VI. Special Topic

Crystal Gazing Into India's Rubber Industry Towards 21st Century

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Introduction

India in the Global Scenario of Natural Rubber

The rubber plantation and rubber goods manufacturing industries in India have achieved steady growth and development all through the post independent era. India today occupies the position of the fourth biggest natural rubber producer, after Thailand, Indonesia and Malaysia and fourth biggest natural rubber consumer after USA, China and Japan. Whereas in other major producing countries NR market is export oriented, India shares with China, the unique position of consuming the entire domestic output of NR for its industrial purpose. Since demand in the country has been increasing at a rapid rate, production, although rising rapidly, has not been able to keep pace with the demand. In the combined use of natural and synthetic elastomers, the country occupies the fifth position after USA, Japan, China and Republic of Korea. However, the country uses NR and SR in the proportion of 80:20 while the pattern the world over is 39:61. India's position among the major consuming countries is depicted in Table 1.

Table 1: Consumption of NR & SR during 1996 ('000 tonnes)

NR & SR		NR Only	
USA	3,188	USA	1,002
Japan	1,839	China	810
China	1,680	Japan	715
Republic of Korea	740	India	558
India	700	Malaysia	357
Germany	609	Republic of Korea	300
World	15,680	World	6,130

Growth of Area, Production and Productivity of Natural Rubber

The progress of Indian rubber plantation industry in terms of area, yield per hectare and production during the post-independent period is depicted in Table 2.

Table 2: Area, Yield per Hectare and Production

Year	Area ('000 ha)	Average Yield (kg/ha)	Production (tonnes)	Decennial/ Annual Growth Rate in Production (%)
1950-51	75	284	15,830	—
1960-61	144	365	25,697	4.96
1970-71	217	653	92,171	13.62
1980-81	284	788	153,100	5.21
1990-91	475	1076	329,615	7.97
1991-92	489	1130	366,745	11.26
1992-93	499	1191	393,490	7.29
1993-94	508	1285	435,160	10.59
1994-95	516	1362	471,815	8.42
1995-96	523	1422	506,910	7.44
1996-97	533	1503	549,425	8.40

It deserves special mention that the achievements of the Indian rubber plantation industry, which in productivity and rate of growth compare favourably with all major producers in despite relatively adverse agro-climatic and other inhibiting factors. Whereas most of the major rubber producing countries, except China, are blessed with moderate and well distributed rainfall, the rubber growing regions of India experience not only excessive, but also highly seasonal rainfall. This results in longer gestation period, loss of tapping days, ravages of fungal diseases and escalation in the costs of cultivation and production.

Rubber cultivation in India is overwhelmingly small holder oriented. There are about 911,000 smallholdings having a total share of 86% in the area and production.

The average size of an Indian smallholding is less than 0.50 ha. Though size-constrained, the redeeming factor is the enlightened outlook of the average Indian smallholder and his diligence. The level of adoption of technology among them is quite appreciable, the average yield per hectare which is higher than that of major producing countries, illustrates their better status in internalising frontier technologies. The imaginative and responsive policies and programmes of the Government of India and the Rubber Board have also gone a long way in encouraging growth and development in this sector.

Growth of Consumption of Rubber

The growth of the rubber goods manufacturing industry has been no less impressive. Consumption of NR had shot up from less than 20,000 tonnes in 1950–51 to 561,800 tonnes in 1996–97. During 1997–98, the consumption of NR is estimated to increase to 610,000 tonnes recording a growth rate of 8.6%.

As at the end of March 1997 there were 5,588 licensed rubber goods manufacturers in India. The vast majority of them are small scale operators consuming only less than 100 tonnes of NR per year. About 62% of the consumption is accounted for by 40 large scale manufacturers. Unlike NR production which is characterised by a high degree of regional concentration, its consumption takes place in a rather dispersed manner all over the country.

The growth in consumption of natural and synthetic rubber in India is shown in Table 3.

Though NR is being processed into different forms, in India 72% is processed as RSS grades. Table 4 presents the composition of different forms of processed rubber in the total production.

Table 3: Consumption of NR & SR (tonnes)

Year	NR	SR	Total	Decennial/ Annual Growth (%)
1950–51	19,854	—	19,854	—
1960–61	48,148	7,397	55,545	10.84
1970–71	87,237	33,160	120,397	8.04
1980–81	173,630	47,050	220,680	6.25
1990–91	364,310	104,735	469,045	7.83
1991–92	380,150	105,650	485,800	3.57
1992–93	414,105	108,690	522,795	7.62
1993–94	450,480	113,395	563,875	7.86
1994–95	485,850	122,710	608,560	7.92
1995–96	525,465	134,085	659,550	8.38
1996–97	561,765	142,810	704,575	6.83

Table 4: Pattern of Production of NR (%)

	1990–91	1996–97
RSS Sheets	71.8	72.1
Latex	12.0	11.2
Block Rubber (TSR)	5.1	9.5
Others	11.1	7.2
Total	100.0	100.0

Synthetic Rubber

In India, synthetic rubber is produced by six firms, the major two being Ms Synthetic and Chemicals Ltd (factory at Bareily, UP) and Ms Indian Petro Chemicals Corporation Ltd. (factory at Baroda, Gujarat). After a capacity expansion effected recently Ms Synthetics and Chemicals Ltd. has now a capacity to produce 70,000 tonnes of SBR and 7,500 tonnes of NBR. It is understood that they are in the process of further expanding the capacity of SBR to 100,000 tonnes by the year 2001 and that of Nitrile to 15,000 tonnes by the year 2000. The present capacity of Ms Indian Petro Chemicals Corporation Ltd, is 50,000 tonnes of Polybutadiene Rubber (BR). Apart from these, small quantities of synthetic rubber are produced by Ms Herdilia Unimers Ltd, Ms Gujarat Apar Polymers Ltd. Ms Apar Ltd, and Ms Apcotex Lattices Ltd. The present capacity and production of SR by these six firms and their anticipated capacity during the year 2000 are given in Table 5.

Table 5: Capacity & production of synthetic rubber

		Capacity in 1997 ('000 tonnes)	Production 1996–97 (tonnes)	Expected Capacity in 2000 Ad ' ('000 tonnes)
M/s Synthetics & Chemicals Ltd.	SBR	70	31,049	100
	Nitrile (NBR)	7	—	15
M/s Indian Petrochemical Corporation Ltd.	BR	50	15,547	50
M/s Herdillia Univers Ltd.	EPDM	10	3,597	12
M/s Gujarat Apar Polymers Ltd.	SBR	} 8	2,520	} 10
	NBR		2,832	
M/s Apar Ltd.	SBR	5	4,092	6
M/s Apcotex Lattices Ltd	VP Latex	4	1,010	5
	SBR	1	3,651	12
	Nitrile Latex	—	265	—
	Total	155	64,563	210

Total production of synthetic rubber during 1996-97 was 61,563 tonnes. Table 6 provides the composition of different varieties in this.

Table 6: Gradewise production of SR During 1996–97 (tonnes)

SBR	41,312
BR	15,547
Nitrile	2,832
EPDM	3,597
VP Latex	1,010
Nitrile Latex	265
Total	64,563

(* Including SBR Latex)

In addition to the various varieties of synthetic rubber produced in India, rubber good manufacturing industry requires a few other varieties such as butyl rubber and polychloroprene rubber, which are met by imports. The total consumption of all varieties of SR during 1996–97 was 142,810 tonnes. The import during the year was 79,640 tonnes.

The import duty of SR prevailed during 1995–96 was 50% which was reduced to 40% in the Finance Bill-1997–98. The Union Budget for the year 1996–97 has imposed an additional duty of 2%. (During September 1997 Union Cabinet decided to raise the additional duty from the prevailing 2% to 5%). Besides, there is a countervailing duty (CVD) of 18% on basic price and an additional 45% of it, so that the aggregate of CVD comes to 36.1%. Thus, if the basic price is Rs100, the price including duty will be Rs171.10.

The prevailing price (ex-factory, i.e., exclusive of excise duty and taxes) of important grades of synthetic rubber produced in the country is furnished below.

Grade		Basic price excluding excise-duty (Rs. per Kg.)	
SBR Grade			
SBR–1502	:	47.00	under stood price still
SBR–1712	:	43.00	reduced is RS. 45.00 and
SBR–1958	:	67.00	Rs. 41.00 respectively
BR Grade			
BR–1220	:	52.00	

(Excise duty @ 18 percent on basic price, sales tax and other taxes extra)

Reclaimed Rubber

Apart from natural and synthetic rubber, India is producing as well as consuming reclaimed rubber (RR). In fact, India has become the largest producer and user of RR in the world. Currently, there are 38 units engaged in the manufacturing of RR. During 1996–97 the country produced and consumed more than 66,000 tonnes of RR. The proportion of use of NR, SR and RR by the Indian manufacturing industry during the year was 73:18:9.

Price and Trade of Rubber

The link between NR producers and consuming industries is provided by licensed dealers and processors. At the close of 1996–97 there were 10,117 licensed rubber dealers and 153 licensed processors in the country. They include a number of growers' societies and co-operative organisations. It must be stated to the credit of the efficient dealer-processor network that the growers are able to realise at their farm gate about 95% of the terminal market price for their produce. This is a unique situation quite exclusive to Indian rubber market. Small rubber growers in most other countries are not known to realise more than 70% to 85% of the terminal market price at their farm gates.

After the official devaluation of the Indian currency in 1991, the domestic price of NR has been moving more or less in tandem with the international price. Table 7 provides the price trend of rubber in the international market (Kuala Lumpur) and in the Indian market (Kottayam) since 1992.

The table reveals that during 1995 and 1996 the Indian price has ruled higher than international price even though international price had scaled unprecedented peaks during these years. However, it cannot be said that the price competitiveness of the manufacturing industry in India is seriously affected by the price levels, since duty-free import is possible under certain circumstances, especially to meet export purposes.

Table 7: Indian price vis-a-vis international price for rubber (Rs./100 kg)

	Indian Price (Kottayam)		International Price (Kuala Lumpur)		
Year / Month	RSS-4	ISNR-20	RSS-4	RSS-3	SMR-20
1992	2463	2365	2382	2457	2426
1993	2546	2453	2437	2538	2485
1994	3107	2916	3373	3455	3513
1995	5059	4744	4934	5030	4958
1996	5122	4832	4648	4764	4597
1997	3988	3769	3476	3614	3584
January 1997	4699	4300	4176	4327	4341
February 1997	4286	4078	4155	4306	4291
March 1997	4199	4038	4191	4343	1221
April 1997	3980	3880	3935	4086	3909
May 1997	4483	4130	3770	3920	3727
June 1997	4224	4185	3783	3933	3669
July 1997	3937	3778	3168	3314	3338
August 1997	4298	4093	3118	3256	3275
September 1997	3892	3705	3000	3127	3157
October 1997	3495	3250	2976	3091	3142
November 1997	3389	3146	2910	3026	3113
December 1997	2970	2640	2527	2637	2820
January 1998	2890	2644	2332	2426	2612

Note : Current Exchange Rate Rs.100 US$ 2.58 US$1 Rs. 38.76

Besides, rubber goods which are mainly consumed in the internal market can be priced absorbing all the costs involved.

Export-Import Policy, Export and Import of Rubber

Under the Export-Import Policy for the period from 1992 to 1997 and in the new EXIM Policy for the period from April 1997 to March 2002, NR is included in the 'Negative List' of restricted items for imports. NR can be imported under three kinds of licenses.

1. NR can be imported against a license issued by the Government or in accordance with a Public Notice issued in this behalf. This may be with or without duty as may be fixed by the Government. This is usually done when there is a shortage and the Rubber Board recommends for the import.

2. NR can be imported against Special Import Licenses (SIL) available with big export houses and it is transferable. Besides the prevailing import duty, the import under SIL attracts a premium charged by the export house. The current rate of import duty is 20% and an additional duty of 2%. (During September 1997 Union Cabinet has taken a decision to raise the additional duty from 2% to 5%).

3. Import of rubber is also allowed under the Advance License which is an incentive for the export of rubber products. Exporters of rubber products can import the quantity of NR utilised for manufacturing the product. The import under Advance Licence is free of duty. Under the new Policy the Value Based Advance Licence (VBAL) has been replaced with Duty Entitlement Pass Book (DEPB) Scheme.

Since 1992 NR can be exported without restrictions. However, in view of the local demand and generally better domestic prices no incentives are provided for the export. The volume of import and export since 1973–74 is provided in Table 8.

India remains a net importer of rubber. The share of import in the domestic consumption of NR varies from year to year. During 1996-97 it was 3.2%. Since the demand-supply gap is expected to be widened, in future more import would be necessitated. Most of the rubber imported is RSS 3 grade of sheets and it is used along with domestic RSS 4 (Table 9).

Table 8: Import and Export of NR (tonnes)

Year	Import	Export
1973–74	52	2,700
1974–75	—	350
1975–76	—	—
1976–77	—	12,296
1977–78	—	11,078
1978–79	14,750	—
1979–80	32,200	—
1980–81	9,250	—
1981–82	42,750	—
1982–83	33,401	—
1983–84	35,940	—
1984–85	37,461	—
1985–86	41,431	—
1986–87	45,356	—
1987–88	53,685	—
1988–89	59,835	—
1989–90	44,445	—
1990–91	49,013	—
1991–92	15,070	5,834
1992–93	17,884	5,999
1993–94	19,940	186
1994–95	8,093	1,961
1995–96	51,635	1,130
1996–97	19,770	1,598

Table 9: Pattern of Import of NR (%)

	1990–91	1996–97
RSS Sheets	78.6	66.3
Latex	1.4	4.8
Block Rubber (TSR)	18.9	27.6
Others	1.1	1.3
Total	100.0	100.0

Supply Outlook

Factors relevant to NR production are:

- area under existing plantations
- future scales of newplanting & replanting
- planting materials used
- age structure of trees on the ground
- technological advances
- price of rubber

The total area under rubber at the end of 1996–97 was 533,000 ha. Out of this 365,500 ha are estimated to be under tapping. Since rubber tree has a gestation lag of about seven years, area newplanted prior to the year 2004–05 only will come into production stream before 2010.

The target of newplanting and replanting during the period from 1997–98 to newplanting and replanting during the period from 1997–98 to 2001–02 are respectively 60,000 ha and 30,000 ha. Thereafter, newplanting and replanting is estimated at 10,000 ha, each per year. On the basis of this anticipated rate of newplanting and replanting the projected growth in tappable area, yield and production would be as shown in Table 10.

Demand Outlook

The demand for rubber depends on the growth in production of rubber goods absorbed domestically as well as those exported. Around 10% of the natural rubber consumed is for the production of rubber goods exported from the country. The pattern of consumption during 1995–96 was as shown in Table 11.

Table 10: Projected Tappable Area, Yield and Production

Year	Tappable Area (ha)	Yield (kg/ha)	Production (tonnes)
1996–97 (Actual)	365,500	1503	549,425
2000–01	421,000	1650	695,000
2005–06	471,000	1735	817,000
2010–11	511,000	1790	914,000

Table 11: Pattern of Use of Rubber during 1995–96

	NR	SR	Total	Share (%)
Auto Tyres & Tubes	245,654	74,926	320,580	48.6
Cycle Tyres & Tubes	66,358	117,781	78,136	11.8
Tyre Retreads	32,316	6,503	38,819	5.9
Footwear	52,003	23,541	75,544	11.5
Belts & Hoses	35,838	7,107	42,945	6.5
Latex Foam	28,633	nil	28,633	4.3
Dipped Goods	24,947	nil	24,947	3.8
Others	39,716	10,230	49,946	7.6
Total	525,465	134,085	659,550	100.00

The table indicates that about 66% of the rubber consumption is accounted for by tyre and tyre products group (including cycle tyres and the balance by non-tyre groups). The sector automobile tyres and tubes alone share as much as 49% of the total rubber consumption. The pattern of growth in the consumption of natural rubber in this sector vis-a-vis that in other sectors is shown in Table 12.

Consequent to the New Economic Policy announced by the Government of India in 1991 and the reform process, industrial sector of the country has undergone significant changes in terms of basic parameters governing its structure and functioning. Policies governing Foreign Direct Investment have been liberalised and made transparent. Automobile tyres and tubes are also included in the list of industries eligible for automatic approval for foreign equity up to 51%. Further, in a selected list of industries including automobile tyres and tubes, Foreign Investment Promotion Board can permit full foreign ownership on a case-to-case basis. These measures are expected to boost the industrial sector and facilitate industry to become an integral part of global economy. All the leading tyre companies are already having technical collaboration with well-known foreign companies.

Table 12: Annual Growth Rates in Consumption of NR

Year	Auto Tyres & Tubes		Others		Total	
	Consumption (tonnes)	% Growth	Consumption (tonnes)	% Growth	Consumption (tonnes)	% Growth
1985-86	114,031	2.13	123,409	16.59	237,440	9.16
1986-87	118,251	3.70	139,054	12.68	257,305	8.37
1987-88	129,428	9.45	158,052	13.66	287,480	11.73
1988-89	148,088	14.42	165,742	4.87	313,830	9.17
1989-90	154,225	4.14	187,615	13.20	341,840	8.93
1990-91	161,578	4.77	202,732	8.06	364,310	6.57
1991-92	165,790	2.61	214,360	5.74	380,150	4.35
1992-93	186,404	12.43	227,701	6.22	414,105	8.93
1993-94	199,764	7.17	250,716	10.11	450,480	8.78
1994-95	228,219	14.24	257,631	2.76	485,850	7.85
1995-96	245,654	7.64	279,811	8.61	525,465	8.15

Table 13: Export of Rubber Products (Rs. million)

	1970-71	1980-81	1990-91	1995-96	1996-97
Auto tyres & tubes	55.38	131.53	1,826.0	7,176.8	7,900.0
Footwear	22.16	45.43	119.5	218.5	260.0
Others	19.42	136.64	685.0	3,557.6	4,008.0
Total	96.96	313.60	2,630.5	10,952.9	12,168.0

Moreover, almost all the global tyre giants are in the process of establishing their manufacturing base in India.

The fast growing motor vehicle population would result in increased demand for vehicles and this will necessitate more demand for tyres and tubes. However, the increasing preference for radial ply tyres to conventional cross-ply tyres, increasing use of pre-cured retreaded tyres and down-sizing of tyres will exert a moderating influence on growth in production of tyres. Liberalised policies of the government with regard to import of automobile tyres and tubes is another factor hindering the growth in the consumption of NR.

The demand outside the auto tyre and tube sector especially in regard to cycle tyres and tubes, conveyor and transmission belting, footwear, surgical and examination gloves, dipped goods, etc. is expected to improve steadily. However, the intrusion of polyurethane in foams and upholstery which are the major outlets for NR latex has recently been evolved as a retarding factor.

Export of rubber products has recorded a profound growth during recent years (See Table 13).

The targeted export during 1997-98 is Rs13,900 million. Rs9,000 million in this is from the export of tyres and tubes. The trade policy reforms announced for the period 1997-2001 is expected to provide further stimulus to exports. The incentives declared for units in the Export Processing Zones and 100% export oriented units will also help to enhance production and exports.

In India natural and synthetic rubber are currently used in the ration 80:20. Depending on the availability of the two types of rubber, the relative price of each type, the pattern of production of rubber goods and technological advances, there can be change in the above ratio in future. It is anticipated that the current composition of NR and SR will gradually change in favour of SR and by the turn of the century, the share of NR may be decreased to around 75% from the present level of

Table 14: Projected Consumption of NR and SR ('000 tonnes)

Year (Apr–Mar)	Consumption			Production of NR	Gap in NR Production
	NR	SR	Total		
1997–98	610	163	773	585	25
1998–99	658	185	843	619	39
1999–2000	702	210	912	661	41
2000–2001	746	236	982	695	51
2001–2002	790	265	1055	730	60
2002–2003	835	294	1129	745	90
2003–2004	882	326	1208	774	108
2004–2005	930	362	1292	796	134
2005–2006	982	401	1383	817	165
2006–2007	1036	442	1478	837	199
2007–2008	1089	486	1569	855	228
2008–2009	1131	532	1663	878	253
2009–2010	1181	582	1763	897	284
2010–2011	1233	635	1868	914	319
2011–2012	1285	695	1980	936	349

80%. By 2011–12, the share of NR is expected to be around 65%. Further, the auto tyre and tube sector is estimated to register an average annual growth of 10% and other 6%. Considering the various aspects explained above, the demand for rubber can be projected as shown in Table 14.

By the year 2000 the total requirement of NR, SR and RR is estimated to exceed one million tonnes. This include 746,000 tonnes of NR, 236,000 tonnes of SR and 100,000 tonnes of RR. By 2010–11 the total consumption is likely to exceed further to two million tonnes, with 1,233,000 of NR, 635,000 of SR and 200,000 tonnes of RR. As regards the future production potential of SR, since five units are under the process of capacity expansion the total capacity which is currently 155,000 tonnes is estimated to increase to 210,000 tonnes by 2000 AD. Notwithstanding this, the requirement of certain special purpose synthetic rubber which are not produced domestically has to be imported.

As far as price is concerned, during 1996–97 various grades of local Styrene Butadiene Rubber were costlier than NR by 10% to 43%. Once the expansion programmes are implemented and full capacities utilised, economies of scale could be derived and cost of SR could be kept at competitive level.

In this connection, it is worthwhile to mention the figures of consumption projected by the 'Raw Material Committee' of the All India Rubber Industries Association (AIRIA). The Committee was constituted by the AIRIA with a view to study the demand-supply trends, project future economic scenario and to tackle the raw material problems of the Indian rubber industry. The projected consumption of NR, SR and RR in different end point sectors is shown in Table 15.

During 1991-92 a project titled 'Policy Formulation and perspective for the Indian Natural Rubber Industry in a Changing National and International Context' was undertaken under the Indo-Dutch Programme on Alternatives in Development (IDPAD). It was carried out jointly by the Rubber Board of India and the Economic and Social Institute (ESI), Free University, Amsterdam. As per the economic prediction model developed by the Project, at 7% GDP growth the consumption of rubber in various end product groups during 2000-01 would be as shown in Table 16.

The projections made by AIRIA and IDPAD project show slightly higher volumes than our present projections. Though the estimates from different sources vary, all the three projections indicate that the Indian rubber industry is poised for growth. But a vital factor determining the prospects of our rubber industry

Table 15: Segmentwise Projected Demand of NR, SR & RR During 2000–01 ('000 tonnes)

Segment	1995–96 (likely)	Envisaged Annual Growth Rate (%)	NR	SR	RR	Total
Tyre Sector	336.0	11% upto 97–87 & 12% thereafter	405.4 (69.7)	162.8 (28.0)	13.4 (2.3)	581.6
Cycle Tyres & Tubes	98.0	8	92.9 (64.5)	17.2 (12.0)	33.8 (23.5)	144.0
Footwear	81.0	8	71.4 (60.0)	35.7 (30.0)	11.9 (10.0)	119.0
Camel back	43.6	10	52.7 (75.0)	11.9 (17.0)	5.6 (8)	70.2
Belts & Hoses	48.0	10	55.7 (72.0)	15.8 (20.5)	5.8 (7.5)	77.3
Latex Foam	28.0	9	43.1 (100.1)	— —	43.1 —	—
Dipped Goods	24.0	9	36.9 (100.0)	— —	— —	36.9
Cables & Wires	3.3	7	1.8 (39.0)	1.8 (39.0)	1.0 (22.0)	4.6
Battery Boxes	14.5	6	2.1 (11.0)	2.9 (15.0)	14.4 (74.0)	19.4
Other Misc. Prod.	48.9	12	56.0 (65.0)	17.2 (20.0)	12.9 (15.0)	86.1
Total Non-tyre Sector	389.3	9.1	412.6 (68.7)	102.6 (17.1)	85.4 (14.2)	600.6
Grand Total	725.3	10.3*	818.0 (69.2)	265.4 (22.4)	98.8 (8.4)	1182.2

* *Weighed Average:* ***Note:*** *Figures in brackets indicate % Share of NR, SR and RR usage in each segment.*

Table 16: Projected Consumption duirng 2000–01 ('000 tonnes)

	NR	SR	RR	Total
Auto Tyres & Tubes	382	120	19	521
Cycle Tyres & Tubes	79	24	27	130
Camel Back	57	17	9	83
Footwear	131	80	26	237
Belts & Hoses	58	15	8	81
Latex Foam & Dipped Goods	86	—	—	86
Others	34	12	28	74
Total	827	268	117	1212

is the state of the economy and the GDP growth realised. These days economies are not insulated islands. State of the world economy influences all countries, big and small and rubber goods industry is likely to be affected by the health of the world economy.

To meet the challenge of rapid growth of demand for rubber, a long term planning is necessary for NR production as the prebearing period of rubber is about 6–7 years. The projection made by the Rubber Board indicates the demand-supply gap by 2001–02 as 60,000 tonnes and by 2011–12 as 349,000 tonnes. The deficit is to be bridged by imports/additional production of NR and SR. Rubber Board is implementing various schemes, long term as well as short term, to increase production, productivity and quality of rubber produced. The development objective for the rubber plantation industry is to increase production to the best

extent possible with a view to minimising import of NR. NR production assumes importance since.

- NR is the preferred elastomers in the Indian context,
- SR production beyond a certain level is fraught with varied problems and
- Availability of NR for future imports would be difficult and accordingly prices too are likely to increase.

Expansion of cultivation to the desired extent is difficult though lands suitable for rubber cultivation is available in nontraditional areas. To achieve a level of production of 1.2 million tonnes by 2010, India should have a tappable area of 0.67 million ha and an average yield of 1,800 kg/ha. The goal can be attained by carrying out new planting 0.22 million ha between now and 2003, including allowances for replanting at the rate of 10,000 ha per annum from 2003-2010. But this is a very difficult target to achieve.

Indian Rubber Goods Industry – Outlook and Prospects

In the industrial map of India the rubber products manufacturing industry does not occupy a very significant position if measured in terms of its relative shares (less than 2%) in the value of fixed invested, value of output, net value added and employment. However, an assessment of the long-term issues and potential of industry merits attention mainly due to its large and diversified industrial base and pattern of foreign trade compared to the status of the industry in other major natural rubber producing countries in the context of globalisation. The unique feature of the Indian rubber products manufacturing industry is its inward oriented development with specific structural characteristics mainly catering to the domestic market. Today, India is ranked fourth among the leading rubber products manufacturing countries with an estimated annual turnover of Rs 85 billion. An invested capital of Rs 50 billion is spread over 98 large, 3053 medium and small scale and 2421 tiny rubber products manufacturing units which together provide employment to not less than 350,000 persons. Also the plantation industry provides employment for nearly 321,000 persons. The industry attained its present fairly massive structure through an evolutionary process spanning over a period of 75 years. Therefore, any attempt to focus the long terms issues and prospects of the industry in the context of the process of growing market integration demands a review of its evolution and major structural characteristics.

Evolution and Structural Characteristics

India had an early start in building up a large and diversified rubber products industrial base compared to other major NR producing countries and the year 1922 marks the establishment of the first rubber products manufacturing unit in the country. The nascent industry experienced a major breakthrough in the 1950's and the first automotive tyre unit was established in Calcutta in 1936. The subsequent growth of the industry during the preindependent phase was contributed by various promotional factors including restrictions on exports of NR and patronising policy of the colonial Government mainly to cater to the internal industrial requirements during the inter-war years. The dynamic growth of the industry led to sustained increases in rubber consumption and since 1984 India has been a net importer of NR barring 3 years in the mid 1970s. The unique advantage of a captive domestic market for NR in India is in sharp contrast to the status of NR consumption in other major three producing countries, viz., Thailand, Indonesia and Malaysia. The growth of the industry during the post-independent phase is essentially a horizontal extension of its pre-independent phase characterised by a very high degree of concentration in the structure of production and market orientation.

An important structural characteristic that dominated the industry from the very beginning is the pivotal position of the automotive tyre and tube manufacturing sector. Though its relative shares have declined over time due to the steady expansion of the non-tyre sector, it remains as the single largest product group.

A highly skewed distribution in the volume of rubber consumption by the manufacturing units is another important structural dimension of the industry. In 1995-96, about 63% of the total rubber consumed was accounted by less than 1% of the manufacturing units. Another unique feature of the Indian rubber products manufacturing sector vis-a-vis world rubber products industry is the pattern of rubber consumption dominated by NR. The NR:SR ratio in India's total rubber consumption. The distribution pattern of 5572 registered rubber goods manufacturing units across 28 broad industrial products groups showed that seven industries, viz., footwear (17.90%), moulded products (13.5%), tread rubber (9.20%), foam products (6.60%),

adhesives (5.20%), cycle parts (4.56%) and tyre and tube (5.37%) accounted for more than 62% of the total number of manufacturing units.

Regional composition of rubber consumption in India showed that in 1995–96 five states accounted for more than 58% of total rubber consumption in the country and locational advantages in terms of resource endowment was not a major factor in the establishment of rubber based industries. Specific historical and structural factors played a pivotal role in the location of rubber based manufacturing units in India and the State of Kerala, which controls about 94% of NR production, performed better in the case of industries with higher NR content.

Foreign Trade

To a large extent the composition of India's foreign trade in rubber products is a horizontal extension of its inward oriented rubber products industry. Despite an insignificant share (0.7%) in the total world exports of rubber products, India exported rubber products worth Rs12,168 million. India has been enjoying a favourable balance of trade in rubber products throughout the period from 1971–72 to 1994–95 and the surplus is showing a steady increase in recent years. The most significant feature of India's foreign trade in rubber products is a very high degree of concentration both in imports and exports. India's fortunes in the export front is dependent on a single product group as the automotive tyres and tubes alone contribute 65% of the total value of exports. This has been the pattern in the exports of the rubber products during the last 25 and over the years the degree concentration has been growing. The structure of rubber products imported into India is also characterised by a high degree of concentration.

Long Term Issues and Prospects

A proper identification of the long term issues having the potential of affecting the performance of the industry in the context of globalisation has to be based on a critical evaluation of the trends in the structure of the industry, market orientation, foreign trade and global trade in the major products groups. Two cardinal features of the Indian rubber products manufacturing industry are:

- a sustained dominance of the dry products sector built up to cater to the internal industrial requirements which emerged since the colonial era and
- its consequent persistence as a supplementary industry group till date.

The prevailing relationship between the Indian industry and its rubber products manufacturing sector is indicative of the potential implications arising from ups and downs in the industrial growth in the country. More specifically, the long term prospects of the industry is basically dependent on the absorptive capacity of the domestic market which in turn is determined by the trends in economic growth.

The issues emanating from trends in the market orientation and foreign trade are closely related. Though there have been a steady structural dispersion in the industry over the years in terms of the decline in the relative share of the dominant automotive tyre and allied products sector in the fixed capital employed, value of output, net value added and rubber consumption, it is still the single largest group. In fact, the automotive tyres and tubes, cycle tyres and tubes and footwear sectors account for about 72% of the rubber consumed in the country. The production in these three dominant sectors are basically geared to meet the domestic market though earnest attempts have been made since 1991 to tap the export potential of the product groups. Among the individual products, positive trends in the volume of exports have been observed in the case of truck and bus tyres in the recent years though with notable decrease in unit value realisation. The emerging trends in this sector have to be viewed in the backdrop of the growing radialisation of the global market and the resultant shrinkage in the market for cross-ply tyres exported from India. From a long term perspective, the dependence on this single products will have well defined limitations for export-oriented growth strategy though India has considerably diversified its markets since the disintegration of the erstwhile Soviet Union.

At this juncture, a feasible strategy suited to Indian conditions has to take stock of both the internal industrial potential and opportunities in the export market emerging from global trends in the major products groups and a relatively faster growth of regional markets. The prevailing relationship between the Indian industrial structure and the indigenous rubber products manufacturing sub-sector underlines the points that long-term prospects of the sub-sector is closely related to the direction of industrial growth in the

country unless conscious efforts are made to build up an export oriented structure based on specified advantages of the rubber products sector.

In the short-term, the possibilities of embarking on an export oriented strategy at the operational level are remote as the industry has to cater to the requirements of a large and diversified domestic market and domestic consumption of NR has been steadily growing at an annual growth rate of 7.54% during the period between 1950–51 to 1996–97. The country is still dependent on imports of rubber and strategies of export promotion of rubber products has to be invariably based on increased imports of rubber for the manufacturing and exports of rubber products with non-comparative advantage in terms of cheaper labour and established industrial base, free flow of capital, resource endowment and a faster growth of regional markets. An important development deserving attention is the steady decline in the intra-regional trade among the OECD countries while the imports of rubber products into this economic block from the developing countries registered an increase to the extent of 41% in 1990's. Selected NR producing countries have increased the exports to OECD countries by 64%. A positive long term strategy suited to the Indian rubber products manufacturing sectors will have to contain both the growing requirements of the domestic market and export potentials arising from the recent trends in the global trade. The experience and confidence of the rubber products sector in India gained over the past several years are receptive to technological upgradation and product innovation for ensuring competitiveness and quality in the context of growing market integration.

VII. EXCHANGE RATE: 15th December, 1997

US$1	=	39.50	Indian Rupee
		5,400.00	Rupiah
		3.91	Ringgit
		1.69	Kina
		1.68	Singapore Dollar
		59.99	Sri Lankan Rupee
		46.23	Baht
		12,291.50	Dong

Source: *Far Eastern Economic Review*, 25th December, 1997 and 1st January, 1998