

# Productivity and Employment Objectives in Egypt's Cotton Textile Industry\*

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## I — Introduction \*\*

The cotton textile industry in Egypt has witnessed substantial expansion over the last two decades<sup>(1)</sup> and it dominates, at present, the structure of the manufacturing sector in terms of employment and value added<sup>(2)</sup>. Taking into consideration the pattern of planned development during the last two decades<sup>(3)</sup>,

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- 1) Production of cotton yarn increased from 48.5 thousand tons in 1948 to 138.1 thousand tons in 1965. Production of cotton woven fibers increased from 42.8 thousand tons in 1952 to 88.9 thousand tons in 1965. U. N. Statistical Yearbook, 1966 pp. 255 - 7; and Federation of Egyptian Industries. Annual Yearbook, 1966 (Statistical Appendix, Table III).
- 2) Employment in the textiles industry accounted for 43.8 percent and 42.5 percent of the total employment in the manufacturing sector in 1952 and 1962 respectively. Value added (gross) accrued by the textiles industry represents 33.2 percent and 32.3 percent of the total value added (gross) accrued by the manufacturing sector in 1952 and 1962 respectively. Fawzi R. Fahmy, Economics of Industry in U.A.R. (I.N.P., Memo. No. 621, 1966, pp. 44 - 6); and Census of Industrial Production (Egypt), 1962.
- 3) Fawzi R. Fahmy, Growth Pattern of Manufacturing Sector in Egypt, 1950-1970 (I.N.P. Memo. No. 386, 1964).

and in the light of the present structure of the manufacturing sector, it could be stated that the cotton textile industry will continue to occupy the position of the premier industry in the near future ( probably for the coming 10 or 15 years ). Further expansion of the cotton industry in Egypt is, however, imperatively needed particularly for the export markets.

An attempt is made in this paper to set up a pattern of development in Egypt's cotton textile industry which would realize higher levels of productivity in the industry ( in order to render it more competitive in the world markets ) and meanwhile which would satisfy the needs of employment objectives.

## II

Needless to say, the world market in cotton products is very competitive. It is of great relevance to mention, in this context, that investigations into the income elasticity of demand for cotton textile products have shown that income elasticity increases as the cotton products are « more expensive » ( of better quality ), i.e., if in the opinion of the consumer it is a product of higher standing <sup>(1)</sup>. In other words, with increase in incomes the pattern of consumption of cotton manufactures is

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- 1) This was the result of calculations made by M. Fraenkel of the extent to which the total demand for all fibres (in kilos) in Western countries has reacted to changes in incomes. The calculations (cross section) covered the average for the years 1947-57, and related to consumption of clothing. The calculations showed that the income elasticity of consumption of all fibres in Western countries during the period was 0.58, this referring exclusively to the quantity. In other words, a 10 percent higher income in the Western countries during 1947-57 caused fibre consumption (in kilos) to increase by 5.8%. When, however, the calculations included not the quantities consumed but their value on a raw material basis, an income elasticity of 0.67 was obtained. This shows that, with higher incomes, a shifting of demand to the « more expensive » types of fibres took place. M. Fraenkel, « An Investigation into the future consumption of Textile Fibres and Clothing in Western Europe », **International Review of Cotton and Allied Textile Industries**, Vol. 28. No. 110, ( June 1960 ), pp. 144-51. This change in consumer's behaviour has also been observed in Japan, «We do not think that the higher level of clothing consumption or the increased value of clothing sales means itself a greater volume of purchases by the consumer. Some portion of the increase must have been spent not to buy more pieces but to buy more expensive garments for the same use. » E. Shimada, « Recent Economic Trends in the Cotton Industry in Japan, » **Cotton And Allied Textiles Industries**, 1960, p. 55

likely to change progressively in favour of textiles manufactured out of the better varieties of cotton, e.g., *long and extra-long staple cottons*.

Among the less developed countries, Egypt, however, stands in an advantageous position in two important aspects.

First, Egypt has a world reputation in growing cotton. Further, Egyptian cottons are of the long staple variety. Its extra-long staple cotton is considered the strongest and the longest in staple in the world and is, therefore, the best available for spinning high-quality, high-count yarns and for meeting the requirements of particular end-uses requiring highly specialised fibre characteristics. Furthermore, the yield per hectare of cotton in Egypt is among the highest in the world.<sup>(1)</sup>

Second, the geographic position of Egypt gives her the advantage of being relatively very near the markets of Europe. i.e., the markets of the high level income. This position gives the exports of Egyptian cotton textiles an advantage in terms of freight costs ( compared to India, for example, this gives Egypt's exports of cotton products a reduction of about 1/3 in freight costs in relation to Indian exports of cotton products ).

These two factors give Egyptian exports of cotton manufactures a comparative economic advantage of very great importance.

There is, therefore, clearly an advantage in Egypt's cotton industry, specialising in the production of the finest qualities of cotton products. Yet, Egypt's production of fine cotton yarns is still very negligible. Table I shows the distribution of yarn out-put during 1954-1965 among the various counts. It will be seen that there has been some improvements in the production of fine cotton yarns, i.e., cotton yarns of high counts, but, the production of low-grade counts ( i.e., yarn below count 60 ) accounts for over 98 per cent of the total production of cotton yarn.

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1) Compared to India, for example, India's production of cotton per hectare was only 100 kilogrammes as compared with Egypt's 560 kilogrammes. Besides, Egyptian cottons are long staple, whereas Indian cottons are short staple.

TABLE 1.—Distribution of Cotton Yarn Output Among the Various Counts  
(1954 - 1965)

Year	Thousand tons							
	Coarse yarn below count 24		Medium yarn count 24 — 60		Fine yarn Above count 60		Total	
	Tons	%	Tons	%	Tons	%	Tons	%
1954	50.819	79.0	13.183	20.5	1.344	0.5	64.346	100.0
1960	68.253	66.8	32.347	31.7	1.558	1.5	102.158	100.0
1962	84.819	69.9	34.369	28.4	2.112	1.7	121.000	100.0
1963	81.439	66.3	39.200	31.9	2.257	1.8	122.896	100.0
1965	85.901	62.2	49.744	36.0	2.475	1.8	138.120	100.0

Source : Federation of Industries in the United Arab Republic, Yearbook, 1964 and 1966.

To be in effective competition in the market for the cotton products, it is, however, essential for Egypt's cotton industry to be more modernized and, in the process, more mechanized.

During the last two decades, technological change has been very rapid in the cotton manufacturing countries especially in the older producing countries, e.g. the U.S.A. and the U.K.<sup>(1)</sup> The United States, for example, has achieved a tremendous increase in productivity in the cotton textile industry.

The development of the cotton - textile industry in Japan has also been due not only to the relative cheapness of labour but to the continuous modernization of techniques<sup>(2)</sup>. Japan is at present the largest individual exporter of cotton-textile products. She has successfully managed to achieve remarkable expansion in her exports of cotton goods since the end of the Second World war : from 50.4 thousand metric tons in 1948 to 225 thousand tons, in 1963; thanks to large-scale modernisation and re-equipment of its cotton industry.<sup>(3)</sup> Japanese cotton textiles compete successfully in external markets both in *price and quality*. This is in spite of the fact that Japan imports all her needs of raw cottons. It is of some significance to mention that Japan imports sizeable amounts of Egyptian cottons. (It might be of some relevance, here, to mention that Egypt's exports of cotton products amounted to 43,470 tons in 1963 compared to Japan's exports of cotton products of 225,000 tons).

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- 1) An O.E.C.D. study showed that in 1963 all looms in the United States were automatic looms, over 80 per cent in Italy, 70 per cent in Germany and 60 per cent in France and the Netherlands. F. Vibert, « Economic Problems of the Cotton Industry », **Oxford Economic Papers**, Vol. 18, No. 3 ( Nov. 1966 ), p. 340.
  - 2) In Japan, the textile industry was one of the earliest to modernize operations. It has been a pioneering leader in the development of the nation. It is worthy of note that the cotton spinning industry was almost completely mechanized at the time of the Sino-Japanese War (1894-5) and assumed world supremacy in the export of cotton cloth within a period of only half a century. Of special note is the fact that modernization of the entire Japanese industrial structure evolved from foundations laid in the textile industry; particularly from those in the cotton industry. It is to be noted, moreover, that in the tempo of modernization there existed a marked difference when comparing the textile industry with the others. It can be said that development as a whole remained uneven and unbalanced. **Keizo Seki, The Cotton Industry of Japan** (Tokyo: Japan Society for the Promotion of Science, 1956) pp. 4 - 5.
  - 3) *Ibid.*, pp. 119.

Apart from capital costs of modernization, greater skills are needed for operating modern machinery. Besides, since the end of the Second World War, modernization of machinery in the cotton industry has already caused *noticeable reduction in the number of operatives per unit of capital equipment.*

It is of significance here to mention that most of the machinery imported for the textile industry in Egypt <sup>(1)</sup> since the end of the Second World War has been of a more capital-intensive and labour-saving type than before. Technological change in the Misr Cotton Spinning and Weaving Company at Al Mahalla Al Koubra, the biggest cotton textile concern in Egypt, is very illustrative. The total production of the company in 1944 was 73.5 million meters of cotton textiles and 17,000 tons of cotton spun; the total number of workers in the company was 27,440. In 1952, after introducing the new machines (i.e., modern spindles) and substituting mechanical looms by automatic looms, the total production of the company was 94 million metres of cotton textiles, i.e., an increase of nearly 28 percent over that of 1944; the production of cotton spun was 17,000 tons i.e., about the same quantity as in 1944. The total number of workers, however, declined to 15,290, which was about 45 per cent lower than in 1944. <sup>(2)</sup>

The rapid development of technological change in the cotton-weaving sector of the textile industry in Egypt can be clearly demonstrated from the following table which shows the increase of ordinary and automatic looms between 1952 and 1965.

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- 1) Egypt has not yet managed to develop industries producing capital goods, and she imports almost all her requirements of machinery and equipment needed for the cotton textile industry.
  - 2) The activities of the Misr Cotton Spinning and Weaving Company at Al Mahalla Al Koubra, *Economic Bulletin of the Misr Bank*, Vol. II, No. 1 (1957), pp. 92 - 5.

TABLE II.—Ordinary and Automatic Looms in Place, in Egypt  
1952 & 1965

	Ordinary looms		Automatic looms		Total	
	No.	%	No.	%	No.	%
1952	8558	62.4	5171	37.6	13,729	100.0
1965	10426	42.0	14442	58.0	24,868	100.0

Source : U.N., Statistical Yearbook, 1966, p. 253.

The table shows that the percentage of automatic looms was 37.6 per cent in 1952, and it has reached 58.0 percent in 1965. It should be noted that the percentage of automatic looms in the U.K. in 1963 was 36 per cent.<sup>(1)</sup>

In spite of the relatively rapid modernization in the cotton textile industry in Egypt, productivity levels do not seem to have matched this development. There is not sufficient available information and researches on productivity in the cotton textile industry in Egypt. However, some pieces of information in this sphere might be of some use.

In 1961, the Swiss Engineering Bureau Gherzi ascertained the following in Egypt :

- (1) The number of workers necessary to make 1000 Spindles function amounted in Europe to 3, in Egypt with its old-established industry to 9.
- (2) The output of a worker in Egypt in 1961 was about 24% less than in Europe, assuming that the comparison related to the same count of yarn and the same output per man hour.

1) F. Vebert, *op. cit.*, p. 340 (Table XLIV).

- (3) With 1000 spindles Egypt produced an average of 2 kg/20 yarns (Eng. count) compared with Europe 6.5 to 7.6 kg per same time unit. <sup>(1)</sup>

A preliminary study on productivity in one of the big cotton textile firms in Egypt shows that looms worked at 72 per cent of its capacity in 1966. This study has also shown that the delay in operation is due mainly to interference (the main reason for it is over-employment), it accounts, in fact, for about 51 percent of the delay.

Differences of productivity levels among the different textile firms in Egypt are certainly very large. Productivity in some firms (measured by the number of picks per loom) amounted to 9120 picks in one of the older cotton textile firms (using automatic looms) in 1964; in a newly established cotton textile firm, picks per loom in 1964 amounted to about 4000 picks, i.e., less than half of the picks per loom per hour reached by the former firm.<sup>(2)</sup> It should be noted that Japan has managed to produce highly advanced automatic looms, « the water-gets », which achieve 600 picks per minute for the loom of the width 42 inches i.e., 36,000 picks per hour; if the loom is wider, « 65 inches », picks reaches 450 per minute, i.e., 27,000 picks per hour.<sup>(3)</sup> This study has also revealed that the number of workers operating on 10 looms has increased in 1964 over that in 1963; consequently, productivity per worker declined in 1964 in comparison with that in 1963.<sup>(4)</sup>

Our analysis indicates that Egypt's cotton textile industry has experienced technological change during the last two decades, though it still lags behind some of the advanced producing countries, e.g., the USA, Japan, Italy. The analysis also suggests that the main reasons for the low-levels of productivity in the industry may be traced to the over-employment and under utilization of machinery. These two factors deserve great attention and call for thorough studies.

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1) **International Federation of Cotton and Allied Textiles Industries**, Vol. 4 (1963), p. 37.

2) Malak-El-Hariry, « **Factors influencing Higher Productivity in the Cotton Spinning and Weaving Industry** », A Dissertation presented to the I.N.P. (Cairo), Oct. 1965, pp. 56 - 60.

3) **Ministry of Industry (Egypt), New Researches in Industry**, Nov. 1967.

4) Malak-El-Hariry, op. cit., pp. 60 - 1.

## III

The analysis presented in Part II shows that, in the context of Egypt's advantages in regard to cotton, and its potential export possibilities, the choice of technology in the industry is limited, by necessity, to the more-highly mechanized. Such a pattern of industrial expansion in the cotton textile industry which is geared to the export markets cannot help to absorb large numbers of man-power in Egypt. It should also be recalled that the cotton textile industry in Egypt suffers of over-employment.

We shall try in this part to examine the possibilities of developing the small-scale sector of the cotton-weaving industry using labour-intensive techniques.

Small-scale industries flourished in Egypt during the Second World War. Nearly 50,000 looms were operating in 1947, employing not less than 100,000 workers<sup>(1)</sup> that is nearly 17 percent of the total working force in manufacturing industries in that year.

The use of relatively more advanced techniques in the textiles industry as has been indicated in part II has led, also, to a sharp decline in the number of the total establishments in this group of industry, particularly among the very small units. This is clearly demonstrated from the classification of the number of establishments in the textiles industry, according to the number of persons engaged, in 1947 and 1950. It will be seen from table III that the total number of establishments in the textiles group of industry declined from 12,400 units in 1947 to 5,192 units in 1950, i.e., a decline of nearly 58 percent within three years. What is more, the number of medium-scale and large-scale units showed considerable increase over the same period.

The number of medium-scale units employing 100 to 499 persons increased from 52 to 78 units, i.e., by about 50 per cent, while the number of large-scale units employing 500 persons and over increased from 20 units to 29 units, i.e., by 45 per cent. Meanwhile, the number of the smaller scale units, employing less than 100 workers sharply declined from 12,328 units in 1947 to 7,243 units in 1950, by nearly 59 per cent. The most noticeable decline was among the very small-scale units, viz., those employing less than 5 persons; their number declined from 10,615 units in 1947 to 4,004 units in 1950, i.e., by 62 per cent.

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1) Dr. Shukry El Maraghy and Others, **Domestic Industries** (Cairo; Government Press, 1957), p. 96 (Arabic).

**TABLE III.—Number of Industrial Establishments in Textiles Industry  
Classified by Number of Persons engaged in 1947-1950.**

	1947	1950	+ or—	%
A. Under 5 persons	10,615	4,004	—6,611	—62
5 — 9	1,140	718	— 422	—37
10 — 14	274	154	— 120	—44
15 — 19	94	61	— 33	—35
20 — 49	147	102	— 45	—31
50 — 99	58	46	— 12	—21
	12,328	5,085	—7,243	—59
B. 100 — 249	36	55	+ 19	+53
250 — 499	16	23	+ 7	+44
	52	78	+ 26	+50
C. 500 persons and over	20	29	+ 9	+45
Total	12,400	5,192	—7,208	—58

Source: Census of Industrial Production, 1947, Table III, p. 41; and C.I.P., 1950, Table IV, p. 56.

The explanation for the sharp decline in the establishments of smaller-scale units in the textile industry is that these units could not compete with the large-scale units using more advanced techniques of production.

One of the main reasons for the decline of the handloom and small-scale sector, in the textile industry, has, also, been the *State policy of the Egyptian Government in the post-war years*. It not only refrained from assisting this sector of the industry, but, on the contrary, encouraged and favoured its rapid decline in order to help the factory sector which had been experiencing difficulties by way of heavy accumulation of yarn and cloth. In the report of the Textile Enquiry Committee, 1950 (Egypt)<sup>(1)</sup> the two following measures were suggested :

a) *Restriction of the expansion of the handloom sector*. The reason given for this step was :

The handloom establishments which employ very large numbers of workers dispersed in Cairo, Qaliub, Belbeis, Damiette, Alexandria, Meit Ghamr, Chebin El-Kom, Embaba, Fayum, El-Wasta, Assiout, Quena and Souhag, were thought to be founded on a basis not consistent with general bias of industry and the general development plan. Although the Government had not opposed the foundation of these small establishments during the War period because of the great necessity for them, yet there is no reason for the handloom establishments to continue their activities after the War has ended, and the situation, therefore, demands a rapid and practical solution.<sup>(2)</sup>

b) *Amalgamation of the small mechanized factories* with each other—either compulsorily through legislative measures, or voluntarily — and a minimum fixed for the number of looms in each factory.<sup>(3)</sup>

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1) In 19.12.1948 the Egyptian Government established a committee comprising representatives from the Ministries of Commerce and Industry, Finance, Social Affairs, and Agriculture, to enquire into the prevailing conditions of the textiles industry and suggest necessary measures to overcome the difficulties of the industry. In 14. 6. 1950, the Committee submitted its report. Egyptian Government, Ministry of Commerce and Industry, **Report of the Committee for Investing Means for Assisting and Encouraging the Spinning and Weaving Industry**, (Cairo : Government Press, 1951).

2) *Ibid.*, p. 102 (Under line mine).

3) *Ibid.*, p. 102.

## IV

The employment potential of the handloom and small-scale sector in cotton weaving industry in Egypt can, however, be illustrated on the basis of data available for India.<sup>(1)</sup>

The range of technological possibilities in this sector is wide, but we shall restrict ourselves here to the following three :<sup>(2)</sup>

- i. The fly-shuttle handloom;
- ii. The «Banaras» semi-automatic handloom; and
- iii. The small-scale cottage power-loom.

The possible targets of production for this sector can be estimated on the assumption of three hypothetical rates of expansion :

A. The output of this sector is 25 per cent of the total home consumption.

B.	-do-	40 per cent	-do-
C.	-do-	60 per cent	-do-

These will be referred to as Cases A,B and C respectively.

For the sake of simplicity, the target of production will be fixed for the year 1964-65. The starting date is the year 1959-60. This five-year period coincides with the execution of the General Five-year Plan for Egypt, 1960-65. Annual per capita cotton textile consumption in 1959 was estimated at 30 yards in Egypt; and during the five-year period, 1959/60 — 1964/65, per capita fibre cotton consumption was estimated to increase by 30 per

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- 1) The handloom industry in India has been given special consideration by the Indian Government, which regard its development as part of an integrated programme for the economic development of the Country. Reference is therefore made to the Indian experience.
  - 2) A. K. Seen, **Choice of Techniques**, (Oxford: Basil Blackwell, 1960), Appendix C, pp. 102 - 14.

cent.<sup>(1)</sup> Thus the cotton textile consumption of the expected total population of Egypt in 1964/65 (28.5 million) <sup>(2)</sup> could be placed at approximately 1,100 million yards.

The employment that could have been provided in the small-scale sector, on the basis of the techniques listed above, with a total output of this order and under each of the three assumptions (regarding the proportion to be met by this sector) is indicated below Table IV :

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- 1) This percentage increase is based on estimates given in the General Five-Year Plan 1960-1965. United Arab Republic, Republic Presidency, Planning Commission, **Frame of the General Plan for the Economic and Social Development for the Five Years, July 1960 - June 1965**, p. 107.
  - 2) The expected population of Egypt in 1965 as given in *ibid.*, p. 15.

TABLE IV.—Employment possibilities of the Handloom and Small-Scale Sector of the Cotton Weaving Section of the Textile Industry, Involving Different Types of Techniques and Assuming Alternative Rates of Expansion in Egypt\*.

Technique	Labour per loom	Output per loom per day (in yards)	Output per loom per year (in yards)	No. of looms needed for the production of 275 m.yds.	No. of workers needed for the production of 275 m.yds.
Case A. (25% of total home consumption; 275 million yards)					
i	1	6*	1,800	153,000	153,000
ii	1	20	6,000	46,000	46,000
iii	1	30	9,000	31,000	31,000
Case B. (40% of total home consumption; 440 million yards)					
-do-					
440 m.yds.					
i	1	6*	1,800	244,000	244,000
ii	1	20	6,000	73,000	73,000
iii	1	30	9,000	49,000	49,000
Case C. (60% of total home consumption; 660 m.yards)					
-do-					
660 m.yds.					
i	1	6*	1,800	367,000	367,000
ii	1	20	6,000	110,000	110,000
iii	1	30	9,000	73,000	73,000

\* Data regarding types of techniques and output per loom are based on a study about «Technique for the Cotton-Weaving Industry in India», by A. K. Sen, op. cit., pp. 102-4.

The above-mentioned figures illustrate the range of employment possibilities of the handloom and small-scale sector, in the cotton weaving industry, with different types of techniques and assuming alternative rates of expansion of this sector. It can be seen that the range of possibilities under the different assumptions is very wide. It ranges from employment for 31,000 persons (in case technique iii is chosen for the production of 25 per cent of the total consumption), to employment for 367,000 persons (in case technique i is chosen for the production of 60 per cent of the total local consumption). In addition, there would be secondary employment possibilities, connected with the expansion in this sector, such as for carpenters, blacksmiths, etc. who would be engaged in production or repair of equipment. It may be mentioned in this connection that the total number employed in the handloom and small-scale sector of the cotton textile industry in Egypt was less than 24,000 workers in 1959.<sup>(1) (2)</sup>

## V

We shall try to examine, in this part, the actual development of employment in the textile industry over the years 1960-1964. Table V presents figures of employment in the textiles,

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- 1) Average output per loom per day in Egypt has been much less than that produced by technique i. According to the available data, monthly output of the 50,000 working handlooms weaving cloth was estimated at 4 million metres in 1947 (a). Following the assumption of 300 working days in a year, this comes to 3.84 yards (b) per loom per day, compared with 6 yards per loom per day for technique i. The output per handloom per day in Egypt, viz 3.84 yards is, however, nearer to the output of the more primitive type of fly-shuttle handloom which is now surviving in India on a very precarious and unsatisfactory basis, viz, 4 yards per loom per day (c).
  - a) These figures are derived from the official statistics of the Ministry of Supply, Government of Egypt, and quoted from Dr. Shukry Elmagraghy and others, *op. cit.*, p. 96.
  - b) These calculations are based on the following standard conversion factors 9000 yards = 7500 metres. *Commodity Series, F.A.O. No. 25, p. 46.*
  - c) K.N. Raj, «Small-scale Industries, Problems and Technological Change», *The Economic Weekly*, April 14, 1956.
  - 2) There is no available estimation of employment in the handloom and small-scale sector of the cotton - weaving industry in Egypt. According to data published in the *General Plan Frame (Egypt)*, employment in the spinning and weaving industry was estimated at 135,000 workers in 1959. (U.A.R. Government, Planning Commission, *General Plan Frame 1960 - 1965, p. 141*). Meanwhile, preliminary figures given in

industry according to the data given in the censuses of Establishments. The table indicates that employment in the textiles industry has increased from 168,072 persons in 1960 to 219,581 persons in 1964, i.e. an increase of 51,509 persons. The distribution of the increase in employment among the different sizes of the industry was as follows :

<i>Category of Establishments</i>	<i>Increase in Employment</i>	<i>%</i>
A. Small-Scale units (1 — 49 persons)	+ 2,805	5.5
B. Medium-Scale units (50 — 499 persons)	+ 4,642	9.0
C. Large-Scale units (500 and over)	+ 44,062	85.5
	51,509	100.0

It will be seen that the increase in employment in the small-scale units was very meagre during the four years period 1960/1964, it accounted for about 5.5 p.c. of the total increase in employment in the industry during the same period 1960/1964. Employment in the medium-scale units increased by about 9 p.c. during the four years.

The table shows however that the increase in employment in the large-scale establishment accounted for 85.5% of the total increase in the textiles industry during the period 1960/1964,

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the C.I.P. for the year 1958 show that total employment in the spinning and weaving industry in establishments of 10 and more workers was 113,647 workers. Supposing that no increase in employment had occurred in this industry during the year 1958/59, employment in establishments employing less than 10 workers could be estimated at 135,000 - 113,647 = 21,353 or about 21,350 workers. C.I.P. figures for employment in establishments employing 10 - 49 workers in 1958 was estimated at 8,455 workers. Thus, total employment in the handloom and small-scale sector of the textile industry could be estimated at 21,350 + 8,455 = 29,805 workers.

Assuming that 80 per cent of the total employment in the industry is engaged in the cotton textile branch of the industry, employment in the handloom and small-scale sector of the cotton textile industry in 1958 could be estimated at 23,844 workers.

TABLE V.—Distribution of Employment in the Textiles Industry According to Category of Persons Engaged 1960—1964.

Category	1960				1964			
	No. of Establish.	%	No. of workers	%	No. of Establish.	%	No. of workers	%
1- person	2750	35.47	2750	1.64	2414	30.88	2414	1.10
2 persons	1310	16.90	2620	1.56	1430	18.29	2860	1.30
3 >	978	12.61	2934	1.75	987	12.63	2961	1.35
4 >	670	8.64	2680	1.59	669	8.56	2676	1.22
5-9 >	988	12.74	6338	3.77	1127	14.42	7092	3.23
10-14 >	303	3.91	3480	2.07	316	4.04	3674	1.67
15-19 >	137	1.77	2288	1.36	173	2.21	2878	1.31
20-29 >	171	2.21	4031	2.40	176	2.25	4169	1.90
30-39 >	82	1.06	2779	1.65	117	1.50	3945	1.80
40-49 >	75	.97	3322	1.98	77	0.99	3358	1.53
1-49 »	7464	96.28	33222	19.77	7486	95.77	36027	16.41
50-99 >	126	1.62	8855	5.27	144	1.84	9940	4.53
100-499 >	113	1.46	25455	15.15	134	1.71	29012	13.21
50-499 »	239	3.08	34310	20.42	278	3.55	38952	17.74
500-999 >	24	0.31	17554	10.44	16	0.20	12085	5.50
1000 & over	26	0.33	82986	49.37	37	0.48	132517	60.35
500-1000 & over	50	0.64	100540	59.81	53	0.68	144602	65.85
<b>Total</b>	<b>7753</b>	<b>100.00</b>	<b>163072</b>	<b>100.00</b>	<b>7817</b>	<b>100.00</b>	<b>219581</b>	<b>100.00</b>

Source : Censuses of Establishments, 1960 and 1964.

The above results indicate that there has been a noticeable development in the employment in the large-scale sector of the textiles industry. Among the reasons for the development of large-scale sector during this period is the large investments allotted to the development of the textiles industry in the First Five-Years Plan, 1960 - 65. Almost all textile new projects established during the plan period were large establishments.

It may be of some interest, however, to refer to a study carried out on the handloom sector in Egypt in 1965<sup>(1)</sup>.

1) This study has been conducted under my supervision in the Institute. It covered some locations in the Provinces of Cairo, Kalyoubia and Menoufia.

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Preliminary results show the following :

- (1) Most of the handlooms in operation are old ones.
- (2) Almost all of the handlooms were under-utilized, many units work for only three days per week.
- (3) The looms are of three types; all using the same techniques (i.e., know-how is the same in the three types of techniques); the only difference is the width of the looms.
- (4) Among the main factors influencing productivity in this sector is the strength of the worker. This has been evinced by the fact that productivity per worker (measured in terms of production per worker per loom) is nearly 30-40 per cent high in the case of the big loom as compared to the narrower looms.

#### CONCLUSION :

Egypt has been famous, since the first half of the nineteenth century, for growing the finest, largest and strongest staple cottons in the world. Egyptian cottons are, still, exported to many textile-producing countries. In addition, situated as it is in North-East Africa, Egypt is geographically very near to the markets of the highly developed countries in Europe. This position gives the exports of Egypt an advantage in terms of freight costs. Imports of cotton textiles into the U.S.A., the Soviet Union and other European countries have already increased very considerably since the end of the Second World War. The pattern of consumption of cotton manufacturers in the high income countries is likely to change progressively in favour of textiles manufactured out of the better varieties of cotton, e.g., long and extra-long staple cotton, and Egypt is in a position to supply them.

In the context of such export promotion, the choice open in regard to technology in the textile industry is likely to be, however, rather limited. For meeting effectively the competition in the markets of the developed countries, it will have to adapt capital-intensive techniques. To that extent, the scope for creating additional employment opportunities through the development of the cotton-textile industry (oriented for the export markets) is likely to be very restricted.

Though technological changes have been introduced to the cotton-textile industry in Egypt since the end of the Second World War; and though the percentage of automatic looms used is relatively high; yet, there is still potential for large amount of modernization in the industry and a necessity for a considerable running down of labour force.

There are, on the other hand, some opportunities of the development of the small-scale, capital-light, labour-intensive cotton-textile industry oriented for the home market. Indian experience in the sphere of developing the handloom industry may be of some use to Egypt.