving and finishing <u>c/</u>				169	178					
C. Ready-made clothes <u>d/</u>										
D. Value of production: textiles <u>e/</u>	85					317	334			
E. Gross output of some sectors <u>f/</u>							304		352	
Output of the Spinning and Weaving Orgn. <u>g/</u>				136	148	171			257	274
<u>Value added</u>										
1. Textile and leather industries <u>h/</u>	26.5		54.5	62.7						
2. VA related to (A) above		34.6		62.5						
3. VA related to (B) above				49.6	60.3					

Sources: See notes below.

Notes: a/ Results of industrial censuses as reported in the National Bank of Egypt, Economic Review, Vol. IV, Nos. 384, 1964.  
b/ The 1961 data includes ginning and pressing of cotton.

Notes to Table 3.5 (cont'd)

- c/ Based on 1962 industrial census results as reported by the Central Bank of Egypt, Economic Review, 1967, Vol. II, Nos. 1 and 2. Ginning of cotton is included but a separate series is available for ready-made clothes industry (which includes footwear however).
- d/ See preceding note.
- e/ Cotton ginning and pressing are excluded. The figures are based mainly on the Federation of Industries, Yearbook 1965, as reported in Central Bank of Egypt, Economic Review, Vol. V, No. 4, 1965.
- f/ Calculated on the basis of tables supplied by the UAR Government for twelve sectors reproduced in the Appendices.
- g/ 1961 is 1960-61 and so on throughout the series. The figures up to 1963 are from the EGO for Spinning and Weaving Report referred to in notes to Table 3.1. The data for 1966 and 1967 are from Africa Research Bulletin (Economic, Financial and Technical Series).
- h/ Covers S.I.T.C. Code Groups 23/24/29. The series, presumably in current prices, is taken from Basic Statistics 1064, issued by the UAR Central Agency for Public Mobilization and Statistics as reported by the Tangier Sub-regional Office of the ECA.

Table 3.6.: Value of production according to sub-sectors: 1964

Sub-sector	Gross output (metric tons)	Gross output (million LE)	Value per ton (LE)
1. Cotton and viscose staple fibre yarns	135,000	84.0	622
2. Cotton fabrics	78,000	75.2	964
3. Hosiery and knitted products	16,000	16.1	1,006
4. Nylon filaments, stretch yarn and staple fibres	498	2.1	4,286
5. Viscose filaments and staple fibres	13,000	10.1	777
6. Textiles from artificial fibres	8,700	14.4	1,655
7. Wool yarn	9,000	15.5	1,722
8. Wool cloth	3,500	14.3	4,086
9. Wool blankets and carpets	4,000	7.7	1,925
10. Jute fabrics, sackings, etc.	22,900	6.3	275
11. Flax yarn, twine and cordage	3,300	1.5	455
12. Ready-made garments	28,700	57.0	1,986
13. Sisal and manila twine cordage	230	0.06	261

Sources: Based on tables for UAR in the Appendices. There are some discrepancies, for example, the Central Bank reports rayon output at a higher figure.

Note: The groups are too mixed to permit direct correlation between the yarn group and the product group.

Equipment installed and rates of utilization

55. Available information about equipment installed and their rates of utilization are summarized in Tables 3.7 and 3.8. It will be noted that the main sectors had rates of utilization comparable to the best in the world until 1965.

Table 3.7 : Cotton spindles and looms installed and rates of utilization in the UAR: 1939 to 1965

	31 Jan. 1939	31 Jan. 1950	31 July 1955	31 Dec. 1960	31 Dec. 1963	31 Dec. 1964	31 Dec. 1965
1. No. of spindles in place (thousand)	251	499	608	1,185	1,332	1,366	1,416
2. Max. no. of spindles active during the year					1,300	1,298	1,376
3. No. of spindle-hours worked per active spindle					7,148	7,492	7,852
4. No. of looms in place		13,729 <sup>a/</sup>			22,714	22,830	24,868
5. Proportion of automatic looms		38%			56%	66%	58%
6. Max. no. of looms active during the year						22,350	24,247
7. No. of hours worked per active loom					6,644	6,611	6,431

Source: International Cotton Advisory Committee, Cotton World Statistics, April 1967.

a/ The loom data in this column relate to 31 Dec. 1952, or the year ending on that date.

Table 3.8 : Equipment installed and rates of utilization in some sectors:  
1960-63

	1960/61	1961/62	1962/63
1. Finishing of cotton yarns (tons) <u>a/</u>	2,560	3,860	4,496
2. Finishing of cotton and mixed fabrics (mil. metres) <u>a/</u>	396	421	475
3. No. of wool spindles	53,713	63,874	65,525
4. Percentage of working spindles	82	86	90
5. No. of wool looms	816	935	963
6. No. of rayon and nylon spindles	11,052	11,052	11,052
7. No. of linen spindles	2,360	2,360	2,360
8. No. of jute spindles	8,080	8,080	8,080
9. Proportion of working spindles	79%	79%	79%

Source: The EGO Report mentioned in notes to Table 3.1.

a/ Represents the quantities processed.

56. By the end of 1967, the capacities in the cotton spinning and weaving sectors were somewhat larger than in the end of 1965; the capacities in man-made fibres, wool, etc. more or less similar; and the capacities in the knitwear and clothing industries substantially larger than in 1965. In the view of observers in the UAR an element of excess capacity (10 to 20 per cent in different sectors including knitting and clothing) had come into being. The reasons advanced have been varied and the general foreign exchange problems have certainly played a role either by diminishing the supply of raw materials or spares and stores. Other reasons have also been advanced.

#### Investment patterns

57. During the years after nationalization more than LE 100 million have been invested in modernization and renovation programmes, extensions and new plants. Available information is inadequate to correlate capacities or outputs in any great amount of detail, but a few broad generalizations can be drawn.

58. Firstly, coarse/medium spindles would appear to have cost between US\$175 to 200 per spindle in terms of fixed capital expenditure.

59. Secondly, the fixed capital expenditure per loom (including the weaving preparatory processes) has been of the order of US\$8,000 to 10,000.

60. Thirdly, in the composite sense (spinning, weaving and finishing) the investment per million square metres of coarse/medium fabrics has probably fallen within a range of US\$600,000 to 750,000. The estimate offered is based on the broad assumption that the running metre broadly corresponds in the UAR to a square metre. If the square metre is smaller than a running metre (there is no information available about the reed-space distribution of looms in the UAR) the above range would be overstated by anywhere up to 20 per cent, and the fixed capital expenditure per million square metres could be regarded as falling between US\$480,000 to US\$600,000.

61. These estimates cannot be treated with absolute precision but the following table does indicate a large structural problem in arriving at viable investment costs in spite of the long years of existence by the industry.

62. Whatever amalgam of factors is regarded as responsible, this pattern of performance is rather discouraging.

Table 3.9 : Comparative capital costs per one million square metres of  
final output

	Investment in fixed capital per million square metres of final output	Index (Europe: 100)
Europe (1962-1963)	US\$311,000	100
Nigeria	455,000	146
Central Africa (Recent plants)	824,000	265
UAR	480,000 to 750,000	198
Latin America	189,000 to 548,000	

Sources: European and Nigerian data are converted from ECA, The Textile Situation in West Africa, E/CN.14/INR/129, September 1966. The Central African data has been worked out in a recent study. Latin American experience has been abstracted from UNIDO, Technological and Economic Aspects of Establishing Textile Industries in Developing Countries, Table 10 (ID/7, 1967).

The variation in Latin American data pertains to mills based on coarse and fine counts. The figure, broadly comparable to the production patterns, would be lower than US\$360,000.

#### Some aspects of current costs

63. The sizable and increasing export trade of the UAR is indicative of overall viability in at least the major sectors of the textile industries. On the other hand, the unit prices realized in the export trade, tabled below, are indicative of the strong pressures on this viability.

Table 3.10 : Comparative unit costs of total output and exports: 1964

	Average value per ton of ex- ports	Average value per ton of total output
1. Cotton and viscose staple fibre yarns	LE 645	LE 622
2. Average count of yarn	31.0	23.3
3. Cotton fabrics	LE 650	LE 964

Source: Table 3.6 and the information supplied by the UAR Government and presented in the Appendices.

64. Prima facie, the main danger to the maintenance of the viability of the UAR textile industry would seem to arise out of its highly labour intensive character (150 to 200 employees per million square metres of output) which has remained more or less stationary at the same time that average remuneration has moved up rapidly, as may be seen below.

Table 3.11 : Average wage per worker per year in the public sector

1960/61	LE 144
1961/62	175
1962/63	201
1963/64	208

Source: See note (a) to Table 3.1.

65. Whereas the average wage is not high in absolute terms, the industrial structure (particularly an industrial structure which seeks a substantial role as an exporter) will sooner or later have to move away from a labour deployment ratio 1/ which is five to eight times higher than in Europe. It is not suggested that the choice is easy, but equally future viability (combined with rising wages) and very low man-machine ratios are likely to be incompatible. The highly capital-intensive character of the industry only further underscores the necessity to arrive at higher man-machine ratios in the near future.

The position in 1964, the base year

66. The 1964 position might be summarized as follows:

1/ In 1964, the total employment (in sectors other than ready-made garment making) exceeded 175,000.

67. (a) The total raw material inputs in sectors other than jute and flax were around 170,000 metric tons divided between fibres as shown below:

Cotton	142,000 metric tons
Wool	10,000 " "
Rayon	
- staple	4,500 " "
- filament yarn	11,500 " "
Nylon	500
Silk	negligible

68. (b) The 170,000 metric tons of RMI yielded 156,281 of yarn output. A minor quantity (159 metric tons) was imported. 29,190 metric tons (of which 27,590 tons were cotton yarn and the balance rayon yarn) were exported. Ignoring inventory fluctuations, the national utilization of yarn was of the order of 127,150 metric tons.

69. (c) The known output of post-spinning operations comprised of:

Cotton cloth production	87,981 metric tons
Wool fabrics "	3,500 " "
Rayon fabrics "	8,700 " "
Knitwear "	16,000 " "
Woollen blankets and rugs	4,000 " "
Nylon fabrics, say	490 " "

Total 120,671 metric tons

70. (d) Yarn usage for the above reported output is placed at 124,100 metric tons, and the unaccounted balance of national utilization comes to 3,150 metric tons. Allowing for other products produced but not reported, artisanal use in traditional weaving is estimated around 2,000 to 2,500 metric tons. The traditional weaving sector might have some limited access to supplies of handspun yarn, but this is not believed to be a particularly relevant or important element.

71. (e) The cloth production arising out of national yarn utilization has to be adjusted for exports of cotton fabrics (13,296 metric tons), rayon fabrics (441 metric tons) and wool carpets (100 metric tons), on the one hand and for minor quantities of imports (less than 500 metric tons) on the other. Also in order to arrive at the availability of personal textiles, the output of blankets and rugs (3,900 metric tons after adjusting exports) might be excluded; the cloth equivalent of exports of clothing has to be adjusted downwards and an increase provided to include the yarn output which was not accounted for. Table 3.12, which follows, is based on these adjustments and provides an assessment in terms of linear metres (this is somewhat mixed) as well as in terms of per caput availability of personal textiles.

72. (f) In view of the additions of square metres and linear metres in Table 3.12, and in view of the various assumptions involved in the exercise, it would be more appropriate to treat the per caput availability of personal



textiles as being between 23 to 24 metres, and to regard per caput availability in terms of square metres as falling between 23.50 to 24.50 m<sup>2</sup>. The position in 1965-67 does not seem to indicate any big change in this position.

Table 3.12 : Total domestic supply of personal a/ textiles and per caput availability: 1964

Product category	Total supply (metric tons)	Total supply (million metres)
1. Cotton fabrics	74,829	495 <u>b/</u>
2. Wool fabrics	3,500	11 <u>c/</u>
3. Rayon fabrics	8,259	162 <u>d/</u>
4. Knitwear	14,900	
5. Total (1+2+3+4)	101,488	668
6. Less cloth equivalent of exported clothing (400 tons), say	488	
7. Plus adjustment for the unaccounted supply of 3,150 metric tons of yarn	3,150	18 <u>e/</u>
8. Total supply	104,150	686
9. Per caput availability in 1964 (population 29 million) <u>f/</u>	3,59 kilos	23.65 metres

a/ Blankets and rugs are excluded because of their unusual weight characteristics.

b/ Cotton linear measure arrived at on the basis of 6,615 metres per metric ton. The latter figure is an actual based on the entire output, without allowing for exports.

c/ On the basis of 3,250m<sup>2</sup> per metric ton, the standard ratio adopted by the FAO.

d/ On the basis of 7,000m<sup>2</sup> per metric ton, which is an ad hoc figure.

e/ On the basis of the overall proportions between weight and linear measure data in items.

f/ Based on the provisional macro-economic data, Table 2.

73. (g) The domestic supply of personal textiles is derived as follows:

<u>Fibre source</u>	<u>Domestic supply</u> <u>(1964)</u>	<u>Per cent</u>
Rayon (viscose)	13,659 metric tons	13.11
Nylon	490 " "	0.47
Wool	6,500 " "	6.24
Cotton (residual)	83,500 " "	80.17
Total	104,150 metric tons	99.99

74. (h) In 1964, the total output of the two sectors of industrial garment-making - knitwear plants and producers of ready-made clothing - came to 45,000 metric tons of output compared to the total domestic supply of 104,150 metric tons.

75. (i) In relation to rising wage levels the present scale of employment per unit of output must be viewed with concern.

76. (j) The flax industry produced yarn, twine and cordage to the extent of 3,300 metric tons in 1964, but the export returns available did not show exports. No specific information is available about the output of linen fabrics (in 1962/63 this category amounted to 491 metric tons) either. Likewise specific information is not available about the output of silk fabrics in 1964 and the import trade returns indicate only a few tons of raw material import.

#### CHAPTER IV

##### THE TEXTILE SITUATION IN ALGERIA

77. It is convenient to start consideration of the Algerian textile situation from 1963 onwards. The operations of the national industry during the year were not altogether free of the disruption of markets in the wake of independence and substantial excess capacities were in evidence. Partly as a result of the disruption and partly as a structural element, the reliance on imports exceeded 75 per cent of domestic supplies during 1964. In the years after 1964, a major investment effort has resulted in the installation of new plants for an extended range of products with adequate capacity (at full capacity operation) to meet in 1968/69 almost all of Algeria's requirements, although imports are likely to remain the more important source of raw materials for several years to come. It is sought to concentrate the discussion on the emerging situation and only limited attention is paid to the near-ancient relics of the 1963 position. The situation in still earlier years is almost ignored as being irrelevant to current understanding.

Trends in output: 1963, 1964 and 1966

78. Tables 4.1, 4.2 and 4.3 summarize the main trends in output in the organized industries. Table 4.2 (relating to 1964) is the only comprehensive table it was possible to prepare.

79. The main propositions emerging from the data are indicated below:

80. The overall output in 1966 had barely affected either the excess capacity existing in 1963/64 (output was probably one-third of capacity) and did not yet reflect a major contribution by some of the new plants which entered into production in 1965 and 1966.

Table 4.1 : Output and value added in Algeria's textile industries: 1963

	Output (metric tons)	Value added in 1963 (mil. Din.)
1. Wool and artificial fibre yarns	2,637	6.39
2. Cotton yarns and thread	442	1.73
3. Mechanically woven fabrics (mil. metres)	3.3	4.00
4. Silk, etc. tissues	neg.	0.08
5. Blankets (wool and art. fibre) in thousand m <sup>2</sup>	907	2.35
6. Wool covers (Tapis) in thousand m <sup>2</sup>	110	4.29
7. Dyeing factories (in million m <sup>2</sup> )	10	4.95
8. Knitwear		2.54
- Socks (thousand pairs)	873	
- Underclothing (million)	1.65	
9. Main items of clothing (million)	0.91	7.16
10. Sacks (million)	2.30	1.95

Source: Official statistics.

Table 4.2 : Output patterns and total supply of textiles in 1964 (Algeria)

	Output (metric tons)	Imports (metric tons)	Exports (metric tons)	Domestic supply (metric tons)
<u>Yarns</u>				
Woollen yarns	198	277	3	472
Cotton yarns, etc.	1,321	1,109	2	2,428
Synthetic yarns	0	66	-	66

Table 4.2 (cont'd)

	Output (metric tons)	Imports (metric tons)	Exports (metric tons)	Domestic supply (metric tons)
Rayon, (mostly staple) yarns	3,172	873	1	4,044
Knitting wools	0	83	0	83
A. TOTAL SUPPLY OF YARNS	4,691	2,405	6	7,093
<u>Fabrics, etc.</u>				
B. Knitwear including warp knit fab.	637	2,269	8	2,898
Fabrics of cotton	430	4,858	1	5,287
" " wool	33	843	0	876
" " rayon	364	6,528		6,892
" " synthetic mat.	0	1,209	0	1,209
C. Total fabrics (incl. other items)	827	13,974	2	14,799
D. Other textile articles	0	1,272	0	1,272
E. Clothing and other made-up items	843	5,172	17	5,998
of which - clothing	722	2,941	4	3,659
- bed-linen, etc.	121	1,821	13	1,929
F. A+B+C+D+E	7,841	25,092	33	

Source: Maghreb Standing Consultative Committee, the Demand for Industrial Prod. in the Maghreb, Jan. 1967.

Table 4.3 : Output in Algerian textile industries 1966

	Output (metric tons)	Output (mil. m <sup>2</sup> )
Rayon staple yarn for blankets	2,800	5.5
Knitwear (under-clothing)	425	5.1 a/
Cotton fabrics	1,100	7.2
Rayon staple fabrics	400	1.6
Covers, etc. (Tapis et artisanat)	200	0.3
Wool fabrics	0	
Rayon (continuous filament) fabrics	550	4.2
Knitwear (synthetic yarns)	120	3.7 b/

Source: Information supplied by the Government of Algeria.

a/ Million pieces.

b/ Million pairs of socks.

81. As Table 4.2 (relating to 1964) shows, the total supply of yarns, imports and domestic production, came to 7,093 metric tons, whereas the reported output of knitwear and fabrics was less than 1,500 metric tons. Extrapolating the figure of blanket output from the 1963 and 1964 data, as say, 1,500 tons, known output in the organized (mechanized) sector is unlikely to have exceeded 3,000 metric tons. The balance of 4,000 metric tons, subject to underreporting, represents the gross utilization of manufactured (as distinguished from handspun yarns) yarns by the artisanal sector.

82. The total domestic supply of personal textile items may be placed somewhat lower than 30,000 metric tons (4,691 metric tons of yarn production at home plus 25,000 metric tons of imports of yarn, cloth, clothing, etc.). After allowance is made for blankets, carpets, etc. (say, around 3,000 metric tons), the total supply of textile for personal use may be placed around 27,000 metric tons, representing a per caput availability of 2.14 kilogrammes. The total domestic supply of personal textiles, expressed in  $m^2$ , probably ranged between 185 million to 200 million square metres, representing a per caput availability somewhere between 16.00  $m^2$  and 17.25  $m^2$  in 1964, a level which was around two-thirds of the per caput availability around 1955.

83. The fibre composition of personal textiles other than blankets is estimated as follows:

Cotton (39 per cent)	10,530 metric tons;
Rayon (42 per cent)	11,340 metric tons;
Synthetics (14 per cent)	3,780 metric tons;
Wool (5 per cent)	1,350 metric tons.

84. Factory-made ready-to-wear articles - knitwear, clothing and other made-up articles - comprised about one-third of the domestic supply of personal textiles.

#### Equipment installed, rates of utilization

85. Table 4.4 sets out available information regarding the quantities of equipment installed in the cotton (and rayon) spinning and weaving sectors. In addition, a plan (partially implemented) is in hand for the setting up of 22 clothing plants capable of manufacturing over 6.5 million shirts and work-clothes. A plant for the manufacture of woollengoods; a plant for the manufacture of carpets; a yarn dyeing plant; a couple of knitting plants and an absorbant cotton plant are all believed to be in varying stages of implementation. There were reports in 1967 of a proposal to set up a "hard fibre" (probably jute) products plant to manufacture 4,000 tons per year of sacking.

86. The rates of capacity utilization have been unsatisfactory up to now but should improve dramatically - an annual output of 120 million  $m^2$  in 1969/70 should not be difficult to achieve.

Table 4.4 : Equipment installed and rates of utilization in Algeria:  
1963 to 1967

	31 Dec. 1963	31 Dec. 1964	31 Dec. 1965
1. No. of cotton spindles in place	75,000	100,000	178,000
2. Max. no. of spindles active during the year (ending)	75,000	90,000	100,000
3. No. of looms in place		4,000	6,234
4. No. of automatic looms in (3)		3,500	5,500

Source: International Cotton Advisory Committee, Cotton World Statistics.

Note: The approximate position in the end of 1967 is estimated as follows:

Spindles - 177,000;

Looms - 6,500;

Total weaving capacity - over 170 million metres or roughly  
26,000 to 27,000 metric tons of fabric.

#### Investment levels and labour deployment levels

87. The following figures, based on a report "les programmes d'équipement algérien pour 1967" are indicative of the major investment drive:

- (a) Operations already commenced 356 million DA;
- (b) Operations projected 507 million DA.

88. Table 4.5 enables some understanding of the high investment requirements of Algerian textile industries and the less labour-intensive operations of the industry compared to the textile industries of the UAR.

89. It should be clear from the labour deployment levels, which are four to five times as high as modern European plants, that modern textile industries are unlikely to offer opportunities for inexpensive creation of work opportunities, at least on the spinning, weaving and finishing sides.

#### Some aspects of unit costs

90. The import orientation of most raw materials implies that the costs of raw materials will be competitive in international terms, although it will necessarily require the use of foreign exchange resources.

91. However, as Table 4.6 demonstrates, Algerian textile industries used in 1966 the services of 38 expatriates for every 1,000 Algerians employed; that wage rates have increased in recent years; and that the annual remuneration of Algerian workers is presently in excess of US\$900. (This might be compared with US\$500 in the case of the UAR industries). When expatriate

employment is also taken into consideration, it would appear, *prima facie*, that the Algerian industry incurs a higher wage/salary cost per unit of output than does the UAR industry, notwithstanding the high incidence of labour utilization in the latter.

TABLE 4.5 : Details of five new major textile complexes opened during 1965-67

Location	No. of spindles	No. of looms	Annual capacity of weaving (million metres)	Annual capacity of weaving (metric tons)	Total investment (million US\$)	No. of new worker jobs at full capacity operation
a) Dra Ben Khedda	28,000	864	17.0	2,152	30.80	1,750
b) Oued-Tleat	15,500	400	11.5		7.14	600
c) Batna	14,952	448	12.0	1,780	7.90	600
d) Constantine	8,000	120	4.5	1,470	3.43	500
e) Valmy	10,952	200	16.0	1,682		550
f) Investment per 1 million running metres for (a+b+c+d)			US\$ 1,093,000			
g) Investment required per employee (incl. <u>ad hoc</u> provision for non-workers on the basis of proportions in the Algerian textile industry on 30.4. 1966)			US\$ 12,500			
h) No. of employees (incl. non-workers) required per million metres for all five plants			75			

Source: Based on a quasi-official publication by the organization BERI.

Table 4.6: Some employment aspects of Algerian textile industries - 1966

Industry group and sub-sectors	No. of estab- lish- ments	No. of em- ployees	No. of workers	(in the in- quiry) no. of work- ers		(in the in- quiry) no. of non workers			Wage per	Wage increase
				Alg.	Foreign	Alg.	Foreign		hour April 1966	in April 1966 over April 1961 (in per cent)
Industrie textile	31	3,085	2,705	1,861	22	241	59	unskil.	1.66 DA	+ 153
- 'autogéré'	4	691	629					sp.	2.13 DA	+ 217
- 'privé'	26	2,274	1,968					quali.	2.21 DA	+ 133
- 'autre'	1	120	108							
Shoes and clothing	50	5,363	3,715	2,871	14	603	94			
- 'autogéré'	9	519	419							
- 'privé'	23	2,027	1,431							
- 'public'	18	2,753	1,793							
- 'autre'	2	64	72							

Source: L'enquête semestrielle.



## CHAPTER V

### THE TEXTILE SITUATION IN MOROCCO

92. The complex textile situation in Morocco is indicated by Table 5.1 based on the industrial census of 1964.

93. Table 5.2, which pertains to 1965, contains further information along somewhat different lines of sub-sector arrangement.

94. The main aspects of the situation are indicated below.

95. (a) The textile industries of Morocco are organized to a very large degree on horizontal lines. The resultant smallness of the average enterprise reflects a strong, private sector orientation, although the State has in recent years played an active and large role in financing through the Development Bank.

96. (b) The raw materials include local cotton, (primarily) Moroccan wool, imported rayon staple and rayon and synthetic filament yarns.

97. (c) The considerable diversification of end-products and proliferation according to sub-sectors implies that large quantities are purchased and sold as intermediate inputs. Thus, the total initial quantities of yarns produced or imported in 1965 amounted to less than 24,000 metric tons whereas the sum of gross outputs in Table 5.2 comes to nearly 50,000 metric tons.

98. (d) The artisanal sector is (i) a spinner of hand yarns; (ii) a weaver of handspun as well as machine-made yarns; (iii) a purchaser of cloths produced within and outside the sector for making into traditional clothes or for embroidery. The role of handspinning is, however, believed to be of minor relevance. The yarns actually used by the traditional industry are estimated, as a first approximation, to be around 6,400 metric tons (1965), or a quarter of the total yarn utilization of Morocco in 1965. It will be noticed (Table 5.1) that the average annual remuneration per person employed in the artisanal sector is only one-eights of the level in the main sectors of the organized (mechanized) textile industry.

99. (e) The value added in the Moroccan textile industries are indicated by the following figures:

	<u>1958</u>	<u>1960</u>	<u>1964</u>
Value added in the textile and leather industries (S.I.T.C. Code Groups 23/24/29)	228 m.DM	405 m.DM	449 m.DM

100. (f) It will be noticed (Table 5.2) that in many sectors excess capacities exist at the same time that production is considerably smaller than the needs of the country.

101. (e) The average remuneration per employee in most categories, other than the artisan group, is around US\$1,000 or higher, compared to less than US\$500 in the UAR industries.

102. (h) The 'gross output', exclusive of double counting, is placed at 188 million US\$ in 1964.

Table 5.1 : Some aspects of the textile industries of Morocco: 1964

	No. of enterprises	No. of employees ('effectifs')	Value of production (million DM)	Value added (million DM)	Value added as % of value of production	Wages, sal. & social charges per employee US\$
1. Spinning, weaving and dyeing of wool	7	2,400	65.73	25.67	39	1,051
2. Spinning, weaving, dyeing finishing, etc. of cotton and other materials	49	5,708	211.18	71.72	34	1,277
3. Spinning, weaving of jute, hard fibres, cordage, tents, sacks, etc.	13	1,089	33.48	13.60	41	1,112
4. Table covers	5	737	18.35	8.45	46	1,064
5. Making of garments	30	2,400	58.52	18.00	31	1,027
6. Making of shirts, lingerie, etc.	17	1,200	34.50	13.31	39	970
7. Misc. clothing plants	4	75	2.35	0.95	40	790
8. Knitting plants	30	1,380	38.07	12.59	33	985
9. Embroidery works	6	805	17.12	8.97	52	1,092
10. Ribbons, laces, elastic fabrics, etc.	6	134	1.89	0.65	34	605
11. Artisanal sector		160,000	283.22	130.52	46	127

Source: Basic data extracted from the official industrial census for the year 1964.

Table 5.2 : Some aspects of the textile industries of Morocco: 1965

	National produc- tion (metric tons)	Produc- tion as % of needs	Produc- tion as % of ca- pacity	Value of produc- tion (million DM)	Employ- ment	Value of produc- tion per metric ton (DH)	Remun. per employee (US\$)	Value added as % of G.O.
Spinning: cotton system	10,260	91	87	56.43	1,522	5,500	806	36
Weaving: cotton system	7,265	43	66	72.27	1,981	9,947	1,009	47
Spinning: combed wool type	955	24	37	16.13	563	16,890		35
Weaving: light upholstery	906	28	36	30.71	809	33,896		35
Spinning: carded wool type	5,836	99	58	21.56	852	3,694		40
Weaving: heavy upholstery & blankets	1,231	58	68	12.79	477	10,389		45
Weaving: rayon & nylon fila- ment	2,370	58	68	55.37	1,000	23,362		45
Weaving: furnishing mate- rials	1,920	96	63	38.40	312	20,000		50
Embroidery fabrics (mech.) a/	3,654	96	79	11.83	1,016 b/	3.24 c/		44
Knitwear	2,464	108	70	70.47	1,600	28,600		45
Clothing	5,820	103	88	126.01	500 d/	21,654		50

Source: Based on Plan Quadriennal, 1968/72, Vol.II, Chapter 7, Section 17, p. 166 et seq.

a/ Million metres. b/ Only paid employees. c/ per metre. d/ A serious understatement. The actual figure is around 4,000.

Domestic supply in 1964 and per caput availabilities

103. The domestic supply in 1964 is assessed as follows:

A. Total imports:	24,001 metric tons		
- yarns	5,480	"	"
- cloth, clothing etc.	17,379	"	"
- second-hand clothing	1,142	"	"
B. Plus production of yarns in the country	14,335	"	"
C. Minus exports	678	"	"
D. Minus adjustment for blankets and carpets, say	1,250	"	"
E. Availability = A+B-C-D	36,408	"	"
F. Availability <u>per caput</u> (in kilogrammes)	2.89 kg.		

104. The fibre distribution of the domestic supply is assessed as follows:

Cotton (34%)	12,379 metric tons		
Rayon (56%)	20,388	"	"
Wool (6%)	2,184	"	"
Synthetics (4%)	1,456	"	"

105. The total domestic supply (other than blankets and carpets) expressed as m<sup>2</sup>, is assessed in the range of 240 to 250 million m<sup>2</sup>, representing a per caput availability between 19 to 20 m<sup>2</sup> in 1964.

Equipment installed and rates of utilization

106. Around 1960, the following categories of equipment were reported:

4 cotton spinning plants	29,000 spindles
22 cotton weaving plants	1,500 looms
130 clothing and knitting factories	
5 wool spinning plants	16,000 spindles
wool weaving looms	211
silk looms	3,700

107. In early 1968, 148,000 spindles and 3,300 looms on the cotton system were reported (1967: 11,000 metric tons of fabric were produced). Other equipment reported was as follows:

Wool spinning spindles	29,000
Wool weaving looms	740
Dyeing capacity (1967 output: 8,500 tons)	14,000 metric tons
Printing capacity (1967 output: 14,500 tons)	33,000 metric tons
Jute spindles	2,700
Jute looms	540
Sisal spindles	210

108. As was indicated in Table 5.2, and supplemented above, substantial excess capacities are the order of the day, and their relevance remains in spite of the impressive growth of output.

#### Investment levels

109. Available information does not enable a global assessment of the scale of investment in recent years, but Table 5.3 permits an indicative evaluation of the investment expenditures required for three composite cotton system plants (at Fes, Kénita and Tétouan) envisaged in the Plan for 1968 to 1972.

Table 5.3 : Investment and other estimates for three integrated cotton system plants

A. Total capacity visualized	65.26 mil. m.
B. Total investment, of which	US\$ 32.92 " "
C. Fixed capital expenditure	US\$ 27.25 " "
D. Investment per million metres of capacity	US\$504,000
E. Fixed capital expenditure per million metres of capacity	US\$418,000
F. Total employment expected at full capacity operation	2,821
G. Average annual remuneration per employee	US\$ 1,256
H. Employees required per million metres	43.23
I. Total investment per employee	US\$ 11,669
J. Fixed capital expenditure per employee	US\$ 9,660

Source: Based on information in the Plan quadriennal, as mentioned in notes to Table 5.2.

110. Alternatively, to the extent to which these figures are reflective of the actual Moroccan experience (and fragmentary data available supports this view). Moroccan industry is able to manage a relatively less expensive cost of investment at the same time that its remuneration levels are higher than the UAR or Algeria. Also the labour deployment ratios are only one-third to a quarter as large as in the UAR industries and 43 per cent lower than those for the five new plants in Algeria.

## CHAPTER VI

### THE TEXTILE SITUATION IN TUNISIA

111. Table 6.1, 6.2 and 6.3 present details of the structure of the Tunisian textile industries in the years up to 1964, and also provide (Table 6.3) the targets which have determined the scale of investments and continue to do so.

Table 6.1 : Some aspects of textile and allied industries: 1961 to 1963

	<u>Basic textile industries</u>			<u>Industries allied to textiles</u>		
	1961	1962	1963	1961	1962	1963
No. of units	14	18	16	13	13	18
Permanent employees	525	814	1,468	450	470	774
Seasonal employees converted to permanent)	27	13	19			
Wages and salaries ('000 D) (incl. social charges)	144	248	435	98	113	240
Total investments						
made of which	604	809	329	58	11	110
buildings	82	213	46			
plant & machinery	517	3	197			
Major repairs	5	793	86			
Total output	609	1,239	3,651	712	826	1,423
Intermediate consumption	522	897	1,605	530	642	1,219
<u>1963</u>						
Average rem.	293 D			310 D		
(incl. soc. charges=698 US\$ @ 238.1 cents per employee)			to one dinar	= 738 US\$		

Source: Based on official industrial inquiries.

Table 6.2 : Overall structure of the textile sector: 1962 to 1964

Textiles, clothing, leather ('000 dinars)

	Production	Imports	Duties & taxes on imports	Margins	Total	Inter- mediate consump- tion	Final commerca- lized con- sumption	Prize of stocks	Increase in stocks	G.D.C.F.	Exports
1962	16,290	12,580	4,276	8,780	41,845	8,355	32,755	178			557
1963	19,476	12,092	3,825	9,255	44,648	9,969	34,083	50	137		683
1964	25,710	15,480	5,490	11,530	58,210	14,890	42,330				990

Source: Based on input-output tables for the relevant years.

Table 6.3 : The textile sector development targets for 1971 and actual results for 1957

	1957 '000 dinars	1971 '000 dinars
I		
Blankets, rugs	150	670
Carpets, tapestry	355	880
Lace	250	670
Cotton cloth	450	5,200
Woollen cloth	2,500	5,300
Synthetic cloth	660	2,700
Other materials	100	-
Cotton yarn	-	4,500
Woollen yarn	1,320	3,200
Silk cloth	55	-
II		
Ropes, cords	33	100
III		
Clothing	1,490	5,200
Hosiery	200	2,900
Embroidery	350	700
Millinery	80	150
Second-hand clothing	50	100
Total excl. second-hand clothing	2,170	9,050

Source: The official plan documents.

112. An index of the overall progress of the industry is available from the contribution to the GDP which is presented below. Table 6.4 also brings out the increased tempo of activity in the sector since 1964.

Table 6.4 : Value added by the textile, clothing and leather groups

(in million dinars)

	1960	1961	1962	1963	1964	1965	1966	1967	1968
At current factor cost	6.3	5.4	6.2	7.8	9.3	10.8	13.8	15.2	16.2
At constant prices	6.3	5.3	5.5	6.8	7.6				

Sources: Data for the years up to 1964 from "les comptes économiques de la nation", 1960-64, Vol.III; the current price series after 1965 is taken from a note on the 1969-72 plan presented to the Conseil National du Plan, as reported in the Industries et Travaux d'Outre-Mer, March 1968, p.195. The 1968 figure is a forecast.



### Domestic supply and per caput availability

113. The assessment of the 1964 position of textile supplies crystallizes several elements in the tables presented earlier. One, the bulk of the supply was derived from imports. Two, the national sector was not only small, but to a very large extent comprised of the artisanal sector. Thus, of the total supply of yarns, both domestically produced and imports (7724 metric tons), only 2,640 metric tons or so, after allowing for wastage, were accounted for by organized industries.

114. The 1964 domestic supply is assessed as follows:

A. Imports, of which	14,173 metric tons
- yarns	4,737 metric tons
- cloth, clothing, etc.	7,822 metric tons
- second-hand clothing	1,614 metric tons
B. Exports	241 metric tons
C. Local production of yarn	3,000 metric tons
D. Adjustment for blankets and carpets, say	1,000 metric tons
E. Total domestic supply of personal textiles other than blankets and carpets (A-B+C+D)	15,932 metric tons.

115. The total domestic supply represents a per caput availability of 3.71 kilos, and a total domestic supply, expressed in  $m^2$ , of 95 to 100 million  $m^2$ . The latter, in turn, represents a per caput availability of 22 to 23  $m^2$ , in 1964.

116. The fibre composition of the domestic supply of personal textiles is estimated as follows:

Cotton (49%)	7,789 metric tons;
Rayon (22%)	3,564 metric tons;
Wool (19%)	3,006 metric tons;
Synthetics (10%)	1,523 metric tons.

117. In evaluating the availability in terms of  $m^2$  per caput, the high proportion of wool and synthetics should not be overlooked.

### Equipment installed and rates of utilization

118. Starting from a small absolute base (in 1962, there were 12,000 cotton spindles installed) the Sogicot (government organization charged with the running of the main textile sectors) plants at the end of 1966 had 32,800 spindles and 858 looms. (In addition, four cotton weaving plants had another 161 looms). The Sogicot also had a third plant capable of finishing 32 million metres per year. In addition, the Sogicot was in the process of

setting up a rayon and polyester weaving <sup>1/</sup> plant (270 looms); a sponge cloth weaving plant (30 looms); and a canvas weaving plant (30 looms). The total investment in all these plants (@ 220 US cents to a Dinar) amounted to over US\$24 million for a total employment of 2,500. The investment per employee amounted to US\$ 9,680.

119. In 1963, the wool sector comprised of 3 spinning plants (300 spindles) and two blanket-making plants (mixed with staple fibre). By 1966, an integrated plant involving an investment of 5.75 million dinars had opened, although it is not quite clear whether full capacity operations have been attained. In addition a shoddy wool plant, based on all kinds of rags, has been set up (capacity: 2.2 million metres; investment, 3.1 million dinars).

120. A sacking plant, based on imported jute, has been functioning since 1940 and has 1,000 spindles and required looms. The annual output is 2,825 metric tons or 3 million sacks.

121. Several knitwear plants have been set up and others are in the course of construction.

122. SOGIC (the government organization charged with the running of and setting up of several ready-made garment plants) had set up eight plants in different parts of the country. 13 other bigger plants exist (estimates of the total number of plants vary widely), and the investment involved, in both categories taken together, amounted to 2.33 million dinars in the end of 1966.

#### Investment and other aspects

123. The total investment in the textile industries has probably been of the order of US\$3.4 million since 1957. In the composite cotton spinning and weaving group, it would appear that investment costs have been of the order of US\$500,000 to 600,000 per million metres. The employment per million metres would seem to be in the range of 80-100. Current levels of average remuneration are in the neighbourhood of US\$1,000. A first impression is that the industries have not approached high levels of capacity utilization as yet. The industry employs a fairly high number of expatriates in its workforce.

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<sup>1/</sup> In 1963, there was only one small plant with a weaving capacity rated at 200 tons per year.

## CHAPTER VII

## THE TEXTILE SITUATION IN LIBYA

124. There is no production of yarn inside of Libya and the yarn input is consequently derived by (i) the small artisanal sector; (ii) a few powerloom plants and (iii) a few knitting plants, from imports. In 1964, the total yarn intake by all these groups did not exceed 768 metric tons, which might be roughly regarded as equivalent to 4 to 5 million metres of output. The powerloom industry and the artisanal sector have hitherto primarily concentrated upon the production of traditional items of clothing. In 1966 a licence was granted for the setting up of an integrated cotton spinning and weaving plant. No recent information on the progress of the scheme is at hand.

125. Available information about the textile industries of Libya is summarized in Table 7.1 and 7.2.

Table 7.1 : Industrial census of textile industries of Libya: 1964

	Manufac- ture of carpets and rugs	Spinning and weaving	Knitting
Gross output (Libyan £)	95,504	698,796	32,586
Value added (Libyan £)	55,648	387,996	12,776
Employment (total)	1,776	4,764	196
Employment (paid)	-	428	16
No. of establishments	720	136	112
Av. employment per establishment	2.5	2.4	1.4

Source: Kingdom of Libya, Report of Industrial Census, 1964.

Table 7.2 : Textile industries a/ of Libya: 1965

	Manufacture of textiles
No. of establishments	3
Total employment	28
Paid employment	26
Wages and salaries	L£ 270,000
Gross output	L£ 1,322,000
Value added	L£ 765,000
Average remuneration per paid employee	L£ 1,038

Source: Official report on the census of industrial establishments, 1965.  
a/ Only establishments employing 5 or more workers are covered.

126. Perhaps the crucial element to recognize in the preceding table is the high level of annual average remuneration that the development of textile industries must contend with in the case of Libya.

#### Domestic supply and per caput availability

127. The overall domestic supply is placed at 6,025 metric tons, representing a per caput availability of the order of 3.77 kilogrammes. The latter is judged as being equivalent to a per caput availability of 25 m<sup>2</sup>.

128. The assessment of the fibre distribution of the domestic supply is more tenuous in the case of Libya, but is presented below for its broad indicative value:

Cotton	(42%)	2,530 metric tons;
Rayon	(37%)	2,230 metric tons;
Synthetics	(12%)	723 metric tons;
Wool	(9%)	542 metric tons.

The domestic supply possibly represents about 40 million m<sup>2</sup>.

### CHAPTER VIII

#### THE TEXTILE SITUATION IN THE SUDAN

129. The main sectors of the Sudanese textile industries might be grouped as follows.

130. Firstly, two spinning, weaving and finishing units have been in production since February 1962 and July 1964, respectively. The first plant, after serious initial problems, settled down and in 1965 is believed to have reached an annual rate of output around 45 million metres. The second plant, also a high cost producer, was believed to have reached in 1965 an annual output rate of 16 to 18 million metres. The two plants taken together employ almost 5,000 employees, of which about 100 are believed to be expatriates.

131. In the second place, a fair-sized weaving and processing plant was expected to commence construction in the end of 1965. The plant was expected to procure its yarn requirements from the surplus production of the composite units.

132. A number of small plants produce women's traditional dress materials - 10 yard x 36 inches pieces - as well as some other items. In most cases these plants run on the basis of mechanical looms.

133. A knitwear industry with an annual output of S\$500,000 is also in existence.

134. The total scale of the operation of the non-composite sectors (including artisanal ones) is indicated by the fact that in 1964 the total usage of yarn did not exceed 1,000 metric tons.

135. Discrepancies in the reported rates of mill consumption of cotton and the output of fabrics makes it difficult to provide a firm assessment of the domestic supply. It is, therefore, proposed to use the level of per caput availability reported by the FAO (see the appendixes) for 1962 and 1963 (average). This comes to about 2.5 kilos per caput divided as follows between cotton (87.5 per cent) and rayon (12.5 per cent). In terms of square metres, per caput availability might be placed around 17 to 18 square metres, or an approximate total supply (in square metres) of 210 to 225 million square metres.

136. As a first estimate, the total investment in the Sudanese textile industries is placed between US\$31 to 34 million.

## CHAPTER IX

### THE RATIONALE OF RAPID IMPORT SUBSTITUTION AND THE NEED FOR A SUB-REGIONAL FRAMEWORK

#### The logic of import substitution

137. Several strong economic reasons indicate a policy of rapid development of textile industries in the sub-region, in spite of the presence of adverse elements indicated in earlier chapters. In the first place, the sub-region produces considerable quantities of raw cotton and the current and potential presence of cotton supplies within the sub-region is a highly permissive, cost-saving factor. Also, there might be possibilities, studied in a separate study not available presently, of creating within the sub-region facilities for the further manufacture of rayon staple and filament yarn as well as supplies of other synthetic raw materials. In the second place, given adequate government measures and industrial action, it should be possible to arrive at viable unit costs in the industries of the sub-region and to maintain these in the UAR. It is of course obvious that, at this stage, this represents a hope and not a realized actuality. Thirdly, the need for import substitution has to be seen in the context of the overall increase in the demand for textiles by 1980, even on a conservative assessment. The details are considered in the next chapter, but it is clear that the need to provide additional supplies of textiles from imports must be weighed against the various restraints on the rate of increase in the export proceeds of the sub-region and the enlarged claims of other categories of demand on the foreign exchange till. Fourthly, it is clear that the textile industries can provide one of the largest elements in industrialization in the next two decades in terms of output, employment 1/ and increases in the pool of industrial skills available. Finally, the arithmetic of import substitution 2/ is indicative of the capacity of textile investments to generate sizable

1/ In the textile industries proper, for the sub-region as a whole, there will be no net increase in employment if the UAR industries move on to more economical levels of labour employment. The clothing industries, on the other hand should record sizable increases in employment.

2/ For illustrative calculation, see sectoral studies on textiles in West and Central Africa.

savings in foreign exchange over the life-time of an investment in textile industries, although this is bound to vary from country to country.

The need for a sub-regional framework

138. Any consideration of long-term perspectives in the development of textile industries must take cognizance of three fundamental elements in the textile situation. In the first place, textile markets are marked by a vast heterogeneity in end-products. The basic range of human needs is multiplied into thousands of end-products on account of the complications introduced by sex, age, climate, income, habits and tastes <sup>1/</sup>. As a result, as Table 9.1 demonstrates, a vast criss-cross of imports and exports are a normal result to be expected in most country markets other than the largest such as the United States of America, the USSR, India, Mainland China or Japan.

Table 9.1 : Trade in textiles (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
1. Germany (Fed. Rep.)	629 mln. US\$	307 mln. US\$
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, 1962-1963, Table 2.9, OECD.

139. Secondly, economies of scale are attained fairly early in most textile industries and even current European practice regards 10,000 spindles and 144 conventional automatic looms as constituting the minimum balanced unit.

140. The second proposition does not stand in contradiction to the first. The first proposition pertains to the size of the national industrial complex required to satisfy the needs of heterogeneity in end-products, and the second proposition concerns individual units comprising the complex.

<sup>1/</sup> Thus, Indian textile mills produce over 60,000 varieties of cloth. See Mehta, S.D., the Indian Cotton Textile Industry, an Economic Analysis, Textile Association (India), 1953, p.162.

141. Thirdly, both heterogeneity of end-products and comparative smallness of scale of unit operation usually make for a fair-sized small industry group in a number of textile branches, especially the spinning of fancy yarns, the weaving of fancy goods, knitting and the manufacture of small wares.

142. In some countries of South Asia particularly, the "small" sector is considerably larger than warranted by market-cum-technical consideration because other factors buttress the "small" group - viz., larger units are required to pay higher wages; a plentiful supply of cheap, second-hand looms is available; and entrepreneurial and technical skills are widely available. Many of these considerations are irrelevant in the North African context in the time-perspective of the present study, although the basic validity of the proposition is provided for.

143. In the net result, as may be seen in Table 9.2 and 9.3, there is a definite inverse correlation between the size of a country-market and extent of reliance on imports of textiles. The smaller the extent of the market, the greater is the reliance on imports, and vice-versa.

Table 9.2 : Apparent consumption of cotton fabrics and reliance on imports: 1963

Group	No. of markets covered	Average size of the country-market in each group	Extent of reliance on imports
A	4	1,307 metric tons	56%
B	8	65,792 metric tons	29%
C	2	897,570 metric tons	3%

Table 9.3 : Apparent consumption of "Other Fabrics" and reliance on imports: 1963.

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

Sources: Tables 9.2 and 9.3 relate to non-EEC members of the OECD and are taken from ECA: the Textile Situation in West Africa, E/CN.14/INR/129, September 1965, para. 221.

144. As will become clear in the next chapter, from the sizes of country-markets, even in 1980, the inherent capacity of country-markets (the UAR is a limited exception) in the North African sub-region to be more or less self-sufficient is highly limited. As things stand presently, most country-markets are more likely to correspond to the Group A in Tables 9.2 and 9.3, whereas a sub-regional view is likely to take the overall possibility of import substitution much closer to group C. In other words, the sub-regional whole, in the textile context, is definitely larger than the sum of its parts.

## CHAPTER X

### A GLOBAL PERSPECTIVE: 1970, 1975 and 1980

145. Table 10.1 provides a resume of the 1964 levels of per caput availability of personal textiles as assessed in earlier chapters; a forecast of the 1970 situation in terms of trends up to 1968 and the investments in progress or likely; and projections for 1975 and 1980 based on the rates of growth in total consumption per caput as given in the provisional macro-economic framework, and the consequential estimates of the total domestic supply in 1975 and 1980.

146. The logic underlying the results presented in Table 10.1 is summarized below:

147. (a) Every increase of 1 per cent in per caput GDP will necessarily be accompanied by a smaller than 1 per cent increase in household consumption per caput if the rate of growth in per caput is to be as high as given. The same consideration would not apply to consumption by public administrations, but these are a negligible category in so far as textile markets are concerned. This has already been done in the macro-economic framework. Every increase of 1 per cent in household consumption per caput would be accompanied by a smaller increase in expenditure on clothing per caput because on African experience the elasticity of expenditure on consumer durables and items like expenditure on education is several times higher. Moreover, the following four factors in the textile situation would prevent every increase of 1 per cent in consumer expenditure on clothing from translating itself into a 1 per cent increase in the quantity of cloth purchased per caput:

- (i) Higher prices per m<sup>2</sup> are to be expected as local production becomes the more important supplier on account of the cost disparities indicated and because increasing per caput GDP is likely to be spent on some upgrading in the quality of fabrics purchased;
- (ii) Some of the upgrading will involve the purchase of more durable fabrics, especially in the man-made fibres group;



Table 10.1 : Per caput availability of personal textiles: 1964, 1970 (a forecast) and 1975-1980 (projections).

Country/Group	PCTA 1964 m <sup>2</sup>	PCTA 1970 m <sup>2</sup>	Annual rate of increase in PCTA (1970-75)	PCTA 1975 m <sup>2</sup>	Annual rate of increase in PCTA (1975-80)	PCTA 1980 m <sup>2</sup>	Popula- tion 1975 millions	Total market 1975 mil. m <sup>2</sup>	Popula- tion 1980 millions	Total market 1980 mil. m <sup>2</sup>
Algeria	16.65	17.25	0.6	17.77	1.0	18.68	15.9	283	18.3	342
Morocco	19.50	21.00	0.6	21.64	1.0	22.74	17.3	374	20.0	455
Tunisia	22.50	23.50	1.0	24.70	1.5	26.63	5.9	146	6.8	181
Libya	25.00	30.00	<u>ad hoc</u>	35.00	<u>ad hoc</u>	45.00	2.2	77	2.5	112
Maghreb:										1,090
UAR	24.00	26.00	1.4	27.89	1.7	30.37	38.8	1,082	44.2	1,342
Sudan	17.50	18.50	0.6	19.06	1.1	20.13	17.9	341	20.7	417
Sub-region										2,849
										Approximately 4.1% compounded rate of growth 1964-80 in m.

Source: 1964 data as worked out in earlier chapters.

The annual rates of increase in PCTA during 1970-75 and 1975-80 are based on rates of increase in total consumption expenditures per caput as given in the provisional macro-economic framework, except in the case of Libya. The reasoning involved is indicated in the text. The overall population figures are taken from the macro-economic framework.

Caput

PCTA: Per caput textile availability refers to the domestic supply, other than blankets and carpets.

(iii) The rapid growth of clothing industries implies considerable economy in the amount of cloth required per outfit; and

(iv) The trend towards less cloth-consuming dresses, especially in women's clothing, will also tend to reduce the demand for cloth per caput.

The ratios actually used can of course be varied but the validity of the underlying logic seems beyond doubt.

148. (b) The rate chosen for Libya is ad hoc in view of the vast enlargement of its per caput GDP in the macro-economic framework.
149. (c) It would be useful to realize that the PCTA levels are not strictly comparable inter se as between countries because the product-mix (and the price-mix) varies from country to country.
150. (d) Table 10.2 converts the domestic supply of personal textiles (1980) into tonnage, provides a likely breakdown according to fibres which does not exclude the possibility of mixed fabrics or products at all.

Table 10.2 : Breakdown of the 1980 projections according to fibres

Country/Group	Domestic supply of personal textiles - 1964	DSPT-1980	Rate of conversion used m <sup>2</sup> per ton	Proportion of				DSPT (1980) according to fibres			
	metric tons			Cotton %	Rayon %	Wool %	Synthetic %	Cotton	Rayon	Wool	Synthetic
		metric tons						metric tons			
Algeria	27,000	52,615	6,500	40	40	5	15	21,046	21,046	2,631	7,892
Morocco	36,408	70,000	6,500	35	48	7	10	24,500	33,600	4,900	7,000
Tunisia	15,932	29,194	6,200	40	25	20	15	11,678	7,299	5,839	4,378
Libya	6,025	17,230	6,500	30	30	20	20	5,169	5,169	3,446	3,446
Maghreb	83,305	169,039						62,293	67,114	16,816	22,716
UAR	104,150	198,815	6,750	74	15	7	4	147,123	29,822	13,917	7,953
Sudan	31,250	63,182	6,600	75	15	4	6	47,386	9,477	2,528	3,791
Sub-region	220,765	431,036						256,902	106,413	33,261	34,460

Notes: The proportions chosen are necessarily ad hoc but reflect current patterns; an increase in the proportion of synthetics and woollen fabrics in the context of climatic requirements and higher levels of GDP per caput.

The predominance of cotton in the UAR and the Sudan is allowed to reflect itself in the small downward adjustment of the share of cotton.

151. Sectors other than the DSPT might be expected to move somewhat as follows:

	<u>1964</u>	<u>1980</u>	
A. Exports	43,000	80,000 metric tons	Mostly from the UAR, and on the assumption that the necessary viability is maintained. It is for the harmonization team to take a view on this in the light of the increase in wage levels implicit in the growth of <u>per caput</u> GDP levels.
B. Blankets and rugs	12,000	18,000 metric tons	Blankets are an item characterized by low elasticity. Carpets and rugs on the other hand, have a high income elasticity.
C. Jute products and hard fibre products	70,000 (approximate)	110,000 metric tons	Increase should more or less parallel the enlargement in end-uses. Bulk handling at ports, railway terminals, etc; substitutes and increased processing of raw materials would however reduce the rate of growth considerably.
D. Industrial textiles		10,000 metric tons	An <u>ad hoc</u> figure reflective of the enlarged role of industrial activities.
E. Clothing industries	45,000	150,000 metric tons	Reflective of the enlarged role of clothing in the wake of urbanization, changing fashion, etc., and supported by trends within the sub-region.

152. Assuming an attempt at acquiring a high degree of freedom from imports (say, import reliance for fabrics to the tune of 10 to 15 per cent and import reliance for yarn to the tune of 15 to 20 per cent in 1980), the sub-region's global requirements of fixed capital expenditure (over and above capacities likely to come into existence by 1970 and assuming operation on a full capacity, 3 shift basis) on a moderate basis of improvement on current levels of performance is likely to exceed US\$1,200 million during 1970-1980. A more specific programme <sup>1/</sup> of development can be worked out only after the provisional macro-economic framework is finalized and specific directives are made available as to the extent of import reliance feasible on general grounds, and a firmer basis for overall demand estimates provided. When these are made available a more definitive chapter - including sub-sector distribution trade patterns, investment outlays, employment, etc. - can be drawn up.

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<sup>1/</sup> If merely analogous results are desired, reference is invited to the later chapters of sectoral studies of the textile and clothing industries in the Western and Central sub-regions.

# APPENDIX I

Figures of per caput availability of textile fibres in the North African sub-region

		1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
UAR	All fibres	3.6	3.7	3.8	4.5	4.0	4.0	4.0	4.2	3.9	4.0	4.0
Libya	" "	1.8	2.2	2.4	2.8			2.5	2.8	3.0	2.7	3.4
Sudan	" "	1.5	1.6	1.7	1.6	1.7	1.7	2.1	2.3	2.5	2.3	1.6
Algeria	" "	2.1	2.2	2.4	2.5	2.6	2.4	2.2	2.0	1.5	1.4	1.5
Tunisia	" "	2.3	2.4	2.3	2.4	2.7	2.9	2.8	2.5	2.5	2.7	2.9
Morocco	" "	3.1	2.8	2.4	2.6	2.4	2.4	2.7	2.7	3.0	3.4	3.0
UAR	Cotton	3.0	3.1	3.2	3.9	3.4	3.4	3.4	3.6	3.4	3.4	3.5
Libya	"	1.1	1.4	1.5	1.7			1.6	1.7	1.5	1.3	1.5
Sudan	"	1.2	1.3	1.4	1.4	1.5	1.5	1.8	1.9	2.2	2.0	1.3
Algeria	"	1.2	1.2	1.2	1.3	1.2	1.1	1.0	0.8	0.6	0.5	0.6
Tunisia	"	1.5	1.5	1.4	1.4	1.6	1.7	1.6	1.3	1.3	1.2	1.5
Morocco	"	1.7	1.4	1.1	1.0	1.0	1.1	1.1	1.1	1.2	1.3	0.9
UAR	Rayon	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3
Libya	"	0.2	0.3	0.4	0.5			0.7	0.8	1.0	0.7	0.9
Sudan	"	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.3	0.2
Algeria	"	0.5	0.6	0.6	0.7	0.8	0.8	0.8	0.8	0.6	0.6	0.6
Tunisia	"	0.3	0.4	0.4	0.5	0.6	0.6	0.6	0.6	0.7	0.9	0.9
Morocco	"	0.8	0.9	0.8	1.0	0.9	0.9	1.1	1.1	1.2	1.4	1.5
UAR	Synthetic			0.01	0.01			0.01	0.01			
Algeria	"			0.02	0.03	0.03	0.04	0.06	0.06	0.1	0.1	0.1
Morocco	"	0.01	0.01	0.02	0.05	0.08	0.11	0.03	0.06	0.1	0.1	0.1

Source: F.A.O. studies as reported in I.C.A.C., cotton - world statistics.

E/CN.14/INR/157  
Appendix I

Country: UAR

APPENDIX II a/

Table 1 b/

Cotton and viscose staple fibres yarns

Production, demand, employment and investments 1960/1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	million L.E.	59.1	64.8	73.5	77	84	90	98.7
(b) Quantity	1000 tons	104	113	184	127	135	142	151
2. Exports								
(a) Value	Million L.E.	9.1	7.8	10.4	18.3	21.3	27.4	30
(b) Quantity	1000 tons	20	17	19	29	33	36	41
3. Imports								
(a) Value	Million L.E.	-	-	-	-	-	0.9	1.3
(b) Quantity	1000 tons	-	-	-	-	-	2	3

- a/ All tables in Appendix II are supplied by the Government of the United Arab Republic.
- b/ The table numbers in Appendix II refer to the proformas laid down by the Harmonization Team.

Country: UAR

Table 1

Cotton fabrics

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million L.E.	56.1	63.9	71.7	72.6	75.2	82.6	92.6
(b) Quantity	1000 tons	64	71	78	77	78	82	88
2. Exports								
(a) Value	Million L.E.	7	6.1	7	9.6	10.4	10.9	12.6
(b) Quantity	1000 tons	13	11	13	15	16	13	15
3. Imports								
(a) Value	Million L.E.							
(b) Quantity	1000 tons							



Country: UAR

Table 1

Hosiery and knitted products

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million L.E.	7	9.1	10.4	13	16.1	17.8	18.7
(b) Quantity	1000 tons	7	5	11	13	16	18	18
2. Exports								
(a) Value	Million F.L.	0.13	0.18	0.13	0.18	1.1	0.4	1.3
(b) Quantity	1000 tons	0.1	0.2	0.2	0.2	1.1	0.4	0.9
3. Imports								
(a) Value	Million F.L.	1.6	1.2					
(b) Quantity	1000 tons	0.4	0.2					

Country UAR

Table 1

Nylon filaments, stretch yarn and staple fibres  
Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million L.E.	1	0.9	1.5	1.3	2.1	2.4	2.5
(b) Quantity	1000 tons	0.24	0.23	0.37	0.32	0.49	0.56	0.57
2. Exports								
(a) Value								
(b) Quantity								
3. Imports								
(a) Value								
(b) Quantity								

Country: UAR

Table 1

Viscose filaments and staple fibres  
Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million L.E.	8.0	8.2	9.1	9.2	10.1	9.1	11
(b) Quantity	1000 tons	11.2	11.5	12.5	12.5	13.0	11.5	14.5
2. Exports								
(a) Value	Million L.E.	0.81	0.62	1.1	1.2	0.62	0.6	0.9
(b) Quantity	1000 tons	2	1.6	2.6	3.5	2.4	1.8	2.7
3. Imports								
(a) Value	Million L.E.	0.39	0.13	0.30	0.34	0.26	0.26	1.17
(b) Quantity	1000 tons	0.8	0.3	0.4	8.2	0.2	0.2	1

Country: UAR

Table 1

Textiles from artificial fibres  
Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	10.7	10.0	11.0	14.5	14.4	13.9	13.8
(b) Quantity	1000 tons	7.2	6.5	7.3	9.0	8.7	8.2	8.1
2. Exports								
(a) Value	Million E.L.	1.3	1.2	0.4	-	-	0.39	0.6
(b) Quantity	1000 tons	1.5	1.5	0.7	0.7	0.4	0.3	0.5
3. Imports								
(a) Value	Million E.L.	9.6	0.6					
(b) Quantity	1000 tons	0.5	0.2					

Country: UAR

Table 1

Wool yarn

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	12.8	11.4	13	15.7	15.5	17.7	19.6
(b) Quantity	1000 tons	6.3	7.1	9	9.6	9	9.8	10.5
2. Exports								
(a) Value								
(b) Quantity								
3. Imports								
(a) Value	Million E.L.	0.2	0.17					
(b) Quantity	1000 tons	0.1	0.1					

Country: UAR

Table 1

Wool cloth

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	10	9.9	12.7	14.6	14.3	15	16.5
(b) Quantity	1000 tons	2.5	2.5	3.2	3.7	3.5	3.5	3.7
2. Exports								
(a) Value	Million E.L.	-	-	-	-	-	-	-
(b) Quantity	1000 tons	-	-	-	-	-	-	-
3. Imports								
(a) Value	Million E.L.	0.13	0.08	0.08	0.04	0.08	0.08	0.13
(b) Quantity	1000 tons	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Country: UAR

Table 1

Wool blankets and carpets

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	5.5	6.25	6.9	7.3	7.7	8	8.4
(b) Quantity	1000 tons	3.2	3.8	3.8	4.0	4.0	4.0	4.1
2. Exports								
(a) Value	Million E.L.	-	0.09	0.09	0.13	0.13	0.13	0.13
(b) Quantity	1000 tons	-	0.1	0.1	0.1	0.1	0.1	0.2
3. Imports								
(a) Value	Million E.L.	-	-	0.04	0.18	0.09	0.04	0.09
(b) Quantity	1000 tons	-	-	0.1	0.1	0.1	0.1	0.1

Country: UAR

Table 1

Jute fabrics, sackings and twine

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	2.24	4.5	4.4	5	6.25	4.25	4.5
(b) Quantity	1000 tons	11.8	22.9	21.5	23.6	22.9	17.1	18.1
2. Exports								
(a) Value	Million E.L.	-	-	-	-	-	-	-
(b) Quantity	1000 tons	-	-	-	-	-	-	-
3. Imports								
(a) Value	Million E.L.	5.5	3.4	2	2.13	3.02	12.5	7.13
(b) Quantity	1000 tons	37.3	21.8	11.8	13.7	20.0	78.3	42.5



Country: UAR

Table 1

Flax yarn, twine and cordage

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	0.52	0.52	0.82	1.6	1.5	1.3	1.1
(b) Quantity	1000 tons	1.2	1.4	2.1	3.8	3.3	2.8	2.2
2. Exports								
(a) Value	Million E.L.	-	-	-	-	-	-	-
(b) Quantity	1000 tons	-	-	-	-	-	-	-
3. Imports								
(a) Value	Million E.L.	-	-	-	-	-	-	-
(b) Quantity	1000 tons	-	-	-	-	-	-	-

Country: UAR

Table 1

Ready-made garments

Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	31.8	41	48.2	51.8	57	62	64.3
(b) Quantity	1000 tons	10	2.6	24.3	26.1	28.7	31.4	32.5
2. Exports								
(a) Value	Million E.L.	-	-	0.17	0.30	0.34	0.22	0.22
(b) Quantity	1000 tons	-	-	0.2	0.4	0.4	0.2	0.2
3. Imports								
(a) Value	Million E.L.	-	-	-	-	-	-	-
(b) Quantity	1000 tons	-	-	-	-	-	-	-

Country: UAR

Table 1

Sisal and manila twine and cordage  
Production, demand, employment and investments 1960-1966

	Units	1960	1961	1962	1963	1964	1965	1966
1. Gross output								
(a) Value	Million E.L.	0.16	0.16	0.12	0.19	0.06	0.03	0.14
(b) Quantity	1000 tons	0.67	0.67	0.48	0.72	0.23	0.1	0.47
2. Exports								
(a) Value	Million E.L.	-	-	-	-	-	-	-
(b) Quantity	1000 tons	-	-	-	-	-	-	-
3. Imports								
(a) Value	Million E.L.	-	-	-	-	-	-	-
(b) Quantity	1000 tons	-	-	-	-	-	-	-

# APPENDIX III

## Cotton and viscose staple fibre yarns (1966) Supply/demand balance and trade matrix: North Africa

Table 4

(In thousands I.E.)

Importing country Exporting country	Morocco	Algeria	Tunisia	Libya	Maghreb	UAR	Sudan	North Afr. S.R.	West Afr. S.R.	East Afr. S.R.	Central Afr. S.R.	Africa	Rest of world	France	Italy	W. Germany	Netherlands	Belg./Lux.	USA	Total exports
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Morocco																				
2. Algeria																				
3. Tunisia																				
4. Libya																				
5. Maghreb																				
6. UAR																				
7. Sudan																				
8. North Afr. sub-region																				
9. West. Afr. sub-region																				
10. East Afr. sub-region																				
11. Central Afr. sub-region																				
12. Africa																				
13. Rest of the world of which:																				
14. France																				
15. Italy																				
16. West Germany																				
17. Netherlands																				
18. Belg./Lux.																				
19. USA																				
20. Total Imports																				
21. Domestic production																				
22. Total supply																				
23. Exports																				
24. Domestic consumption																				

Hosiery and knitted products (1966)  
Supply/demand balance and trade matrix: North Africa

Table 4

(In thousands L.E.)

Importing country Exporting country	Morocco	Algeria	Tunisia	Libya	Maghreb	UAR	Sudan	North Afr. S.R.	West Afr. S.R.	East Afr. S.R.	Central Afr. S.R.	Africa	Rest of world	France	Italy	W. Germany	Netherlands	Belg./Lux.	USA	Total exports
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Morocco																				
2. Algeria																				
3. Tunisia																				
4. Libya																				
5. Maghreb																				
6. UAR																				
7. Sudan																				
8. North Afr. sub-region								2.2	2.2	.9	.4		3.5							1,209.5
9. West Afr. sub-region																				
10. East Afr. sub-region																				
11. Central Afr. sub-region																				
12. Africa																				
13. Rest of the world of which:																				
14. France																				
15. Italy																				
16. West Germany																				
17. Netherlands																				
18. Belg./Lux.																				
19. USA																				
20. Total imports																				
21. Domestic production																				
22. Total supply																				
23. Exports																				
24. Domestic consumption																				

Row 5 = Rows 1+2+3+4  
 " 8 = " 5+6+7  
 " 12 = " 8+9+10+11  
 Row 20 = Rows 12+13  
 " 22 = " 20+21  
 " 24 = " 24+23  
 " 26 = Column 20

# Cotton fabrics (1966)

Supply/demand balance and trade matrix: North Africa

Cotton fabrics (1966)  
Supply/demand balance and trade matrix: North Africa

Table 4

(In thousands L.E.)

Importing country		Exporting country																			
		Morocco	Algeria	Tunisia	Libya	Maghreb	UAR	Sudan	North Afr. S.R.	West Afr. S.R.	East Afr. S.R.	Central Afr. S.R.	Africa	Rest of world	France	Italy	W. Germany	Netherlands	Belg./Lux.	USA	Total exports
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	Morocco	740.3			171.7	1,622.2			1,803.9	3,426.1	566.5	293	62.6	4,348.3	8,391.7		16.1	55.6	35.6	671.7	12,740.0
2.	Algeria		1,316.1																		
3.	Tunisia																				
4.	Libya																				
5.	Maghreb																				
6.	UAR																				
7.	Sudan																				
8.	North Afr. sub-region																				
9.	West Afr. sub-region																				
10.	East Afr. sub-region																				
11.	Central Afr. sub-region																				
12.	Africa																				
13.	Rest of the world																				
14.	of which:																				
15.	France																				
16.	Italy																				
17.	West Germany																				
18.	Netherlands																				
19.	Belg./Lux.																				
20.	USA																				
21.	Total imports																				
22.	Domestic production																				
23.	Total supply																				
24.	Exports																				
25.	Domestic consumption																				

Row 20 = Rows 12+13  
" 22 = " 20+21  
" 24 = " 24+23  
" 26 = Column 20

Viscose filaments and staple fibres (1966)  
Supply/demand balance and trade matrix: North Africa

Table 4

(In thousands L.E.)

Exporting country  Importing country	Morocco	Algeria	Tunisia	Libya	Maghreb	UAR	Sudan	North Afr. S.R.	West Afr. S.R.	East Afr. S.R.	Central Afr. S.R.	Africa	Rest of world	France	Italy	W. Germany	Netherlands	Belg./Lux.	USA	Total exports
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Morocco								11.7				11.7								840.8
2. Algeria								11.7				11.7								
3. Tunisia													829.1							
4. Libya																				
5. Maghreb																				
6. UAR																				
7. Sudan																				
8. North Afr. sub-region																				
9. West Afr. sub-region																				
10. East Afr. sub-region																				
11. Central Afr. sub-region																				
12. Africa																				
13. Rest of the world																				
14. of which:																				
15. France								1,140												
16. Italy								468.2												
17. West Germany								14.8												
18. Netherlands								99.5												
19. Belg./Lux.								13												
20. USA								1,140												
21. Total imports																				
22. Domestic production																				
23. Exports								840.8												
24. Domestic consumption																				

Row 5 = Rows 1+2+3+4  
 " 8 = " 5+6+7  
 " 12 = " 8+9+10+11  
 Row 20 = Rows 12+13  
 " 22 = " 20+21  
 " 24 = " 24+23  
 " 28 = Column 20

Textile from artificial fibres (1968)  
Supply/demand balance and trade matrix: North Africa

Table 4

(In thousands L.E.)

In thousands L.E.)																					
Importing country																					
Exporting country		Morocco	Algeria	Tunisia	Libya	Maghreb	UAR	Sudan	North Afr. S.R.	West Afr. S.R.	East Afr. S.R.	Central Afr. S.R.	Africa	Rest of world	France	Italy	West Germany	Netherlands	Belg./Lux.	USA	Total exports
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Morocco		9.1																			
2. Algeria			218.7																		
3. Tunisia																					
4. Libya																					
5. Maghreb					227.8																
6. UAR																					
7. Sudan																					
8. North Afr. sub-region									54.8												
9. West Afr. sub-region										282.6											
10. East Afr. sub-region											.9										
11. Central Afr. sub-region																					
12. Africa													283.5								
13. Rest of the world														317							
14. France																					
15. Italy																					
16. West Germany																					
17. Netherlands																					
18. Belg./Lux.																					
19. USA																					
20. Total imports																					600.5
21. Domestic production																					
22. Total supply																					
23. Exports																					
24. Domestic consumption																					

Row 5 = Rows 1+2+3+4 Row 20 = Rows 12+13  
 " 8 = " 5+6+7 " 22 = " 20+21  
 " 12 = " 8+9+10+11 " 24 = " 24+23  
 Page 5 " 2Q = Column 20