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**PRESENT STATUS AND FUTURE PLANS OF THE
DEVELOPMENT OF THE SYNTHETIC FIBRE INDUSTRY
IN IRAQ ✓**

by

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1/ Synthetic Fibres Consumption in Iraq

Iraq as a developing country is typical in its low consumption of synthetic fibres. Table No. (1) below gives an indication of the amounts used by Iraqi manufacturers in the textiles field for the production of various commodities.

Table No. 1

Iraqi Synthetic Fibres Consumption - tons

	1971	1972	1973
Nylon	2,095	1,070	1,415
Polyesters	131	190	1,108
Acrylics	262	309	750

The reasons behind this low consumption by the manufacturers are numerous, they are mainly as follows:-

- (a) The unawareness of the existence of those fibres at the beginning, and then lacking the knowledge of their properties and applications.
- (b) Being self-sufficient in the production of the natural fibres at agreeable low prices.
- (c) The low income per capita and low standard of living at the earlier years.

- (d) The unavailability of the high capital investments required for the development of the existing textile mills or the construction of new mills capable of processing synthetic fibres.
- (e) The scarcity in world markets and high prices of synthetic fibres during the past years.

2/ Expected Consumption Growth of Synthetic Fibres

During the last few years the textile industry started to divert its attention seriously to synthetic fibres. This diversion actually was a natural step came as a result of various factors mainly:

- (a) The rapid growth of the textile industry itself with an increasing demand for fibres which became difficult to satisfy in sufficient quantities by the local natural fibres; cotton and wool.
- (b) The limitations of the local natural fibres. Iraqi cotton and wool are considered to be of low quality, incapable of rendering fabrics of good quality and high standard.
- (c) The ever increasing prices of imported cotton and wool which make it impossible to produce fabrics economically and competitively.
- (d) The unreliable supply of imported cotton and wool.
- (e) The government vast industrialisation programme in all sectors of industry, among which the textile industry sector. The policy is set to make Iraq self-sufficient in the production of textiles at the most before the end of the next decade.
- (f) The development of the consumer tastes and increasing demand for better quality textiles.
- (g) The rise in standard of living and income per capita which reflected on the consumption growth of textiles per capita.

(h) Creation of new industries being fibres consumers, such as tyre and carpet industries.

Certain studies anticipate the world consumption of textile fibres in the year 1980 to be as shown in table no. (2) below.

Table no. (2)

Anticipated World Consumption of Textile Fibres in 1980

	10 ⁶ T	%
Cotton	12.2	39.2
Wool	1.7	5.5
Artificial cellulose	4.0	12.9
Synthetic	13.2	42.4
Total	31.1	100.0

The studies also anticipate the world consumption of synthetic fibres in the year 1980 to have the structure shown in table no. (3) below:-

Table No. (3)

Anticipated World Consumption of Synthetic Fibres in 1980

	10 ⁶ T	%
Polyester	5.0	38.3
Nylon	4.5	34.2
Acrylics	2.5	19.2
Other synthetics	1.2	8.3
Total	13.2	100.0

As a result of those studies the anticipated world consumption of all textile fibres per capita would be 7 kg in 1980.

On the light of the above conclusion, it is anticipated Iraq consumption of textile fibres in 1980 would have the structure shown in table no. (4) below, on the assumption that its population would reach 14 million.

Table no. (4)

Anticipated Iraqi Consumption of Textile Fibres in 1980

	10 ³ T	kg per capita	%.
Cotton	38.4	2.75	39.3
Wool	5.4	0.38	5.5
Artificial Cellulosic	12.6	0.96	12.9
Synthetic	41.6	2.97	42.3
Total	98.0	7.00	100.0

Then the Iraqi consumption of synthetic fibres on the basis of those expectations would have the structure shown in table no. (5) below.

Table no. (5)

Anticipated Iraqi Consumption of Synthetic Fibres in 1980

	10 ³ T
Polyester	16
Nylon	13
Acrylics	10
Other synthetics	2,6
Total	41.6

3/ Polyester Fibres Consumption

The figures shown in table no. (5) above indicate that 16,000 tons of polyester fibres are expected to be consumed during the year 1980.

It is foreseen that the indicated amount shall be shared by the different sectors of the growing textile industry in the following fashion.

Table no. (6)

	Discontinuous fibres, tons	Continuous fibres, tons	total tons
Cotton textiles	6,500	1,000	7,500
Woollen textiles	3,000	500	3,500
Knitting	---	4,500	4,500
Carpet	500	---	500
Total	10,000	6,000	16,000

4/ Acrylic Fibres Consumption

The 10,000 tons of acrylic fibres shown in table no. (5) above anticipated to be consumed in 1980, are expected to/distributed on the various sectors of the textile industry in the following manner:-

Table No. 7

	Tons
Knitting	4,000
Woollen fabrics	2,500
Blankets	1,000
Carpet	1,500
Total	10,000

5/ Planned Synthetic Fibres Projects

In a recent report on the development of man-made fibres in Iraq submitted by a committee appointed by the Iraqi Planning Board, it has been recommended to establish immediately two synthetic fibres plants. The first, a polyester fibre plant, which tender has been already issued and the closing date for accepting offers has been fixed to be 30th November, 1975. The second an acrylics plant, which tender is under preparation at the present, hoping to be issued at the beginning of next year 1976.

5.1 Hindiya Polyester Plant

The site of this plant has been selected to be adjacent to an existing Rayon Plant at the town of Hindiya which is about 70 k, south of Baghdad the capital.

The tender issued for this project requested offers on turn-key basis, i.e. for a complete plant for the manufacture of polyester staple fiber and filament from terephthalic acid (TPA) and ethylene glycol including all utilities. The plant may be designed for either continuous or discontinuous operation.

The plant must be capable of producing approximately 16,500 tons/year (50 tons/day) of well known types and international lot quality grades of staple for blending with cotton, rayon, and wool and for fiber-fill, in addition to approximately 6,600 tons/year (20 tons/day) of international lot quality grades of continuous filament for weaving, knitting and other end uses.

The following production programme requested to be the basis of design and calculations:-

5.1.1 Staple Fibres

- Cotton type fibers: 85% of total capacity at average denier 1.5
- Denier range : 1.2 - 3
- Staple length : 22 - 50 mm.
- Package : Pressed bales
- Wool type fibers : 15% of total capacity at average denier 4.0
- Denier range : 3 - 18
- a - For woollen systems: 5% of total capacity
 - Staple length : 50 - 64 mm
 - Package : Pressed bales
- b - For worsted system: 10% of total capacity
 - Staple length : 80 - 125 mm
 - Package : Converted sliver and/or tow

5.1.2 Filaments

Table - 1 - Continuous Filament Production Programme

FORM	TWISTLESS	TWISTED YARN ON		TEXTURED	TOTAL
	YARN	CONES		YARN	
	ON COPS	NORMAL	HEAVY	ON CONES	
		DENIER	DENIER		
Prod. rate	7.5	4.0	1.0	7.5	20.0
Ave. twist	Twistless	500	200	False twist	
Denier range	30 - 250	30-250	450-1100	30 - 250	
Ave. denier	70		70	100	

The Production Programme is asked to be as per following schedule:

A. Twistless Yarn on Cops

- Total Production : 7.5 tons/day
- Average Denier : 70

Table - 2 - Twistless Yarn Production Programme

Denier	Production Rate (tons/day)
30/10	0.5
40/8	0.5
50/17	0.5
70/20	0.5
100/34	0.5
135/44	3.0
150/32	1.0
250/50	1.0
Total	7.5

B. Twisted Yarn on Cones

- Total Production : 5.0 tons/day
- Average denier : 70

Normal Denier

- Total Production : 4.0 tons/day
- Average twist : 500 twist/metre

Table - 3 - Twisted Yarn Production Programme (Normal Denier)

Denier	Production Rate (tons/day)	Twists/metre
30/10	0.50	300 - 1200
40/13	1.00	300 - 600
50/17	0.50	300
70/20	0.50	300
100/34	0.50	200
150/44	0.50	200
250/50	0.50	200
Total	4.0	

Heavy Denier

- Total Production : 1.0 tons/day
- Average twist : 200 twists/metre

Table - 4 - Twisted Yarn Production Programme (Heavy Denier)

Denier	Production Rate (tons/day)	Twists/metre
450/100	0.50	200
1100/250	0.50	200
Total	1.0	

G. Textured Yarn on Cones:

- Total production : 7.5 tons/day
- Average denier : 100

Table - 5 - Textured Yarn Production Programme

Denier	Production Rate (tons/day)
40/13	0.5
50/17	0.5
70/24	0.5
100/34	0.5
135/49	3.5
150/34	1.5
220/50	0.5
Total	7.5

5.2 Madivah Acrylics Plant

This plant will be located on the same site selected for the Polyester Plant.

The tender of this project also will request offers on turn-key basis for a complete plant with the following main features:

A. Capacity

50 T/day of Polyacrylic Staple Fibre

B. Characteristics

The Plant may be able to produce

B.1 Denier and Length

75 % to 100 % capacity

- 1.5 denier 28 and 36 mm staple fibre for cotton system

- 30 to 50 denier 36 to 120 mm cut staple fibre
 - combed
 or woolian system
- 10 to 25 tex capacity
- 3 to 5 denier converted "tops" for production
 of regular or high-bulk yarn in worsted system

B.2 Fineness

Fiber may be

- Bright
- Milled
- Spun-dyed
- Row-dyed

B.3 Package

100 % of the product may be packed in
pressed-bales of cut staple fibre

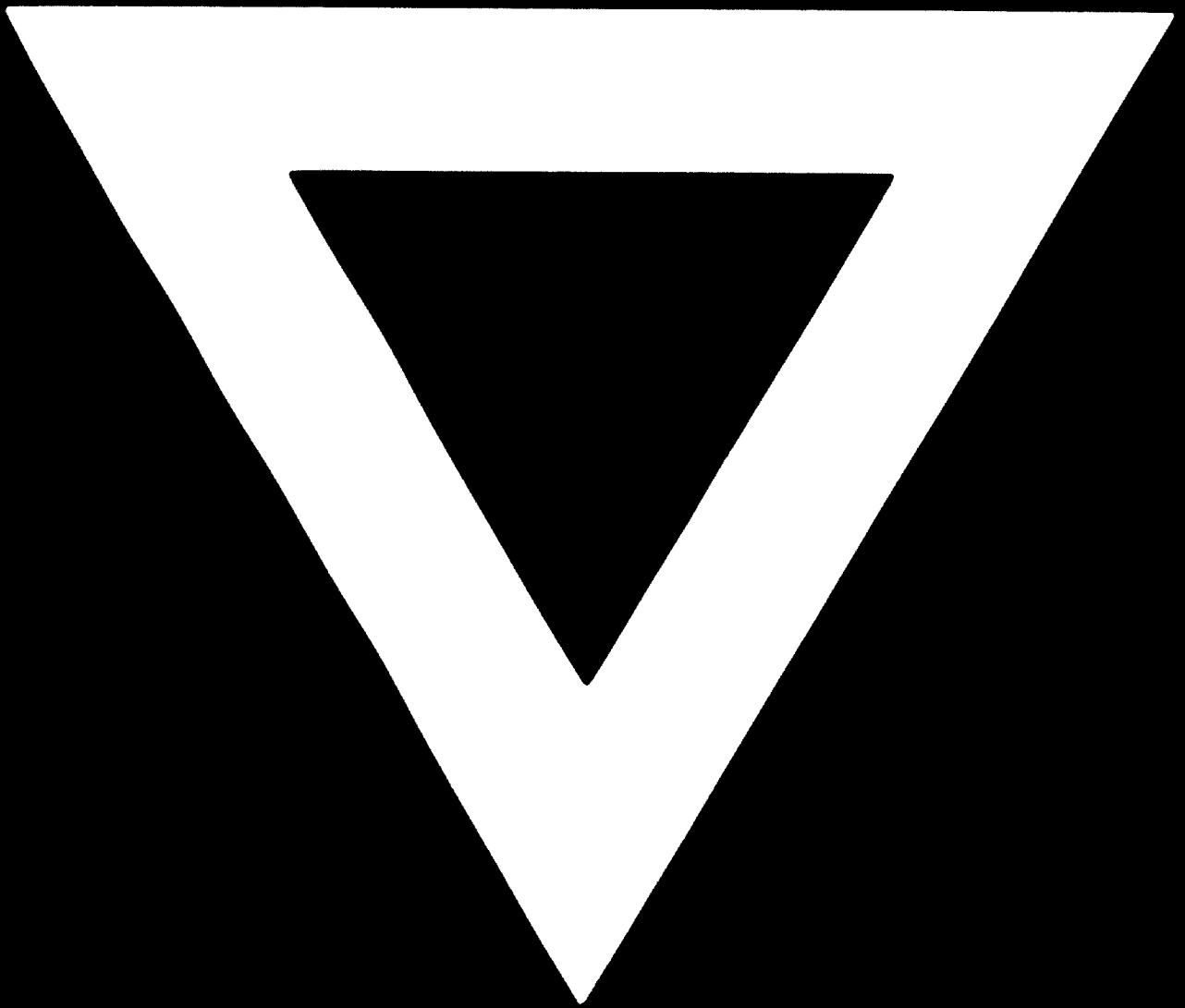
- upto 50 % packed to tow carton-boxes
- up to 25 % packed in bales of "tops"

C Properties

The tenderer has to guarantee the average properties
of his product and the range of variation for:

- Fineness (denier)
- Tensile strength (wet and conditioned)
- Elongation at break (wet and conditioned)
- Grip
- Whiteness
- Total denier of tow (denier or ktex)
- Weight of pressed-bales, tow and tops packages.





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