

## Highlights of some industries

### Textiles

7.14 The textile industry is a key area where India has an opportunity for success on a global scale, given the low cost of labour. Conversely, textiles is a labour intensive industry, which has the potential to generate jobs for a large number of people. India competes with countries like China, Bangladesh and Pakistan in this field.

7.15 The production of man-made fibre and yarn grew significantly from 207 million kgs in 1981-82 to 1796 million kgs in 2001-02, though it shows a decline by 28 million kgs over last year. However, the ratio of cotton to man-made fibre in the Indian textile industry continues to remain high, at 59:41, compared with the world average of 43:57. The production of fabrics registered an annual growth rate of 4.5 percent from 40,233 million sq. metres in 2000-01 to 42,034 million sq. metres in 2001-02. The share of the mill sector in fabric production was at 3.7 percent in 2001-02 while that of powerlooms (including hosiery) has remained at 76.4 percent respectively. During the current year

2002-03 (April-Dec.) production of fabrics has increased by 1.5 percent as compared to the previous year (Table 7.10).

7.16 Table 7.11 shows strong growth in textile exports in the first half of 2002-03. In particular, readymade garments, which is the most important component, has exhibited strong exports growth of 11.6 percent in value terms.

7.17 In order to encourage garment exports, a centrally sponsored scheme titled Apparel Parks for Exports Scheme has been launched for setting up of apparel manufacturing units of international standards at potential growth centres Under this scheme, nine Apparel Parks are envisaged, at Bangalore (Karnataka), Ludhiana (Punjab), Kanchipuram (Tamil Nadu), Surat (Gujarat), Thiruvanthapuram (Kerala), Tirupur (Tamil Nadu), Tronica City in Kanpur (U.P.) and Visakhapatnam (Andhra Pradesh).

7.18 The decentralised sector activities covering handloom, powerloom, sericulture, handicrafts and wool constitute an important segment of the industry. Amongst the

Table 7.10 : Production of fabrics								
<i>(million sq.mtrs)</i>								
Sector	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	April-Dec.	
							2001-02	2002-03(P)
Mills	1,957	1,948	1,785	1,714	1,670	1,546	1,132	1,160
Powerlooms (incl. Hosiery)	24,885	27,345	26,966	29,561	30,499	32,259	25,789	24,163
Handlooms	7,456	7,603	6,792	7,352	7,506	7,585	4,576	5,803
Others	540	545	584	581	558	644	483	483
<b>Total</b>	<b>34,838</b>	<b>37,441</b>	<b>36,127</b>	<b>39,208</b>	<b>40,233</b>	<b>42,034</b>	<b>31,980</b>	<b>31,609</b>
Share in output (percent)								
Sector	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	April-Dec.	
							2001-02	2002-03(P)
Mills	5.6	5.2	4.9	4.4	4.2	3.7	3.6	3.7
Powerlooms (incl. Hosiery)	71.4	73.0	74.7	75.3	75.7	76.8	80.9	76.4
Handlooms	21.4	20.3	18.8	18.8	18.7	18.0	14.0	18.4
Others	1.6	1.5	1.6	1.5	1.4	1.5	1.5	1.5*
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Source : Office of Textile Commissioner, Mumbai. (P) Provisional.								

**Table 7.11 : Export of selected textile items during 2002-03  
(April-October)**

Item	US \$ million				Growth Apr.-Oct. 2002 (percent)
	2000-01	2001-02	Apr-Oct 2001	Apr-Oct 2002	
Readymade garments	5,087.04	4,599.09	2,627.26	2,932.59	11.6
Cotton textiles	3,509.08	3,040.19	1,865.97	1,935.44	3.7
Wool & woolens textiles	359.47	289.09	205.90	167.03	-18.9
Manmade textiles	1,095.13	1,082.69	646.07	781.91	21.0
Silk	501.82	433.39	244.16	241.98	0.9
<b>Total Textiles</b>	<b>10,552.54</b>	<b>9,444.46</b>	<b>5,589.36</b>	<b>6,058.96</b>	<b>8.4</b>
P : Provisional					
Source : Foreign Trade Statistics of India (Principal Commodities & Countries) DGCIS, Kolkata.					

important policy measures during the year is the adoption of a cluster based approach in implementation of schemes/programmes in these sectors as well as the special initiatives for promotion of non mulberry silk of north eastern region. Manufacture of Jute products is also a textile based activity and this sector also got a boost by the revocation order obtained by the Jute Manufacturers Development Council (JMDC) against an International patent awarded to a British firm for use of Hessian to cover waste ground.

7.19 As a part of the restructuring process of the industry, a Rehabilitation Scheme has been approved for all the eight subsidiaries of the NTC (Tamil Nadu and Pondicherry), and was taken up for implementation during the year. The package envisages revival of 53 operational viable mills and closure of 66 unviable mills (including those companies not referred to BIFR). As part of the revival plan, the interests of the workers has been taken care and the funds required for the revival plan are to be raised from the sale of surplus land of NTC mills. As on December 11, 2002, a total of 18,000 NTC employees have been given VRS.

## Housing

7.20 Housing is an important sector, with a direct connection to human welfare and economic linkages to the construction industry. The National Housing & Habitat Policy, 1998 has been formulated to address the issues of sustainable development, infrastructure and strong public-private partnerships for shelter delivery. The objective of the policy is to facilitate the construction

of 2 million dwelling units each year. It is envisaged that government would provide fiscal concessions, carry out legal and regulatory reforms and create an enabling environment. The private sector would undertake actual construction activities.

7.21 Policies in the area of housing finance have been a key vehicle through which home ownership has been promoted. Income tax exemptions have been given to households building or purchasing homes; financial institutions and builders have been given fiscal incentives to build housing for low income groups, and investors in housing finance companies have been given tax breaks. The secular decline in interest rates in the country from 1997 onwards has also led to lower interest rates and made homes financed by loans accessible to millions of households.

7.22 HUDCO plays a major role in the implementation of government policies on housing. It has been entrusted with the implementation of the following programs: Low Cost Sanitation, Night Shelter for Footpath Dwellers, Building Centres, Shelter Upgradation under Nehru Rozgar Yojana (NRY) and Valmiki Ambedkar Awas yojna (VAMBAY). HUDCO has been allocating 55 percent of its housing loans for Economically Weaker Sections (EWS) and Lower Income Group (LIG). Over 92 percent of the dwelling units sanctioned by HUDCO are meant for EWS and LIG. Out of a target of construction of 20 lakh additional houses, 7 lakh houses would be constructed in urban areas and 13 lakh in rural areas. HUDCO is expected to

meet more than 55 percent of the urban housing target, i.e. 4 lakh units. During 2001-02, the overall achievement of HUDCO in urban areas was the financing of 4.01 lakh additional units. The authorized capital of HUDCO has recently been increased from Rs.1,250 crore to Rs.2,500 crore.

7.23 The cooperative housing sector plays an important role. All the 26 States level Apex Cooperative Housing Federations are members of National Cooperative Housing Federation (NCHF). At the grass root level, 30,410 primary housing cooperatives are affiliated to State level federations. These federations obtain loans from various financial institutions for on-lending to their member housing cooperatives as well as individual members for construction/acquisition of dwelling units. Upto March 31, 2002, these federations have borrowed a sum of Rs.6,882 crore from LIC, HUDCO, National Housing Bank, Cooperative Banks etc. and disbursed loans of Rs.7,371 crores to primary housing cooperatives and individual members, thereby assisting in the construction of about 22 lakh dwelling units in the country.

7.24 Indira Awaas Yojana (IAY) is a rural housing programme of the government, which has been in operation since 1985. This Scheme aims at providing dwelling units free of cost to the poor families of Scheduled Castes, Scheduled Tribes, freed bonded labourers and also the non-SC/ST people below poverty line in rural areas. The Scheme is funded on a cost-sharing basis between the Central Government and the States, with a the ratio of 75:25. The ceiling on construction assistance under the IAY is Rs.20,000 per unit in the plains, and Rs.22,000 in hilly areas.. Another government program for rural housing, the Credit-cum-Subsidy Scheme, targets rural families having an annual income upto Rs.32,000, and here the subsidy is restricted to Rs.10,000/-.

### Tourism

7.25 Tourism is an export-oriented service sector, which has the potential to create substantial employment opportunities, particularly for un-skilled and semi-skilled

workers. In contrast with some manufacturing industries, the tourism industry has direct incentives to foster the quality of the environment. There is very good potential for obtaining growth in this industry, given India's unique endowments of biodiversity, forests, rivers, mountains, monuments and culture. The challenges lie in successfully preserving these in their original form, and making them accessible to domestic and international travellers.

7.26 The number of foreign tourist arrivals and foreign exchange earnings during the period 1995-96 onwards are given below in the table (Table 7.12)

Year	Foreign tourist arrivals (in lakhs)	Percent change	Estimated foreign exchange earnings (in millionUS\$)	Percent change
1995-96	21.90	-	2,713	-
1996-97	23.34	6.6	2,878	6.1
1997-98	23.71	1.6	2,914	1.3
1998-99	23.97	1.1	2,993	2.7
1999-2000	25.05	4.5	3,036	1.4
2000-01	26.99	7.7	3,168	4.3
2001-02	24.23	-10.2	2,910	-8.1
2002-03 (April-Dec)	16.75	-3.8	2,203	2.5

Source : Ministry of Tourism and Culture.

7.27 As a result of September 11, 2001 incidents in the United States, tourist arrivals dropped by 20.3 percent from September to December 2001, when compared with the previous year. This was followed by the war in Afghanistan, tensions in Kashmir, and riots in Gujarat. Some foreign governments put out travel advisories which adversely affected travel to India. This resulted in negative growth rates in foreign tourist arrivals during each of the months from September 2001 till September 2002. A revival has been noticed from October 2002.

## Gems and jewellery

7.28 Gems and Jewellery is a remarkable success of an export-oriented industry in India. India is well integrated into international production chains here, where raw materials come in from abroad, value is added in India, and re-export takes place. From 1998-99 onwards, the share of exports of gems and jewellery in total exports of the country has been in the range of 16 to 20 percent. During April-Oct, 2002, the exports of gems and jewellery showed a buoyant growth rate of 28.6 percent as compared to negative growth rate of 12.2 percent during April-October, 2001 (Table 7.13). In absolute terms it has increased to US \$ 5081 million during April-October, 2002 from US \$ 3951 million during

the same period of 2001. Exports to USA have increased substantially during the first seven months of the current financial year as compared to the decline during the same period of the previous year.

7.29 In the current financial year, the Government of India has taken major initiatives to increase the exports of gems and jewellery. The Union government permitted several companies to undertake exploration for diamonds and other precious minerals in Andhra Pradesh. The Centre has also announced its plans to step up precious stones mining activities in Karnataka, Maharashtra, Chattisgarh, Madhya Pradesh and Orissa.

**Table 7.13 : Export of gems and jewellery**

	(million US\$)	Percentage increase over previous year	Percent share in total exports
1997-98	5346	-	-
1998-99	5929	10.9	17.8
1999-00	7502	26.5	20.4
2000-01	7384	-1.5	16.6
2001-02	7306	-1.1	16.7
2001-02 (April-October)	3951	-12.2	15.9
2002-03 (April-October)	5081	28.6	17.3

Source : Ministry of Commerce and Industry (Department of Commerce)

7.30 The Government has delicensed the import of rough diamonds with effect from April 1, 2002 so that the import of rough diamonds no longer required replenishment/diamond impressed licenses. The new Exim-policy also saw the exit of the value based replenishment policy with reference to precious metal jewellery exports.

## Automobiles

7.31 The automobile industry comprising commercial vehicles, passenger cars and multi-utility vehicles, two/three wheelers, tractors and automobile ancillary industry has performed extremely well in 2001-02 and in the current year. This sector is a striking success story of a traditional Indian industry

**Table 7.14 : Production of automobiles (in numbers)**

	1999-2000	2000-01	2001-02	2001-02	2002-03	% change
				April-December		
Total Cars & UVs	7,01,655	6,40,934	6,87,874	4,69,744	5,01,577	6.8
Total Commercial vehicles	1,73,524	1,56,706	1,46,197	1,10,913	1,39,499	26.0
Three-wheelers	1,90,259	2,03,234	2,12,753	1,55,538	1,99,854	28.5
Two-wheelers	37,78,011	37,58,518	43,23,644	31,60,282	38,70,512	22.5
<b>Total</b>	<b>48,43,449</b>	<b>47,59,392</b>	<b>53,70,468</b>	<b>38,96,477</b>	<b>47,11,442</b>	<b>20.9</b>

Source: Ministry of Heavy Industry and Public Enterprises (Department of Heavy Industry).

which has grown out of its roots in a protectionist regime into competing and succeeding in a globalised environment. The success of this sector contradicts simple stereotypes about the non-competitiveness of Indian manufacturing.

7.32 The sharp growth of this sector has been partly driven by the impact of lower interest rates on demand, intermediated by a competitive financial sector which has steadily cut prices of automobile loans as interest rates went down. There has also been considerable success in obtaining export growth (Table 7.15). The number of total automobiles exported has increased to 2,15,318 during April-December, 2002 compared with 1,28,119 during the corresponding period of previous year, reflecting a buoyant growth of 68.1 percent. The magnitudes seen, such as export of 1,24,818 two wheelers and 32,024 three

wheelers registering a growth of 71.8 percent and 215.4 percent, respectively during April-December, 2002 over the same period of the last year, are significant accomplishments. Roughly 10 percent of automobile components produced in India are now exported. If present growth rates continue, within roughly two years, India will be a significant exporter of automobiles on the world stage.

7.33 The automobile industry is an important success in obtaining a vibrant manufacturing 'cluster' in India. Over the period from 1992 to 1997, automobile output grew at a compound growth rate of 22 percent per annum. Most major international companies in this industry now have operations in India, and are increasingly using India as a platform for export-oriented production. There is a strong set of upstream firms ranging from ancillaries to

**Table 7.15 : Exports of automobiles (Number)**

	1999-2000	2000-01	2001-02	2001-02	2002-03	% change
				April-December		
Total Cars & UVs	28,420	27,112	53,656	37,613	51,311	36.4
Total Commercial vehicles	9,912	13,770	11,426	7,680	7,165	-7.0
Three-wheelers	17,725	16,263	15,425	10,154	32,024	215.4
Two-wheelers	83,237	1,11,138	1,03,681	72,672	1,24,818	71.8
<b>Total</b>	<b>1,39,294</b>	<b>1,68,283</b>	<b>1,84,188</b>	<b>1,28,119</b>	<b>2,15,318</b>	<b>68.1</b>

Source: Ministry of Heavy Industry and Public Enterprises (Department of Heavy Industry).

design consultancy, which feed the automobile industry.

### Cement

7.34 As with steel, the cement industry has seen a recovery from 2001-02. It registered a growth rate of 9.52 percent during 2001-02 and is maintaining the trend of improvement in the current year also as during the period April-December, 2002, cement production grew strongly by 9.73 percent (Table 7.16). This has been caused by a recovery of capital expenditure. In particular, the first phase of NHDP alone has been estimated to generate demand for 10 million tonnes of cement. The growth of the housing sector, which has been

**Table 7.16 : Production of cement**

Year	(in million tonne)	Growth rate (in percent)
1980-81	18.66	-
1996-97	76.22	9.6
1997-98	83.16	9.1
1998-99	87.91	5.71
1999-2000	98.21	11.72
2000-01	97.61	(-) 0.61
2001-02	106.9	9.52
2001-02 (Apr-Dec)	77.78	-
2002-03 (Apr-Dec)	85.35	9.73

Source : Department of Industrial Policy & Promotion.

assisted by lower interest rates, and a favorable tax treatment of home loans, has also helped assist cement demand.

7.35 Cement producers have begun to target the international market, with exports of 5.14 million tonnes in 2001-02. Given the criticality of cost of transportation in the cement industry, some firms which produce cement have set up sophisticated dedicated port facilities to improve their flexibility in transportation.

### Steel

7.36 In the late 1990s, the steel industry had experienced slow output growth, through a combination of weak domestic demand growth, and competition from imports. In the last two years, this picture has changed considerably. World steel prices rose from January, 2002 onwards. In the case of Hot

rolled coil, the price movement during January-December 2002, was from US\$ 190 to US\$ 295. Domestic steel demand rose, partly owing to the highway construction undertaken under the aegis of NHAI. It has been estimated that Phase I of NHDP alone has led to a demand for 1 million tonne of steel. India has also experienced significant success in exporting steel, with 2.33 million tonnes exported over April-November, 2002, which was 15.8 percent higher than the exports over the same period of the previous year. These factors have resulted in a strong recovery in the steel industry, with growth of 4.7 percent in 2001-02. This growth momentum was maintained during April-November 2002, when output grew by 5.4 percent, as compared with (-)1.5 percent in the same period of the previous year (Table 7.17).

<b>Table 7.17 : Output of iron and steel</b>				
<i>(million tonnes)</i>				
Item	2000-01	2001-02	April - November	
			2001-02	2002-03
<b>Finished steel</b>				
Main Producers	12.49 (10.8)	13.05 (4.5)	8.34 (2.5)	9.14 (9.6)
Secondary Producers	16.78 (5.5)	17.58 (4.8)	11.43 (-4.3)	11.70 (2.40)
<b>Total</b>	29.27 (7.7)	30.64 (4.7)	19.77 (-1.5)	20.84 (5.40)
<b>Pig Iron</b>				
Main Producers	0.96 (-21.3)	1.02 (5.4)	0.66 (3.1)	0.71 (8.20)
Secondary Producers	2.43 (24.5)	3.06 (25.5)	1.89 (31.6)	2.46 (30.2)
<b>Total</b>	3.39 (6.8)	4.08 (19.8)	2.55 (22.6)	3.17 (24.5)
<b>Note : Figures in brackets indicate percentage change over the previous year. Totals may not tally due to rounding off.</b>				
<b>Source : Ministry of Steel.</b>				

### Oil and gas

7.37 The oil and gas industry is one where major efforts of liberalisation have been underway. At the same time, at present, this is an area where the policies of government, and government-owned corporations, continue to have a major role in shaping outcomes.

7.38 A milestone in reforms in the petroleum sector was the dismantling of the 'Administered Pricing Mechanism' (APM), from April 1, 2002. Under the new regime:

- (i) The pricing of indigenous crude oil and petroleum products, except for PDS Kerosene and domestic LPG, are market determined. The oil pool

account has been dismantled and the Oil Coordination Committee has been wound up.

- (ii) Subsidies on PDS Kerosene and domestic LPG are on a specified flat rate basis, from April 1, 2002 onwards, and are borne by the Consolidated Fund of India. These subsidies, which were estimated at Rs.5,830 crore for LPG and Rs.5,310 crore for kerosene in 2001-02, will be phased out in the next 3 to 5 years. After adjusting the flat rate of subsidy, the retail prices of PDS Kerosene and domestic LPG will fluctuate in keeping with the price of crude oil in international markets.
- (iii) There is a freight subsidy for far-flung areas for PDS Kerosene and domestic LPG, which is borne by the Consolidated Fund of India.
- (iv) The private sector has been permitted to market transportation fuels subject to specified guidelines.
- (v) A Regulator will be set up to oversee the downstream petroleum sector.
- (vi) Dismantling of oil pool account with effect from 1.4.2002 and phasing out subsidies under the Administered Pricing Mechanism (APM) given in Box 7.1.

#### **Box 7.1 : Oil Pool Account**

The Oil Pool Account has been wound up with effect from 01.04.2002. The Government of India issued (on 30th March 2002) '6.96 percent Oil Companies' Government of India Special Bonds, 2009' amounting to Rs. 9,000 crores, to the Oil Companies in lieu of a part of the estimated outstanding claims of the Oil Companies on the Oil Coordination Committee (OCC) under the APM as on March 31, 2002. The balance outstanding of the oil companies will be liquidated subsequently by issue of further Special Government Bonds.

7.39 In late 2000-01, refining capacity in India grew to a point where India became a net exporter of petroleum products. Net exports of petroleum products were 3.08 million tonnes in 2001-02, and 2.11 million tonnes in April-November 2002. In addition, three new refineries are under construction, adding capacity of 24 million tonnes.

7.40 Natural gas is an important alternative to liquid fuels, which has been gaining prominence in the last decade. Natural gas production rose to 20.61 billion cubic metres (BCM) during the current year (April-November 2002), which was 4.5 percent higher than that in the corresponding period of the last year (Table 7.18). To enhance natural gas availability in the country, 8 coal bed methane (CBM) blocks have been awarded in the first round under the National CBM Policy. The first contract for a CBM block in Raniganj, West Bengal, was signed with Great Eastern Energy Corporation in May, 2001, while contracts for 5 more blocks, in Jharkhand, Madhya Pradesh and West Bengal were signed in July 2002. For the remaining 2 blocks to be jointly operated by ONGC and Coal India Ltd., the agreements are in the last stage of finalisation, and would be signed in February 2003.

7.41 Import of Liquefied Natural Gas (LNG) has been initiated through Petronet LNG Ltd., by setting up a 5 million tonne plant at Dahej (Gujarat) and another plant of 2.5 million tonne capacity at Kochi (Kerala). About 55 percent work on the re-gasification plant is already completed in Dahej. Two ships for transportation of LNG are being built at the Daewoo shipyard in Korea, and by December 2003, LNG will start flowing in the Hazira, Bijaypur and Jagdishpur (HBJ) pipeline, benefiting Gujarat, Madhya Pradesh, Rajasthan, Haryana, Delhi and Uttar Pradesh.

7.42 A consortium of Reliance Industries Limited (RIL) and Hardy Exploration and Production (India) Inc. (HEPI) has made three significant gas discoveries in the deep water of Krishna-Godavari offshore during the year 2002-03 under New Exploration Licensing Policy (NELP). Further, Cairn Energy of U.K.

**Table 7.18 : Trends in the petroleum sector**

Item	April-November*					Percent change over previous year		
	1999-00	2000-01	2001-02	2001-02	2002-03*	2000-01	2001-02	2002-03**
	<i>(million tonnes)</i>					<i>(percent)</i>		
1 Crude oil production	31.95	32.43	32.03	21.24	22.09	1.5	-1.2	4.0
i) On-shore	11.30	11.79	11.89	7.97	7.74	4.3	0.8	-2.9
a) ONGC	7.92	8.43	8.64	5.75	5.70	6.4	2.5	-0.9
b) OIL	3.28	3.28	3.18	2.17	1.99	0.0	-3.0	-8.3
c) JVC	0.10	0.08	0.07	0.05	0.05	-20.0	-12.5	0.0
ii) Off-shore	20.65	20.64	20.14	13.27	14.35	0.0	-2.4	8.1
a) ONGC	16.73	16.63	16.07	10.56	11.62	-0.6	-3.4	10.0
b) JVC	3.92	4.01	4.07	2.71	2.73	2.3	1.5	0.7
2 Refinery crude throughput	85.96	103.44	107.27	70.66	74.22	20.3	3.7	5.0
3 Production of POL products\$	79.41	95.61	100.00	65.82	68.51	20.4	4.6	4.1
4 Natural gas production (Billion cubic metres)	28.45	29.48	29.71	19.73	20.61	3.6	0.8	4.5
\$ : Excludes LPG production from fractionator.      *: Provisional.      **: April- November. Source : Ministry of Petroleum & Natural Gas.								

has made an oil and gas discovery in the Rajasthan block, where contracts were signed prior to NELP regime. The discoveries would be further appraised for determining firm reserves in the area from the point of view of commercial production. However, the preliminary initial estimates of the in place reserves in the 2 blocks are about 220 million metric tonnes of oil and oil equivalent gas.

7.43 One important question in the oil sector has been about pollution control for automobiles. The Ministry of Petroleum and Natural Gas set up an expert committee headed by Dr. R.A. Mashelkar, in August 2001 to formulate a national auto fuel policy. The committee, in its final report submitted in September 2002, has recommended that:

- (i) Bharat Stage-II emission norms should be implemented in Agra, Ahmedabad, Bangalore, Hyderabad, , Kanpur, Pune, and Surat by April 1, 2003.
- (ii) Bharat Stage-II emission norms should be applied throughout the country by April 1, 2005.
- (iii) Euro-III equivalent emission norms should be required in the four metros

and the seven cities mentioned above from April 1, 2005.

- (iv) Euro-III equivalent emission norms should be required in all other areas of the country by April 1, 2010.

### Electronics and computer technology

7.44 India has made significant progress in electronics and computer technology. From 1996-97 to 2001-02, the industry grew by a factor of over three times. Software exports have become an important part of India's exports, and India's international image. India's success in software has been built on the foundations of public investments in human capital, outward orientation in policies, and a highly competitive private sector industry.

7.45 A unique feature of this industry is the export orientation. Software exports have grown at a compound growth rate of over 50 percent per year for the last five years. Hardware exports have also grown sharply in 2001-01 and 2001-02, reaching a level of Rs.5,871 crore in 2001-02, (Table 7.20) showing a growth of 22.6 percent when compared with the previous year. While



<b>Table 7.19 : Electronics production</b>						
(Rs. crore)						
<b>Item</b>	<b>1996-97</b>	<b>1997-98</b>	<b>1998-99</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>
1. Consumer electronics	6,500	7,600	9,200	11,200	11,550	12,700
2. Industrial electronics	3,100	3,150	3,300	3,750	4,000	4,500
3. Computers	2,740	2,800	2,300	2,500	3,400	3,550
4. Commn. & broad eqpt.	3,000	3,250	4,400	4,000	4,500	4,500
5. Strategic electronics	1,300	,900	1,300	1,450	1,750	1,800
6. Components	3,700	4,400	4,750	5,200	5,500	5,700
<b>Sub-Total</b>	<b>20,340</b>	<b>22,100</b>	<b>25,250</b>	<b>28,100</b>	<b>30,700</b>	<b>32,750</b>
7. Software for exports	3,700	6,500	10,940	17,150	28,350	36,500
8. Domestic software	2,600	3,470	4,950	7,200	9,400	11,634
<b>Total</b>	<b>26,640</b>	<b>32,070</b>	<b>41,140</b>	<b>52,450</b>	<b>68,450</b>	<b>80,884</b>

**Source : Ministry of Communication & Information Technology (Department of Information Technology).**

<b>Table 7.20 Electronics exports</b>						
(Rs. crore)						
	<b>1996-97</b>	<b>1997-98</b>	<b>1998-99</b>	<b>1999-00</b>	<b>2000-01</b>	<b>2001-02</b>
1. Electronics Hardware	2,587	3,000	1,800	1,400	4,788	5,871
2. Computer Software	3,700	6,500	10,940	17,150	28,350	36,500
<b>Total</b>	<b>6,287</b>	<b>9,500</b>	<b>12,740</b>	<b>18,550</b>	<b>33,138</b>	<b>42,371</b>

**Source : Ministry of Communication & Information Technology (Department of Information Technology).**

hardware exports have lagged, software exports at the present level of over \$1 billion a year, should not be overlooked. Many top IT firms from across the world have started utilising India in their global production chains, and in high-end functions such as research and development.

7.46 One major element of the outward orientation of this sector has been government policies, which have steadily cut barriers to imports. Recent policy initiatives on customs duties are as follows:

- (i) In the Budget 2002-03, the peak rate of customs duty was reduced from 35 percent to 30 percent; customs duty was reduced on stepper motors for computers/printers from 5 percent to zero percent, floppy diskette from 15 percent to 10 percent and on ink cartridges, ribbon assembly, ribbon gear assembly, ribbon gear carriage for use in printers for computers, from 25 percent to 5 percent. Customs duty was reduced on 56 items of capital goods for manufacture of semiconductors from 5 percent to 0 percent, 24 items (around 200 sub-terms) of capital goods for manufacture of electronic components from 25-35 percent to 15 percent, on tools, moulds, dies for electronics industry, from 25 percent to 15 percent and on 47 items of raw materials for manufacture of electronic components from 25-35 percent to 5 percent.
- (ii) Supplies of Information Technology Agreement (ITA-I) items in the Domestic Tariff Area (DTA) by EHTP/EOU/EPZ units shall be counted towards fulfillment of minimum Net Foreign Exchange earning as a Percentage of exports (NFEP) and the minimum Export Performance (EP), provided that the items are

manufactured in the unit and attract zero rate of basic customs duty. Positive NFEP is required to be achieved in 5 years instead of every year.

7.47 Government policies have worked towards fostering growth and sophistication in this sector in many ways. Some highlights of these efforts are:

- (i) Computer security is a key concern influencing the adoption of Internet technologies into mission critical functions. In order to improve the legal enforceability of secure communications, the Controller of Certifying Authorities (CCA), a government agency, gives out licenses for firms setting up key infrastructure. In addition, a Centre for Information and Network Security (CINS) has been set up in Pune University, and an Indian Computer Emergency Response Team (CERT) has been set up for protecting India's strategic, commercial and financial information assets.
- (ii) A remarkable phenomenon of recent years is the rise of high quality 'free software' which has become available internationally. The use of free software reduces costs, reduces computer security threats, puts full control in Indian hands, and fosters the development of Indian skills in building new technology. As with numerous other governments in the world, the Government of India is also actively exploring how free software can be fully utilised in India. Many government agencies and state governments have commenced exploiting free software, particularly in the areas of national security, E-governance, Internet-related applications, research and development, and utilisation for low-cost computing in schools and colleges. Indian projects in this area, like the 'Simputer', have received international attention.
- (iii) For computer technology to obtain the fullest impact in India, complete support for the languages of India is required. Government agencies are working towards ensuring that all Indian languages are properly supported, particularly with free software.
- (iv) The Government is executing the 'Media Lab Asia' initiative in collaboration with Media Lab of MIT, USA. The project, aiming to bridge the digital divide, intends to create a network of human and technical resources for disseminating the benefits of advanced information technologies at the grassroots level. The initiative intends to facilitate application of innovations in the field of IT for benefiting the masses.

### **Food processing**

7.48 In order to obtain substantially higher value added in agriculture, there is a need for a sophisticated food processing industry, which is able to efficiently perform storage, transport and processing functions from the farm gate to the end-consumer. In particular, there is a need for facilities for preservation of perishables, so as to reduce wastage and improve profit rates for farmers. It is expected that as this enabling environment falls into place, farmers will have appropriate incentives to modify cropping patterns and move into high value crops.

7.49 Government has taken a number of initiatives in this direction. The Ministry of Food Processing has been pursuing the task of setting up of food parks in different parts of the country, which foster firms in the areas of cold storage, warehousing, quality control labs, effluent treatment plants etc. So far, 36 food parks have been sanctioned in different states of the country. In addition, an intergrated scheme for infrastructure development has been approved. The scheme also includes the component for the development of infrastructure in the cold chain.

7.50 To improve quality and foster international competitiveness, the Ministry of Food Processing Industries is operating Plan Schemes on the promotion of Total Quality Management including ISO 9000, ISO 14000, Hazard Analysis and Critical Control Points (HACCP), Good Manufacturing Practices, and Good Hygienic Practices.

7.51 Bar coding has become central to retailing of food products abroad, and will increasingly play a role in India, with the growing sophistication in retailing. The Ministry of Food Processing is working on the promotion of bar coding on all food packaging.