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CONSUMPTION OF MAN MADE FIBRES:

A DETAILED ANALYSIS

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Consumption of Man made Fibres: A detailed Analysis*

Introduction

The BICP has undertaken a study on the economics of man made fibres in India and their likely demand in the near future. This essentially involves an analysis of the consumption of such fibres, their relative costs and production possibilities based on past trends, which would indicate their potential for the future. The present Report which examines the pattern of consumption of man made fibres and the changes brought about in overall textiles consumption is one part of the larger study. It is well known that per capita consumption of clothing of all fibres - cotton and man made - has remained sluggish in the last few years. Past trends in cotton fibre production and its likely increases in the future indicate a limit to which we can raise cotton output. Man made fibres therefore, in particular polyester, should be viewed primarily as a means of supplementing total availability of textiles especially through the possibilities of blending.

The analysis falls broadly into three sections: Section I discusses briefly, the growth of the man made fibre industry in India; Section II analyses the pattern of consumption of textiles. It is argued here that the pattern of demand

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* This report has been prepared for the Bureau of Industrial Costs and Prices (BICP) as a part of their study on the Economics of Man-made Fibres. It is based entirely on published material.

has been changing in favour of man made fibres. Projections of demand for the different man made fibres over the next five years based on income elasticities estimated from the consumption data are made in Section III.

Section I

Man made fibres may be broadly divided into two groups: fibres produced from natural polymers, usually cellulose and protein materials; and synthetic fibres produced from synthetic polymers derived chiefly from oil. These two categories are commonly referred to as cellulosic and non-cellulosic (or synthetic) fibres. The cellulosic group included primarily viscose (known as Rayon*) and acetate fibres, while polyester and nylon are the major components of the synthetic group. Cellulosic fibres are the oldest of man made fibres; synthetic fibres came much later but their growth was phenomenal. In the world market the production of non-cellulosic fibres has outpaced that of cellulosics; however in India cellulosic fibres, primarily viscose, still predominate.

Another important distinction from the point of view of end-use within the man made fibre industry is between filament

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* 'Rayon' was adopted in 1924 to replace 'artificial silk' for both viscose and acetate fibres but in 1951 the US Federal Trade Commission established that 'rayon' should be used only for 'viscose'.

yarn and staple fibre which is spun into yarn by processes similar to those used in spinning cotton. These fibres can be spun separately, as blends together or with cotton. It is the possibility of blending which holds out a large potential for increasing future consumption of textiles, since it not only enhances the quality of the fabrics produced but can also be used for reducing their costs and therefore prices.

Growth of the Man made Fibre Industry in India

Rayon filament yarn was the first to be produced in India in 1950; by 1954, the production of rayon staple fibre was also started. Polyester staple fibre was first produced in 1965 and polyester filament yarn in 1969. Production of nylon filament yarn was undertaken in 1963. In very recent years, High Wet Modulus Rayon and polynosic fibre* production has also started in a small way.

Details of production and the changes that have taken place in respect of man made fibres/filament yarn are examined in Table I. Production of man made fibres (that is both cellulosic and non-cellulosic) increased from about 4200 tonnes in 1954 to over 105,000 tonnes in 1980, an increase of almost 2500 percent or an annual average rate of growth of 12.2 percent.

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* These are improvements in cellulosics, and are generally referred to as model viscose staple fibre.

Table 1

Production of Man-made Fibres/Filament Yarn (tonnes)

	Staple Fibre				Filament Yarn				
	Viscose	Acetate	Polyester	Total	Viscose	Acetate	Nylon	Polyester	Total
1	2	3	4	5	6	7	8	9	10
1951		-.	..	..	2461	..	..	..	2461
1952	..	..	..	..	3669	..	..	..	3669
1953	..	..	..	..	4475	..	..	..	4475
1954	4224	..	..	4224	5019	386	..	..	5405
1955	5705	..	..	5705	5823	1056	..	..	6879
1956	7903	..	..	7903	7567	1437	..	..	9004
1957	8007	..	..	8007	9702	1632	..	..	11334
1958	14007	..	..	14007	13386	1854	..	..	15240
1959	20345	..	..	20345	14993	1437	..	..	15430
1960	21779	..	..	21779	19193	1925	..	..	21118
1961	26061	..	..	26061	21436	2302	..	..	23738
1962	32382	..	..	23382	29237	1388	176	..	30801
1963	32146	..	..	32146	31221	1953	743	..	33917
1964	36819	..	..	36819	35294	1836	1175	..	38305
1965	37151	..	1385	38538	35213	2033	1480	..	38726
1966	42769	451	2547	45767	33311	1337	1918	..	36566

Table: 1 Contd.

1	2	3	4	5	6	7	8	9	10
1967	52130	124	3045	55305	34759	1715	2450	..	38924
1968	61564	523	4698	66785	36013	1469	5293	..	42775
1969	58178	461	5737	64376	36515	1534	7892	199	46140
1970	63146	217	5331	68694	36017	1752	9745	585	48099
1971	60740	328	5729	66881	36819	1622	10306	532	49279
1972	70340	860	6600	77880	39630	1540	11700	550	53420
1973	62630	540	10530	73700	36660	1630	10920	1860	49100
1974	77350	240	7930	85500	36630	2010	9160	1270	49070
1975	66730	320	14340	81440	35110	1890	13380	2490	50870
1976	83850	340	22650	106840	40700	1810	15590	2440	60540
1977	85460	300	23250	108980	41600	2120	16210	3910	63840
1978	96200	110	25350	121960	42280	2110	18350	7370	70110
1979	84650	330	23630	108610	41030	2150	17400	9010	65590
1980	82670	150	22550	105370	41350	1750	20410	10610	74120
Pd I: 1951-65	23.10	..	..	23.1	21.80	9.35	..	..	22.22
Pd II: 1966-80	4.54	-6.30	18.68	10.6	1.40	2.54	23.73	40.89	4.70
Total 1951-1980	7.50	..	..	12.2	8.96	6.18	..	..	10.39

Source: Indian Textile Bulletin, Various Issues.

While upto the mid-sixties the very high rate of growth - 23.1 percent per annum - was entirely on account of viscose staple fibre there was a sharp decline in its production rate since then. Most of the increase in production in the period 1966-80 was in respect of the noncellulosic polyester staple fibre, production of which increased from around 1400 tonnes in 1965, to 23,000 tonnes in 1980 - an annual average growth rate of 18.7 percent. Growth in production of cellulosic staple fibres during this period appears to be very sluggish, registering an average annual rate of growth of only 4 percent. Viscose accounts for almost the entire production of cellulosic fibres; the share of acetate being hardly 1 percent. The share of polyester in total staple fibre production increased substantially from about 7 percent in the latter half of the sixties to over 21 percent by the end of the period. Hence of the two man made fibre groups, although the cellulosic fibre group is the more important in terms of volume of production (79 percent), the growth in polyester fibre has been more rapid.

Production of filament yarn has increased from 2461 tonnes in 1951 to over 70,000 tonnes in 1980, growing at an annual average rate of 10 percent. In the case of filament yarn too, growth in cellulosics was very high upto 1965; since then production of viscose filament yarn remained almost stagnant. In the period after the mid sixties, nylon and polyester filament yarn show relatively very high rates of growth,

in particular polyester filament yarn - 24 percent and 41 percent respectively. Unlike in the case of staple, fibre, the non-cellulosics account for a relatively higher share in filament yarn production - 57 percent currently. Of the cellulosics, viscose filament yarn forms almost 95 percent: and within the non-cellulosic group nylon filament yarn accounts for over 65 percent of the production; however the rate of growth of polyester filament yarn is higher.

In terms of the form of production, staple fibre accounts for 59 percent, while filament yarn accounts for the rest. The rate of growth of staple fibre has been higher, which is reflected also in the faster rate of growth of blended vis-a-vis pure man made fibre fabrics (as we shall see later). With the growth of indigenous production of man made fibres/filament yarn, their imports have shown a significant decline. While domestic production is almost 100 percent in respect of cellulosic staple fibres and filament yarn, non-cellulosic imports ranged between 10-15 percent of total availability of such fibres by 1976 (See Table 2). However since 1977 with the liberalisation of imports under the multi fibre policy there was a very sharp increase in imports of both cellulosic and non-cellulosic fibres/filament yarn. While, within staple fibre, almost 88 percent of the import was of cellulosic fibres, in respect of filament yarn almost 78 percent of the import was of synthetic filament yarn.

Table 2

Relative Production (that is, Ratio of indigenous production to Production + Imports) of Man-made Fibres (in percent)

	Staple Fibre		Filament Yarn	
	Cellulosic	Polyester	Cellulosic	Synthetic£
Average of				
1961-65	97.3	*	79.9	@
1966-70	97.5	79.3	99.9	73.6
1971-75	97.9	85.3	99.6	85.7
1976-80	52.3	51.7	94.9	77.0
1976	99.4	94.4	99.1	94.2
1977	35.6	35.6	97.5	83.9
1978	38.5	38.5	90.9	67.1
1979	65.0	65.0	91.3	70.0
1980	66.9	66.9	96.7	82.0

* Almost 100% imports; production started only in 1965.

@ Figures not available in comparable form.

£ That is polyester and nylon filament yarn.

On the other hand, growth in cotton production has been much lower; it was 1.07 percent per annum in the sixties but rose to about 2 percent per annum in the seventies mainly on account of a sharp increase in the production of long and superior long varieties of cotton. The decline in the total acreage under cotton since the mid sixties has been a matter of some concern. Although in absolute quantum, cotton is still the predominant fibre, its relative contribution to total fibre availability has declined. True, this decline is not as distinct in India as in other countries and it fluctuates; nevertheless the long term tendency does exhibit a fall in the share of cotton. This is evident from the share of cotton and non-cotton fibres used on the cotton spinning system (See Table 3). Of the total yarn woven from cotton and man made fibres - 687 thousand tonnes in the early fifties - the share of the latter which constituted a mere two percent increased to almost 20 percent by 1980; production grew from 11,000 tonnes to 242,000 tonnes. Pure viscose staple fibre yarn accounts for almost 95 percent of the production of pure man made fibre yarn; the share of non-viscose spun yarn is very small. Most of the polyester staple fibre is used in the production of blended yarn. The share of blended yarn in total yarn production has also increased significantly, from less than one percent between 1966-70 to 13 percent in the last five year period. There was a sharp increase in the

Table 3

Production of Various Types of Yarn Manufactures by Mills in '000' tonnes

Working on Cotton Spinning System

Average of	100% Cotton	100% Viscose Staple Fibre	100% non-Viscose Staple Fibre	Polyester/ Cotton	Polyester/ Viscose	Cotton/ Viscose	Other Blends	Total Blended Yarn	Total MMF/ Blended Yarn	Total Yarn
1951-55	676	11	..	..	..	..	..	..	11 (1.6)	687
1956-60	798	19	..	..	..	..	..	..	19 (2.3)	817
1961-65	904	31	neg	not available				..	31 (3.3)	935
1966-70	935	54	neg	3	1	2	1	7 (0.7)	61 (6.1)	996
1971-75	969	58	3	9	5	13	5	32 (13.0)	93 (8.8)	1062
1976-80	951	83	4	14	26	101	14	155 (13.0)	242 (20.2)	1196
1976	963	63	2	12	15	43	6	76 (6.9)	141 (12.8)	1104
1977+	843	82	3	17	20	135	16	188 (16.9)	273 (24.5)	1116
1978	946	101	6	15	25	153	20	213 (16.8)	320 (25.3)	1266
1979	951	88	5	14	31	104*	13	162 (13.4)	255 (21.2)	1206
1980	1068	81	6	14	37	68	15	134 (10.4)	221 (17.2)	1289

Source: Same as Tables 1 and 2.

\+ Including Cotton/modified Viscose Yarn

* The year changes to financial year from 1977.

Note: Figures in brackets are percentages to total yarn produced.

spinning of both pure and blended man made yarn since 1977, in particular cotton-viscose blends. This appears to be a consequence of the large scale imports of viscose staple fibre under the multi fibre policy in 1977.

Summing up from the above, we observe that man made fibres have grown much more rapidly than cotton fibre production in India. Within the man made fibres/filament yarn, although cellulosics grew at a high rate upto about the middle of the sixties their growth has slowed down considerably with the entry of the non-cellulosics, in particular polyester. However, in a country like ours, with low levels of per capita income, viscose staple fibre (and now polynosic staple fibre) and yarn will continue to dominate the total consumption of man made fibres/yarn, (though with a declining relative proportion) at least in the near future. Nevertheless the long-term potential appears to lie with the non-cellulosic fibres; however their growth is closely linked to the country's oil refining and petrochemicals programme in the future.

Section II

Although a number of studies have been undertaken in respect of consumption of textiles and its pattern, almost all have focussed primarily on cotton. No detailed analysis has been

done on consumption of man made fibre textiles, although growth in their availability, as we saw in Section I, has been quite substantial. The major constraint till very recently, has been the availability of detailed information on the consumption of such fibre/yarn fabrics.

Sources of Data

There are three major sources of data for estimating consumption of textiles. The first, though not strictly referring to consumption statistics, is time series data at the aggregate national level derived from market statistics. Apparent consumption = production plus imports minus exports; adjustment for stocks is also made wherever possible. These estimates would be derived from the data given in Section I.

The other two sources are based on household expenditure surveys for some time points and are more detailed. The National Sample Survey Rounds on Consumer Expenditure are the oldest, available in comparable form since the late fifties; however in respect of man made fibre textiles the data published by the NSSO are very scanty. Although information is collected on consumption of various types of textiles - cotton and man made - in quantity and value terms by various expenditure groups, only the 17th Round (1961-62) published these data for cotton and all non cotton clothing. None of the later Rounds published even this information. We have therefore relied exclusively on the

second source of survey data, Consumer Purchase of Textiles (CPT), published by the Textile Committee, Ministry of Commerce. These surveys however were started only in 1970 and information in the form we require is available only from 1974; their latest report refers to the year 1979. The initial sample size was only about 5000 households spread out in urban and rural areas; later it was expanded to around 7000 households. Except for the fact that the sample is not sufficiently large (the NSS consumer expenditure surveys on average include above 18,000 households), and the possibility exists of misreporting the type of textiles consumed, these data are extremely comprehensive and informative. We first discuss trends in consumption of textiles at the aggregate level, our focus always being on man made fibre textiles, and then analyse their consumption in greater detail.

The increasing production of man made fibres/yarn is reflected in the growth in total availability of such textiles since 1951. Total domestic availability of man made fibre fabrics, pure and blended increased from 299 million metres in 1951, that is 7 percent of all textiles, to almost 2700 million metres or 25.2 percent of all textiles in 1980. The average annual growth rate was 10.3 percent in the fifties; it fell to 6.0 percent in the sixties and rose again sharply to 14.2 percent per annum in the seventies. A striking feature of the seventies is the rapid growth in availability of mixed/blended fabrics. Although there was some production of such fabrics prior to 1970, separate figures are available only from the early seventies. From about 200 million metres,

in 1970, consumption of such fabrics increased to about 1400 million metres, that is a growth rate of almost 22 percent per annum, and they are now relatively more important than pure man made fibre fabrics.

On the other hand, availability of cotton textiles increased by about 4.5 percent per annum in the first decade, a mere 1.25 percent per annum in the second decade and was less than one percent in the seventies. Within total domestic availability of textiles therefore, man made fibre fabrics now account for about 12.2 percent and blended fabrics for 13.6 percent, that is, about 26 percent altogether.

However, if we take into account the total population and its average annual rate of growth, the per capita consumption of man made fibre fabrics is still very small (See Table 4). It was only about 1/2 metre in the early fifties and it increased to about $1\frac{3}{4}$ metres by the mid sixties. However, since then, per capita consumption of man made fibre fabrics stagnated around 1.75 - 1.80 metres and only in the last two years, it increased to a little over 2 metres. Consumption of blended fabrics which was only about 0.3 metres in 1970 increased to almost 2 1/2 metres by 1980. Hence overall average consumption per capita of man made fibre/blended fabrics is about 4 metres. Since per capita consumption of cotton textiles not only stagnated but in fact declined after the mid sixties, the share of man made fibre fabrics increased during this period, although its absolute consumption, as we saw did not increase very much except in the last two years. Man made fibre fabrics have substituted for cotton to some extent and this appears to be the general tendency.

Table - 4

Per Capita Availability of Textiles

(in metres)

Year	Cotton	Man-made Fabrics	Blended Mixed Fabrics	Total
1951	10.99	0.54	..	10.99
1952	13.46	0.52	..	13.46
1953	14.03	0.65	..	14.03
1954	13.83	0.82	..	13.83
1955	14.35	0.86	..	14.35
1956	14.71	1.09	..	14.71
1957	14.50	1.04	..	14.50
1958	14.28	0.92	..	15.20
1959	13.72	1.15	..	14.87
1960	13.80	1.20	..	15.00
1961	14.76	1.15	..	15.91
1962	14.35	1.17	..	15.52
1963	14.69	1.24	..	15.93
1964	15.22	1.63	..	16.85
1965	14.72	1.73	..	16.45
1966	13.95	1.65	..	15.60
1967	13.57	1.74	..	15.31
1968	14.37	1.90	..	16.27
1969	13.61	1.79	0.20	15.60
1970	13.56	1.71	0.28	15.55
1971	12.40	1.72	0.45	14.57
1972	13.18	1.59	0.36	15.13
1973	12.04	1.46	0.44	13.94
1974	12.88	1.36	0.36	14.60
1975	12.58	1.37	0.61	14.56
1976	11.36	1.40	0.97	13.73
1977	9.57	1.86	2.32	13.75
1978	10.56	2.05	2.76	15.21
1979	10.12	2.02	2.25	14.77
1980	11.09	1.97	1.88	14.94

Source: Indian Textile Bulletin, Various Issues.

We now use the CPT data to study in greater detail the pattern of consumption of man made fibre fabrics* by (a) region; (b) item of clothing; (c) household income; and (d) relative prices at a point of time and over the period of time 1974-79.

(a) By Region

From Table 5 we can see that the urban/rural difference in per capita consumption of all textiles which was less than 1/2 metre in 1974-75, increased substantially to about 3 1/2 metres by 1979. This is mainly on account of a more rapid growth in the consumption of man made fibres in urban areas and a decline in the consumption of cotton textiles in rural areas. Per capita consumption in rural areas has declined from about 13.37 metres to 12.94 metres; while in urban areas it increased from 13.68 metres in 1974-75 to 16.49 metres in 1978-79. However given the larger weight of rural areas in ove all consumption this could be one of the reasons for the decline in per capita consumption of textiles at the all-India level as we saw from Table 4. Fibre-wise we find that a large part of the decline in rural areas is on account of cotton

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* It may be noted that per capita consumption of textiles as estimated by CPT are about one metre less than the estimates from aggregate production data; most of it is on account of man-made fibre fabrics.

Table 5

Urban/Rural Break up of Per capita Textile Consumption by Fibres (in metres)

	Average of 1974-75		Average of 1976-77		Average of 1978-79		Annual Compount Growth Rate 1974-1979	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
1. Cotton	10.70 (78.2)	12.0 (89.8)	10.80 (77.93)	11.35 (92.4)	11.95 (72.47)	11.45 (88.49)	2.88	- 0.98
Rayon	0.18 (1.3)	0.21 (1.57)	0.20 (0.82)	0.10 (0.70)	0.28 (0.78)	0.10	8.84	-14.43
Nylon			0.30 (2.17)	0.08 (0.66)	0.36 (2.19)	0.08 (0.62)		
Polyester	0.73* (5.34)	0.17* (1.28)	0.84+ (6.06)	0.18+ (1.47)	1.46+ (8.86)	0.29+ (2.25)	18.78+	15.78+
Polyester			0.54 (3.90)	0.10 (0.82)	1.11 (6.74)	0.21 (1.63)		
2. Non Cotton Total	1.29 (9.43	0.54 (4.04)	1.42 (10.25)	0.34 (2.77)	2.30 (13.95)	0.48 (3.71)	15.62	- 1.36
Polyester/Cotton	1.36 (9.95)	0.61 (4.57)	1.34 (9.67)	0.51 (4.16)	1.84 (11.16)	0.70 (5.41)	7.42	4.02
Other Mixed	0.30 (2.20)	0.20 (1.50)	0.25 (1.81)	0.14 (1.14)	0.41 (2.49)	0.32 (2.48)	9.50	10.21
Poly./Wool	0.02	0.01	0.03	neg.	0.03	neg.		
3. Mixed Total	1.68 (12.28)	0.82 (6.14)	1.62 (11.69)	0.64 (5.22)	2.28 (13.83)	1.02 (7.89)	7.90	8.32
4. Total	13.68	13.37	13.86	12.28	16.49	12.94	13.40	

Source: Consumer Purchase of Textiles, Textile Committee, Various Issues.

1. We have averaged the data on consumption for two years each to study the changes. Growth rates are annual compound growth rates.
2. Figures in brackets refer to percentage share in total consumption.

* Figures for nylon, polyester given together + Relate to nylon + Polyester.

textiles. However, the most striking difference between the urban and rural areas is in the consumption of man made fibres and its growth. While almost 24 percent of consumption is accounted for by non-cotton and mixed fabrics in urban areas and it increased to almost 28 percent in 1978-79, this proportion is only 10 percent in rural areas. It may be noted however that in rural areas also, the tendency is towards increasing use of man made fibre/mixed fabrics whose share increased to about 13 percent by 1978-79. If we further disaggregate the fibres, we find that the urban/rural difference is more pronounced in respect of nylon and polyester vis-a-vis rayon, per capita consumption of which was in fact higher in rural areas initially. While the difference in favour of urban areas is about 0.20 metres in respect of rayon it is 1.17 metres with respect to synthetics. The rate of growth in per capita consumption of synthetics is almost 19 percent in urban areas; in rural areas it is relatively lower - 16 percent per annum - but much higher than the annual growth rate of rayon or cotton. Hence in rural areas also, polyester now appears to have a larger share in consumption of non-cotton textiles. With respect to mixed fabrics, polyester/cotton blends predominate in both urban and rural areas; however /their consumption is almost twice as high in urban areas. Between mixed fabrics and pure man made fibre fabrics the urban/rural differential is much higher in the case of the latter being almost five times higher. The urban/rural differential in

respect of consumption of textiles by different fibres has important implications for the likely demand of man made fibre/fabrics in the future.

(i) The overall decline in per capita consumption of cotton clothing is to some extent on account of the fall of per capita consumption in rural areas, where the proportion of cotton textiles consumed is much higher than in urban areas as also on account of the increasing share of man made fibre fabrics in total textile consumption.

(ii) The increase in the rate of urbanisation as revealed by the 1971 Census has been further established by the 1981 Census. Since the trend towards increased urbanisation may be expected to continue in the subsequent decades, the potential market for man made fabrics may be expected to increase correspondingly.

(b) Item of Use

In Table 6, per capita consumption of textiles is given by major items (in percentage terms) and we subsequently discuss the fibre composition of each. The item wise distribution may not be very accurate because of the difficulty of assessing meterage especially of ready made garments, hoisery etc. and we treat it as broadly indicative. The most important item is the sari, accounting for almost 30 percent of the per capita consumption; shirting accounts for 13 percent followed by dhoti-

Table 6

Percentage Distribution of Per Capita Consumption of Textiles by Major Items

	Average of 1974-75			Average of 1976-77			Average of 1978-79		
	U	R	A-I	U	R	A-1	U	R	A-1
1. Dhoti	9.90	17.35	15.80	8.30	18.70	16.30	7.40	18.30	15.40
2. Sari	30.00	23.0	24.30	30.45	24.05	25.65	32.25	20.65	23.50
3. Shirting Polin, Patta Cloth	13.10	12.70.	12.80	15.30	13.90	14.25	14.40	15.70	15.35
4. Coating/ Suiting	4.45	1.85	2.35	4.85	2.40	4.20	5.10	2.80	4.40
5. Long cloth, Sheeting	8.55	7.25	8.50	6.60	7.20	7.10	5.75	6.10	6.00
6. Ladies Dress material	7.40	8.40	8.00	10.50	7.05	7.90	10.90	9.80	10.10
7. Ready made Garments	7.30	6.30	6.50	8.10	8.50	8.40	9.95	8.80	9.4
8. Hosiery	4.70	5.50	5.80	4.50	4.40	4.40	5.30	5.20	5.2
9. Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.0

Refers only to 1974.

Note: U = Urban; R = Rural; A-I = All-India

10 percent. Ladies dress materials, ready made garments and coating/suiting are also of some importance. From the table we can also see the urban/rural variation in apparel - relatively larger share of dhoti vis-avis coating/suiting in rural areas; however ready made garments are almost equally important in both areas. The item wise pattern has changed somewhat between 1974-79.

The percentage share of dhoti has declined especially in urban areas, while that of shirting, suiting/coating etc. has increased. There has been a decline in the relative (and absolute) consumption of long cloth and sheeting; the share of ladies dress material and ready made garments increased. It may be noted that both the items - dhoti and longcloth - whose share declined from 19 percent of per capita consumption in 1974-75, to 13 percent by 1978-79, are almost entirely made with cotton. In the case of other items the share of man made fibres varies, which we discuss below (See Table 7).

Coating/Suiting

Perhaps the use of man made fibres primarily polyester/cotton blends is the largest in this item. The share of pure polyester and polyester/cotton blends has increased from 52 percent in 1974 to 64 percent by 1979; the increase was sharper in urban areas.

Table: 7 Per Capita Consumption of Various Items of Textiles by Fibre-Percentage Distribution

		1974			1975			1976			1977			1978			1979		
		U	R	A-I	U	R	A-I	U	R	A-I	U	R	A-I	U	R	A-I	U	R	A-1
1. Dhoti	C							100 p e r c e n t											
2. Sari	C	70.8	88.2	84.5	70.2	88.6	84.0	70.4	90.7	85.6	66.4	85.7	80.7	64.7	86.3	76.4	62.2	85.1	78.3
	R	3.1	2.3	2.2	1.9	1.0	1.2	2.4	1.3	1.6	3.2	1.1	1.8	3.6	1.2	1.9	3.6	1.8	2.4
	N	13.7	2.0	4.7	10.5	2.3	4.2	5.3	0.7	1.9	6.0	2.8	3.7	5.1	2.0	3.1	4.9	2.6	3.4
	P							6.4	1.3	2.2	9.4	2.1	4.3	12.0	3.5	6.4	11.9	2.9	6.1
	PIC	8.1	5.6	6.2	7.2	5.2	6.1	8.2	4.3	5.0	4.5	4.9	4.6	3.9	3.9	3.8	5.1	4.0	4.3
	OM	4.3	2.0	2.5	6.3	1.9	3.0	3.7	1.7	1.9	3.6	2.4	2.8	4.5	2.8	3.8	4.9	2.6	3.4
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3. Shirting/ Poplin/ Patta Cloth	C	69.9	85.3	82.5	68.3	84.6	80.4	70.9	97.4	83.6	65.6	84.2	79.9	55.5	82.7	75.8	52.2	79.1	72.0
	N	1.7	2.3	2.3	2.2	2.5	2.4	0.5	-	-	0.4	neg.	-	0.4	neg.	neg.	0.4	neg.	neg.
	P							2.0	0.6	1.2	7.0	1.6	3.1	9.3	3.0	4.7	11.0	3.5	5.3
	P/C	28.4	12.4	15.3	28.4	11.1	15.5	26.0	10.8	14.6	25.8	12.0	15.5	31.2	13.4	19.0	34.6	16.9	20.8
	OM	-	-	-	0.6	1.9	1.8	0.5	0.6	0.6	0.4	0.6	0.5	1.2	0.5	0.5	0.9	0.5	0.5
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
4. Cotting/ Suiting	C	47.3	65.2	58.6	41.8	61.5	51.4	46.7	73.9	61.3	41.3	66.7	59.1	33.7	60.0	47.8	30.1	59.5	44.7
	N	5.5	4.4	6.9	4.5	3.8	2.9	1.7	neg.	neg.	-	2.8	4.6	neg.	-	neg.	neg.	neg.	neg.
	P										5.3			7.0	2.9	4.4	8.4	2.7	6.4
	P/C	47.3	30.4	34.5	46.3	34.6	40.0	45.0	26.1	32.3	45.3	25.0	31.8	52.3	31.4	39.1	55.4	35.1	42.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5. Longcloth/ Sheeting	C							100 p e r c e n t											
6. Ladies Dress Material	C	87.9	87.2	87.7	88.6	88.1	88.8	88.4	94.9	92.3	89.0	91.7	17.1	82.2	92.2	90.9	84.1	91.9	90.2
	R	4.0	6.8	6.1	3.8	4.6	4.7	4.4	2.6	3.3	1.3	1.1	1.9	2.1	1.7	1.5	1.8	0.7	0.7
	N&P	2.0	1.7	1.8	1.9	0.9	0.0	2.2	1.3	1.1	2.6	1.1	1.9	3.7	1.7	1.5	5.3	3.0	2.8
	P/C	5.1	1.7	1.8	3.8	1.8	1.9	3.6	1.3	2.2	3.9	4.2	4.6	4.2	2.6	2.3	7.1	3.7	4.9
	OM	1.0	2.6	2.6	1.0	3.7	2.8	1.4	neg.	1.1	2.0	1.1	0.9	1.6	1.7	2.3	1.8	0.7	0.7
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

ontd..... Table 7

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Ready Made Garments C	NA			75.7	85.4	82.6	80.2	90.5	90.5	79.2	90.4	87.3	73.9	92.2	81.0	75.3	86.4	83.3
N&P				4.9	1.2	2.3	1.1	neg.	neg.	5.4	0.9	1.7	7.3	1.7	2.9	6.2	1.8	2.5
P/C				16.5	9.8	11.6	13.6	6.5	7.4	13.1	6.1	7.6	15.2	2.6	11.0	14.8	8.2	10.8
OM				2.0	1.2	1.2	3.1	neg.	neg.	1.5	0.9	1.7	1.8	1.7	1.5	1.9	2.7	2.5
Total				100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: C = Cotton; R = Rayon; N = Nylon; P = Polyester; P/C = Polyester/Cotton; OM = Other Mixed

There may not add upto 100 because of other fibres like silk, woollen and poly/wool.

Shirting/Poplin/Patta Cloth

The next in importance as far as the use of man made fibres is concerned is shirting; almost 70 percent of shirting cloth utilised cotton in 1974 and by the end of the period this percentage had gone down to 50-55 percent. In the case of shirting polyester/cotton blends predominated accounting for almost 35 percent; the share of polyester too has increased from less than 2 percent to 11 percent.

Sari

Pure rayon accounts for almost 4 percent of all fibres used in the case of saris perhaps, its largest use. However, the synthetic fabrics account for a larger share. Use of blends in the case of saris appears to have declined. In the case of saris, cotton still accounts for almost 78 percent of its consumption; in urban areas it is only 62 percent while in rural areas the share of cotton is still 85 percent.

Ladies Dress Material

In the case of dress material, while its share in per capita consumption of textiles has increased, the increase in the use of man made fibres is not very significant - on average it is 10 percent, being slightly higher, 16 percent in urban areas. Some change has occurred within the man made fibres used,

the share of rayon has declined and that of synthetics increased from about 2 percent to 5.3 percent in 1979. Polyester/cotton blends too are important.

Ready made garments

In case of this item, there has not been much change in the use of the different fibres. Cotton still accounts for almost 83 percent as it did in 1974, and some marginal change occurred in the use of man made fibres.// From the above analysis we have been able to identify the major items in which the use of man made fibres has increased significantly and which will continue to grow in the future. Although in the case of sari, the single largest item of dress, the overall increase has not been very large, in urban areas almost 40 percent of saris use man made fibres/blends. In the case of suiting/coating the substitution for cotton has been the highest. In addition the change in style of dress - the declining use of dhoti, increasing use of shirting etc. appears to have further reduced the requirement of cotton fibre and this would certainly increase in the future with increasing urbanisation.

(c) Household (or percapita) Income

Data are given in terms of six income groups (see Table 8). Although per capita consumption in quantitative terms for these

Table 8

Per Capita Consumption of Textiles - Fibre wise - By Income Groups (in metres)

Income Group	1977			1978			1979		
	U	R	A-I	U	R	A-I	U	R	A-I
1	2	3	4	5	6	7	8	9	10
Less C than Rs.1500/	7.11 (91.2)	9.41 (94.1)	9.31 (93.9)	8.90 (90.81)	8.32 (92.44)	8.35 (92.77)	9.17 (90.79)	8.91 (92.66)	8.95 (92.66)
R	0.11 (1.41)	0.19 (1.90)	0.17 (1.71)	0.10 (1.02)	0.03 (0.33)	0.03 (0.33)	0.03 (0.30)	0.08 (0.84)	0.07 (0.74)
N	0.11 (1.41)	0.07 (0.70)	0.07 (0.70)	0.09 (0.92	0.02 (0.22)	0.02 (0.22	0.12 (1.19)	0.04 (0.42)	0.05 (0.53)
P	0.14 (1.79)	0.05 (0.50)	0.06 (0.60)	0.20 (2.04)	0.10 (1.11)	0.11 (1.22)	0.13 (1.20)	0.04 (0.42)	0.05 (0.53)
NC	0.42 (5.38)	0.33 (3.30)	0.33 (3.33)	0.48 (4.90)	0.20 (2.22)	0.21 (2.33)	0.32 (3.17)	0.19 (2.02)	0.20 (2.11)
P/C	0.21 (2.69)	0.20 (2.0)	0.20 (2.02)	0.34 (3.47)	0.27 (3.0)	0.27 (3.0)	0.42 (4.16)	0.23 (2.45)	0.24 (2.52)
OM	0.06 (0.77)	0.09 (0.90)	0.09 (0.91)	0.05 (0.51)	0.20 (2.22)	0.20 (2.22)	0.13 (1.29)	0.08 (0.30)	0.08 (0.84)
P/W	0.01							neg.	neg.
M	0.28 (3.58)	0.29 (2.90)	0.29 (2.93)	0.39 (3.98)	0.47 (5.22)	0.47 (5.22)	0.56 (5.54)	0.31 (3.30)	0.32 (3.36)
C	9.28 (87.54)	9.61 (93.2)	9.57 (92.91)	9.51 (85.68)	9.40 (93.07)	9.41 (92.25)	8.68 (82.67)	9.51 (93.2)	9.44 (92.16)
R	0.10 (0.94)	0.09 (0.87)	0.09 (0.87)	0.11 (0.99)	0.08 (0.79)	0.08 (0.78)	0.17 (1.62)	0.06 (0.59)	0.07 (0.69)
N	0.26 (2.45)	0.06 (0.58)	0.08 (0.78)	0.22 (1.98)	0.02 (0.20	0.04 (0.39)	0.23 (2.19)	0.04 (0.39)	0.06 (0.59)
P	0.23 (2.17)	0.04 (0.39)	0.07 (0.68)	0.35 (3.15)	0.11 (1.09)	0.13 (1.27)	0.31 (2.95)	0.08 (0.78)	0.10 (0.98)

Note: Figures in brackets are percentage of total consumption in each income group.

Table 8 Continued

1		2	3	4	5	6	7	8	9	10
	NC	0.68 (6.42)	0.23 (2.23)	0.29 (2.82)	0.79 (7.12)	0.24 (2.38)	0.29 (2.84)	0.79 (7.52)	0.21 (2.06)	0.26 (2.55)
	P/C	0.50 (4.72)	0.29 (2.82)	0.32 (3.11)	0.60 (5.41)	0.29 (2.87)	0.32 (3.14)	0.87 (8.28)	0.29 (2.84)	0.33 (3.24)
	OM	0.12 (1.13)	0.13 (1.26)	0.13 (1.26)	0.15 (1.35)	0.15 (1.48)	0.15 (1.47)	0.16 (1.52)	0.15 (1.47)	0.15 (1.47)
	P/W	0.01	-	-	0.01	-	-	0.01	-	-
	M	0.63 (5.94)	0.42 (4.08)	0.45 (4.37)	0.76 (6.85)	0.44 (4.36)	0.47 (4.61)	1.04 (9.90)	0.44 (4.31)	0.48 (4.71)
II Rs.3000-5999	C	10.71 (82.38)	12.13 (90.52)	11.78 (88.72)	10.64 (79.40)	10.50 (89.74)	10.53 (87.02)	9.60 (77.42)	10.36 (89.31)	10.24 (86.78)
	R	0.17 (1.31)	0.11 (0.82)	0.12 (0.90)	0.25 (1.87)	0.10 (0.86)	0.13 (1.07)	0.16 (1.29)	0.10 (0.86)	0.11 (0.93)
	N	0.26 (2.0)	0.10 (0.75)	0.15 (1.13)	0.24 (1.79)	0.05 (0.43)	0.09 (0.74)	0.23 (1.85)	0.08 (0.69)	0.10 (0.85)
	P	0.44 (3.38)	0.15 (1.12)	0.21 (1.58)	0.62 (4.63)	0.16 (1.37)	0.25 (2.07)	0.60 (4.84)	0.18 (1.55)	0.24 (2.03)
	NC	1.08 (8.31)	0.44 (3.28)	0.60 (4.51)	1.34 (10.10	0.41 (3.50)	0.60 (4.96)	1.26 (10.16)	0.42 (3.62)	0.55 (4.66)
	P/C	1.01 (7.77)	0.63 (4.70)	0.72 (5.41)	1.17 (8.73)	0.61 (5.21)	0.72 (5.95)	1.33 (10.73)	0.68 (5.86)	0.78 (6.61)
	OM	0.19 (1.46)	0.19 (1.42)	0.19 (1.43)	0.24 (1.79)	0.18 (1.54)	0.19 (1.57)	0.23 (1.85)	0.16 (1.38)	0.18 (1.53)
	P/W	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-	-
	M	1.21 (9.31)	0.83 (6.19)	0.92 (6.92)	1.42 (10.60)	0.80 (6.83)	0.92 (7.60)	1.57 (12.66)	0.84 (7.24)	0.96 (8.14)
IV Rs.6000-9999	C	11.65 (75.65)	13.78 (87.21)	12.93 (82.88)	12.29 (74.03)	12.11 (87.12)	12.17 (82.79)	10.48 (70.82)	11.72 (85.54)	11.39 (81.36)
	R	0.19 (1.23)	0.10 (0.63)	0.13 (0.83)	0.32 (1.93)	0.13 (0.94)	0.19 (1.29)	0.26 (1.76)	0.09 (0.66)	0.13 (0.93)
	N	0.37 (2.40	0.12 (0.76)	0.22 (1.41)	0.37 (2.22)	0.07 (0.50)	0.16 (1.09)	0.35 (2.36)	0.13 (0.95)	0.19 (1.36)

Note: Figures in brackets are percentage of total consumption in each income group.

ble 8 Contd...

1	2	3	4	5	6	7	8	9	10
P	0.80 (5.19)	0.18 (1.14)	0.44 (2.82)	0.96 (5.78)	0.26 (1.87)	0.47 (3.20)	1.10 (7.43)	0.30 (2.19)	0.52 (3.71)
NC	1.80 (11.69)	0.52 (3.29)	1.05 (6.73)	2.05 (12.35)	0.60 (4.32)	1.03 (7.01)	2.14 (14.46)	0.66 (4.82)	1.06 (7.57
P/C	1.59 (10.32)	1.15 (7.28)	1.33 (8.52)	1.91 (11.51)	0.93 (6.69)	1.23 (8.37)	1.79 (12.84)	1.02 (7.44)	1.23 (8.78)
OM	0.30 (1.95)	0.30 (1.90)	0.30 (1.92)	0.36 (2.17)	0.24 (1.73)	0.28 (1.90)	0.41 (2.78)	0.31 (2.26)	0.34 (2.43)
P/W	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
M	1.91 (12.40)	1.47 (9.30)	1.65 (10.58)	2.29 (13.80)	1.18 (8.49)	1.53 (10.41)	2.22 (15.0)	1.34 (9,78)	1.58 (11.29)
C	13.14 (71.02)	14.78 (83.50)	13.75 (75.54)	14.43 (70.39)	13.86 (81.53)	14.12 (75.91)	12.70 (68.28)	13.70 (81.52)	13.28 (75.45)
10,000-19,999									
R	0.29 (1.57)	0.10 (0.56)	0.22 (1.21)	0.33 (1.61)	0.11 (0.65)	0.22 (1.18)	0.31 (1.67)	0.21 (1.25)	0.25 (1.42)
N	0.48 (2.59)	0.19 (1.07)	0.38 (2.09)	0.43 (2.10)	0.43 (2.53)	0.43 (2.31)	0.43 (2.31)	0.14 (0.84)	0.27 (1.53)
P	1.03 (5.57)	0.46 (2.60)	0.82 (4.50)	1.56 (7.61)	0.65 (3.82)	1.07 (5.75)	1.48 (7.96)	0.51 (3.04)	0.92 (5.22)
NC	2.71 (14.65)	0.97 (5.48)	2.07 (11.38)	3.10 (15.12)	1.43 (8.41)	2.1 (11.88)	3.03 (16.29)	1.22 (7.26)	1.98 (11.25)
P/C	2.20 (11.89)	1.70 (9.60	2.01 (11.04)	2.36 (11.51)	1.36 (7.86)	1.82 (9.78)	2.33 (12.78)	1.45 (8.63)	1.83 (10.40)
OM	0.43 (2.32)	0.20 (1.13)	0.35 (1.92)	0.56 (2.73)	0.29 (1.71)	0.41 (2.20)	0.51 (2.74)	0.39 (2.32)	0.44 (2.50)
P/W	0.05	0.01	0.03	0.05	0.04	0.05	0.06	0.01	0.03
M	2.68 (14.48)	1.91 ((10.79)	2.39 (13.13)	2.97 (14.49)	1.70 (10.0)	2.28 (12.26)	2.90 (15.59)	1.85 (11.01)	2.30 (13.07)

Note: Figures in brackets are percentage of total consumption in each income group.

Table 8 Contd.....

1		2	3	4	5	6	7	8	9	1
VI Rs.20,000 & more	C	12.39 (62.26)	5.78 (89.23)	11.27 (64.03)	13.91 (60.87)	11.62 (86.6)	13.09 (67.1)	12.85 (62.38)	7.89 (83.94)	10.8 (67
	R	0.54 (2.71)	0.01 (0.15)	0.45 (2.56)	0.45 (1.96)	0.07 (0.52)	0.31 (1.59)	0.38 (1.84)	0.11 (1.17)	0. (1.
	N	0.47 (2.36)	0.32 (4.92)	0.45 (2.56)	0.76 (3.32)	0.01 (0.07)	0.49 (2.51)	0.41 (1.99)	neg. -	0. (1.
	P	2.08 (10.45)	0.29 (4.46)	1.77 (10.05)	2.34 (10.22)	0.07 (0.52)	1.53 (7.85)	1.95 (9.47)	0.35 (3.72)	1. (8.
	NC	4.76 (23.92)	0.71 (10.92)	4.08 (23.2)	5.09 (22.22)	0.27 (2.01)	3.37 (17.28)	4.19 (20.34)	0.59 (5.28)	(
	P/C	2.14 (10.75)	0.02 (0.30)	1.79 (10.17)	3.01 (13.14)	1.47 (10.97)	2.46 (12.61)	2.75 (13.35)	0.53 (5.64)	1. (11
	OM	0.46 (2.31	-	0.38 (2.15)	0.80 (3.49)	0.04 (0.30)	0.53 (2.71)	0.76 (3.69)	0.41 (4.36)	0. (3.
	P/W	0.05	-	0.02	0.09	-	0.06	(0.10)	-	0.
	M	2.75 (13.82)	0.02 (0.30)	2.29 (13.01)	3.90 (17.03)	1.51 (11.27)	3.05 (15.64)	3.61 (17.52)	0.94 (10.0)	2.8 (15

Note: Figures in brackets are percentage of total consumption in each incom group.

groups is available from 1974, detailed fibre-wise information is there only for the last three years 1977 to 1979 (See Table 8 It may be noted that the estimates of per capita consumption of textiles in the highest income group especially in rural areas i variance with the rest of the data which may be on account of th smallness of the sample in that income group.

Percapita consumption of all textiles varies from about 8-10 metres in the lowest income group to about 20 metres in the highest income group. It may be noted that rayon, nylon, polyester and blended fabrics are consumed to a small extent even at the lowest income level. The most striking feature is the wide variation in the fibre wise consumption of textiles as between the different income groups. In 1977, while cotton accounted for almost 95 percent of the textiles consumed in the lowest income class, this proportion declined consistently as one moved up the income groups. The decline was particularly sharp in urban areas from about 91 percent in the lowest income group to 62 percent in the highest income group. Within man made fibres, rayon broadly speaking, is consumed more at the lower income levels, while the proportion of non-cellulosic fibres consumed is much higher at the higher income levels; it is almost 13 percent in the highest group compared to about 2 percent in the lowest group. The difference in consmption of pure man made fibre fabrics between income groups is sharper than in respect of mixed fabrics. In rural areas consumption of pure man made fibre fabrics is relatively low for all income groups; the difference between income groups lies mainly in respect of blended fabrics.

We now examine the changes that have occurred in these three years. The share of cotton has declined further, although very marginally in the lowest two income groups; and in the rural areas, too the decline is less. The share of rayon has declined

slightly; within the non-cellulosic fibres, while the share of nylon increased only at the highest income level, polyester consumption has increased for almost all income groups in rural and urban areas, more so in the latter. In respect of blended fabrics, the share of all blends has increased; however consumption/of polyester/cotton blended fabrics has grown the fastest. In rural areas the increase in consumption of blended fabrics is more significant than of pure man made fibre fabrics.

It is clear from the above that (a) a larger proportion of man made fibre/blended fabrics is consumed at higher income levels; and (b) the share of non-cellulosic fibres and polyester/cotton blends is larger as we move up the income groups.

These data indicate a strong positive relationship between (a) quantity of textiles consumed and income; and (b) fibre-wise consumption of textiles and income. This relationship is equally valid for rural and urban areas. From this relationship one can estimate the change in total as well as fibre-wise per capita consumption of cloth for any given change in per capita income. Income elasticities for each variety of textiles as well as the elasticity for all textiles for the year 1978 are given below (See Table 9).

As to be expected for man-made fibre fabrics income elasticities are relatively higher. Within the latter, the elasticity of demand for pure non-cotton fabrics is slightly higher, and more

Table 9

	Cotton	Art Silk	Nylon	Polyester	Total Non-Cotton	Polyester/cotton	Other Mixed	Total Mixed	All Textile
All India	0.23	0.51	0.30	1.07	1.07	1.07	0.61	1.0	0.31
Urban	0.31	0.62	0.83	1.25	1.15	1.35	1.15	1.25	0.42
Rural	0.21	0.42	0.62	0.83	0.83	0.90	0.35	0.76	0.28

Source: Estimated from Consumer Purchase of Textiles, 1978.

Note : These elasticities have been estimated by fitting a semi long function of the form $\log y = a + b x$ where y = per capita consumption and x is per capita income*

so in urban areas. However, the elasticity for cotton is very low. These elasticities have been used for projecting demand for textiles in Section III.

(d) Relative Prices

Prices can affect the pattern of consumption of textiles of various types either through own price movements or through differential movement in relative prices. Taking the average of the last two years of our study we find the following structure of prices of man-made fibre/blended fabrics.

* Per capita income is derived by dividing household income by average family size for each income group.

	1978-79 Rs./metre
1. Cotton	6.5
2. Rayon	12.0
3. Nylon	15.4
4. Polyester	23.8
5. Polyester/ Cotton	29.6
6. Other Mixed	12.9

Source: Consumer Purchase of Textiles, 1978 and 1979.

It is well known that the high unit price of polyester fabrics/ blends is partly on account of high excise duties, which restrict their consumption in the lower income groups.' If price were brought down with changes in the excise structure, demand for synthetic fabrics will certainly go up. However since existing price of synthetic fibre fabrics, as also blends are so much higher, unit prices would have to fall very substantially to enable a large increase in consumption.

It may be noted that this relationship between price and quantity consumed of non-cellulosic fibre fabrics is difficult to establish; given their unrealistic price structure to start with, consumption of such fibre fabrics is much more sensitive to incomes than to prices; even an increase in price of such fabrics would to a certain extent increase their consumption; nevertheless this should not be taken to mean that a fall in their prices

or a relatively larger increase in prices of other fibre fabrics would not lead to a substantial increase in their consumption.

We have attempted to establish the relationship between the per capita consumption of different man made fibre fabrics and price in terms of its own price as well as the weighted average price of other fibre fabrics, that is relative prices (See Table 10).

Table 10

Price Elasticities at All-India level for Different Man-Made Fibre Textiles

	Own price Elasticity	Cross price Elasticity
I All Non-Cotton	- 0.3356	1.5001
a) Rayon (Art Silk)	- 0.7419	- 0.2708
b) Synthetics (Nylon & Polyester)	- 0.4055	2.3969
II All Mixed	0.2629	0.9372
a) Polyester/ Cotton	0.4794	0.7749
b) Other Mixed	- 0.1993	1.3845

Source: Consumer Purchase of Textiles, 1974 to 1979.

The data used are the estimated average prices for each fibre fabric from 1974-79 and the corresponding per capita consumption,

for all-India (Rural - Urban break up at this detailed level is not available). The existence of positive own price elasticity for blended man made fibre fabrics is borne out by the Table. Negative cross price elasticity for rayon, indicates its relative inferiority to other fibre fabrics. The case of polyester/cotton blends is interesting. Although its own price elasticity is positive its cross price elasticity is very high. This indicates its consumption increases by a large magnitude if relative price of other fibre fabrics rises. In all cases, except rayon, we find that cross price elasticities are quite high.

It may be noted that this pattern of co nsumption obtains at the existing level of excise duties etc. There is no doubt that consumption of man made fibres in particular, non-cellulosics, would have been higher if excise duties were lower

It should also be remembered that one of the reasons for the increase in per capita consumption of man made fibre/blended fabrics must have been the augmented availability of both cellulosic and non-cellulosic fibres/filament yarn through liberalied imports since 1977. Imported fibre according to the latest prices even after all duties costs less than the indigenous fibre - for instance, while landed cost of polyester staple fibre including all duties was Rs.79 per kg., selling rate of domestic manufacturers ranged between Rs.85 - 89 per kg. in the last six months. Similarly, in the case of viscose staple fibre. The question arises: would these imports continue: What

is their impact on indigenous production? Could the latter be made to expand sufficiently in the face of the liberalised import policy?

Section III

Demand projections for man made fibre fabrics are made for the year 1985.

From the above section we see that the following factors should be kept in mind when projecting the likely demand for man made fibre textiles in the future.

(i) rate of growth of urban population;

(ii) the increasing use of man made fibres/blends in items of clothing like shirting, coating, suiting, poplin and dress material together with the change albeit marginal in dress styles;

(iii) The level of income and its distribution. Our estimates of income elasticity take into account income distribution at a point of time, but it is assumed that this distribution remains unchanged over the projected period; and

(iv) absolute as well as relative prices of textiles of different fibres/yarn. However, generally for the purpose of projection prices are assumed to be constant.

The thrust throughout our analysis has been on emphasising the increasing consumer perference/purchase of man made fibre fabrics. It is difficult, however, to capture this specifically in our projections. To some extent, by assuming a relatively high rate of growth of urban population we have tried to adjust for it. The official projections of population upto the year 1996, which we use here, have taken into account the increasing trend towards urbanisation; while total population is expected to grow at an annual compound growth rate of 1.79 percent between 1980-85, the growth rate of urban population is assumed to be 2.88 percent during the same period (see Sixth Plan, 1980-85). To some extent the higher elasticities for non-cotton and mixed fabrics themselves would imply a larger use of such fabrics with increases in per capita income over time.

The projections of per capita consumption of different textiles that we give below have been made assuming three different rates of growth of per capita income, 3.0, 4.0 and 5.0 percent. Aggregate consumption projections have been made on the basis of population estimates for the year 1985.

	Population in 1985 (in Million)
Urban	166
Rural	556
All-India	722

Source: Sixth Five Year Plan, 1980-85.

As pointed out earlier, the per capita consumption of textiles, estimated by the Textile Committee is lower than the estimates derived from aggregate production estimates, especially in respect of man made fibre/mixed fabrics. We have therefore based our projections on the latter. However, aggregate production statistics are not available according to region, urban and rural; nor is a detailed fibre wise break up available. Our projections are therefore given at the all India level. We have attempted to classify the per capita consumption of textiles - pure man made, and blended - as given, into different fibres by using the proportion of such fibres in per capita consumption data available from the Consumer Purchase of Textiles. These figures have then been used as base year data for making projections - per capita, and aggregate - for the year 198 . (See Table 11).

From the projections we can see that (taking 5 percent rate of growth of income) while per capita consumption of cotton is estimated to increase by about 6 percent, per capita consumption of pure man made fibre and blended fabrics is expected to rise by about 25 to 30 percent over the base period.

Man made fibres therefore will play an increasingly important role in the clothing requirements of the economy.

Table 11

Projections of Textiles Consumption for the year 1985

	Base year Figures 1980-81	Percapita Consumption in 1985 Assumed Income Growth Rates			Aggregate Consumption in 1985 Assumed Income Growth Rates		
		3.0%	4.0%	5.0%	3.0%	4.0%	5.0%
Cotton	10.59	10.98	11.12	11.26	7,926	8,029	8,132
Rayon	0.34	0.38	0.40	0.41	276	290	298
Nylon	0.34	0.41	0.44	0.46	296	315	334
Polyester	1.01	1.18	1.24	1.31	853	898	945
All Pure Man made	1.68	1.97	2.07	2.18	1,420	1,494	1,571
Polyester/Cotton	2.29	2.62	2.75	2.87	1,896	1,983	2,074
Cotton/Viscose							
Polyester/Viscose							
All Textiles	14.56	15.28	15.54	15.81	11,031	11,218	11,412

Note: 1. Base year figures are three year averages for 1978-79, 1979-80 and 1980-81 and taken from total availability figures given in, Indian Textile Bulletin.

2. Proportion for individual fibres is taken from the 1979. Consumer Purchase of Textiles data on Per capita consumption of various Textiles.

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