INDIAN RUBBER INDUSTRY : Strategies for the future in the context of the Asian currency crisis

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The continuing financial crisis affecting the east and south-east Asian countries since mid 1997 has attracted considerable attention both at the academic and policy levels. However, responses to the crisis varied in terms of the exploration of the underlying factors, in assessing the economic consequences and the policy prescriptions. The competing explanations of the crisis are clustered around three major factors, acting singly or in conjunction; (i) structural aspects, (ii) macro economic imbalances and (iii) financial failures. Among the three factors, failures in the financial sector is now increasingly accepted as the crucial one, though the other two have played important roles in precipitating the crisis (Bhalla *et. al.*, 1998, Sen, 1998 and Patibandla *et. al.*, 1998).

The financial collapse was the logical culmination of an inappropriate financial liberalisation strategy with volatile capital flows acting as a triggering factor. The east Asian financial crisis is generally characterised by a sudden and steep devaluation of the national currencies in terms of dollar, a similar drop in prices of stocks in the national stock markets, a steady decline in the stock of the officially held foreign exchange reserves and increase in the interest rate. Among the east and south-east Asian countries, Indonesia, Thailand, Malaysia and South Korea have so far been reported to be the worst-hit victims of the crisis (Sen, 1998). While all Newly Industrialising Countries (NICs) in the region have been affected by the current crisis, those less affected are Taiwan, Singapore and Hong Kong. These economies are reported to be successful in exporting capital since mid 1980's using mainland China and other south-east Asian economies as manufacturing bases (DN, 1998). However, convergence of the crisis in the region appears to underline a particular phase of international capitalism - characterised by deregulation and increased economic integration - which has led to dramatic material changes and uncertainty.

The crisis has wider ramifications as it affected the performance of the real sector and various sub-sectors of the NICs, other Asian countries as well as the world economy in general. The most discernible distortions evident in the real sector of the crisis-ridden countries are a perceptible decline in GDP growth rates and export earnings. Under-investment in manufacturing, slow growth of markets for exports (Europe, USA and Japan), severe competition from China, steady growth of intra-regional trade in Asia and down-turn of Japanese economy have aggravated the crisis with a self-reinforcing effect. At the global level, recent estimates of the International Monetary Fund (IMF) indicate that the net output loss on account of the spreading of the financial and economic crisis is around US $ 600 billion (The Hindu, 1998). Similarly, the growth of world trade in 1998 is expected to be only 3.7 per cent; and decline of more than 60 per cent from the pace of growth in 1997.

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THEME AND THE OBJECTIVES

In the emerging scenario, it is interesting to note that the three worst-hit victims of the current crisis are the major natural rubber (NR) producing countries, viz. Thailand, Indonesia and Malaysia. In 1997, the combined share of these three countries in total world NR production and exports were 71.3 per cent and 86.8 per cent respectively (IRSG, 1998). The developments in these countries since mid 1997 may have serious implications on the world rubber economy as well as other major NR producing countries like India. The main objectives of this paper are :

- to analyse the current status of the Indian rubber economy in the context of the crisis,
- to assess the potential implications of the crisis on the subsector and
- to underline the strategies for the sustained growth of the Indian rubber Industry.

Accordingly, the paper is organised into five sections; (i) the production sector, ii) the manufacturing sector, iii) foreign trade, iv) impact of the crisis and v) priorities and strategies.

THE PRODUCTION SECTOR

Indian rubber production sector consists of three segments : the NR, SR (Synthetic Rubber) and RR (Reclaimed Rubber). As in the case of the three major NR producing countries, NR producing sector has been the dominant segment from the very beginning. Table-1 shows the relative shares of NR, SR and RR in India.

However, the unique feature of the Indian rubber production sector is its internal market orientation arising from a captive domestic market compared to the export orientation of three major NR producing countries. In 1996-97, the relative share of exports of rubber in the total production was less than one per cent which is in sharp contrast to the respective shares of Thailand (91 per cent), Indonesia (89 per ent) and Malaysia (60 per cent). Among the three constituent segments of the Indian rubber production sector, the NR production segment demands further elaboration in terms of the economic and social dimensions involved in the context of the Asian crisis.

The two cardinal features of Indian NR production sector are : a relatively high degree of regional and structural concentration. Regional concentration of NR production in the country is characterised by a near monopoly position of the state of Kerala in terms of control over the area under the crop (85 per cent) and production (93 per cent). The structural concentration is characterised by the dominance of the smallholdings sector in area under the crop (86 per cent) and production (86 per cent). In the context of the Asian economic and financial crisis, the structural dimension of the Indian NR production sector assumes relatively more importance in terms of vulnerability as ab 0.96 million units of the sm holdings with an average siz less than 0.50 ha. accounts f major portion of the area un the crop and production.

The evolutionary dynamics the NR production sector in country leading to major struct changes and culminating i dominance of the smallh since late 1950's is relatively v documented and discuss (George, *et. al.*, 1988 and Geo 1998) An important milestone the history of the rubber plan tion industry in the country been the active intervention of government since independe at the levels of cultivati production, processing a marketing of NR. This process been effectively supplemented a very high degree of adoption modern technology by smallholdings comparable to estate sector and a growing nal market for the crop (Geo *et.al.*, 1988). In 1996-97, about per cent of the total area under smallholdings is cultivated w HYV planting materials and t smallholders are highly recepti to the recommended package practices propagated by t Rubber Board. The avera reported productivity of 1 kg./ha. in 1997 in the countr the highest among the ma NR producing countries. T cumulative effect of R & programmes and co-ordinated extension sche initiated by the Rubber Board positive price policy followed the Government since Indep dence and an enlightened outl of the planters has enabled

country to achieve impressive results in the NR production sector (Table-2). Though the evolution and subsequent dominance of the smallholdings sector in India is in tandem with the changes in the major NR producing countries, the extent of adoption of modern technology and diversification of the sources of income of the rubber farming community in the state of Kerala over three generations are relatively under reported (George, 1996).

The other two segments in the Indian rubber production sector, viz., SR and RR, occupy relatively insignificant position in terms of the relative shares in total elastomer production and consumption. To a large extent, the three types of elastomers have been complementary to each other compared to the competition between SR and NR in the international market. Though during 1996 and 1997 prices of various grades of SR were subjected to sharp downward revisions, the prices (remained considerable higher than NR prices. Despite the production of eight different types of SR in the country, the requirement of butyl rubber and polychloroprene rubber of the domestic manufacturing industry are met by imports. In 1997, the total imported quantity of 78103 tonnes of SR was higher than the domestic production of 71993 tonnes. Among the nine SR processing units in the country eight are in the private corporate sector and the remaining one is in the public sector.

There are 38 units engaged in the processing of RR in India. RR is used in the manufacturing of rubber products, usually in blends with either NR or SR. During 1997 the total production and consumption of RR in the country were 69,840 tonnes and 70,085 tonnes respectively. The proportion of total NR, SR and RR consumption by the rubber products manufacturing sector during the year was 71 : 20 : 9. Conversely, the international elastomer consumption pattern is characterised by a dominant share of SR (61 per cent) compared to NR (39 per cent).

THE MANUFACTURING SECTOR

Though the estimated relative share of rubber products manufacturing sector in the total value of industrial output in India is estimated to be only less than 2 per cent (CMIE, 1998), two distinct features of this sub-sector compared to other three major NR producing countries are : a comparatively wider and larger manufacturing base and the inward market orientation. India is the fourth largest producer and consumer of NR in the world and it occupies fifth rank in total rubber consumption. In fact, the manufacturing sector has played a pivotal role in the growth of the production sector by absorbing the steady increases in the production of rubber.

The genesis of the dynamic growth of this sub-sector has been the colonial patronage to cater to the increased industrial requirements during the interwar years (George *et. al.*, 1997). During this period, domestic consumption of NR was the highest in India compared to other major NR producing countries (McFadyean 1944) and as early as in 1947 domestic consumption of NR outstripped its production in the country (Rubber Board, 1991). This marks the graduation of Indian rubber production sector from its initial position of a net exporter to the status of a net importer exhibiting the characteristics of widening manufacturing base. Table-3 shows trends in the domestic rubber consumption.

Table-3 is illustrative of the trends in rubber consumption. A significant decline in growth of the consumption appears to be mainly rooted in the recent industrial recession in the country and partly due to the structural characteristic of this industrial sub-sector. The evolution of Indian rubber products manufacturing sector as a supplementary segment catering to the requirements of the large industrial base in the country rather than as a relatively

TABLE 1

RELATIVE SHARES OF NR, SR AND RR IN INDIA (1996-97)

Type of Rubber	Production (tonnes)	Relative Share (%)
Natural rubber	549425	81
Synthetic rubber	64563	9
Reclaimed rubber	66670	10
Total	**680658**	**100**

Source : The Rubber Board, Indian Rubber Statistics, Vol. 22, 1997, Kottayam.

dependent export oriented sector as in the case of Malaysia is the most important structural characteristic of the industry. Consequently, the industry dominated by the production of dry rubber products; especially automotive tyres and allied products, is concentrated in the industrially advanced regions in the country rather than in the State of Kerala (George *et. al.*, 1992).

Table - 4 shows the product wise consumption of rubber in the country. It is also illustrative of the dominance of the dry rubber products group; especially, the automotive tyres and allied products group in total rubber consumption. Though there has been a marginal decline in the share of the auto tyres and allied products over time, implicitly, the growth prospects of the rubber production and products manufacturing sectors are basically dependent on the fortunes of this major sub-sector. In this context, it is important to note that about 78 per cent of truck and bus tyres manufactured in the country are absorbed in the internal market exhibiting fluctuating trends in the relative share of exports during the 1990s. The persistence of the inward oriented structural characteristics of the rubber products sector with its status as a supplementary segment in the Indian industrial sector has important implications in the growing process of market integration. However, emerging trends are indicative of a steady growth in rubber consumption by the latex products sector (Table - 5).

Table - 5 shows that the highest growth rates during the 26 year period have been achieved by two important groups of latex products, viz., latex foam and dipped goods. In fact, the relative share of latex goods in total NR consumption was around 10 per cent compared to its share in total rubber consumption as shown in Table - 4. The steady increases in rubber consumption by the latex product group assumes importance mainly on account of a comparatively higher degree of export orientation. Nevertheless, the status of rubber products manufacturing sector in India continues to be dominated

TABLE 2

TRENDS IN AREA, PRODUCTION AND PRODUCTIVITY OF NR

Year	Area ('000 ha.)	Production ('000 tonnes)	Productivity (kg./ha.)	Annual Growth (%)		
				Area	Production	Productivity
1950-51	75	16	284	—	—	—
1960-61	144	26	365	—	—	—
1970-71	217	92	653	—	—	—
1980-81	284	153	788	—	—	—
1990-91	475	330	1076	3.2	10.9	4.6
1991-92	489	367	1130	2.9	11.2	5.0
1992-93	499	393	1191	2.0	7.1	5.4
1993-94	508	435	1285	1.8	10.7	7.9
1994-95	516	472	1362	1.6	8.5	6.0
1995-96	524	507	1422	1.6	7.4	4.4
1996-97	533	549	1503	1.7	8.3	5.7
1997-98	545	584	1549	2.3	6.4	3.1

Source : The Rubber Board, Indian Rubber Statistics, Vol. 22, 1997 Kottayam.

TABLE 3

TRENDS IN GROWTH OF NR AND TOTAL RUBBER CONSUMPTION

Year	Consumption of NR ('000 tonnes)	Annual Growth (%)	Total Rubber Consumption ('000 tonnes)	Annual Growth (%)
1965-66	64	—	95	—
1975-76	126	—	177	—
1985-86	237	—	346	—
1990-91	364	6.6	522	8.1
1991-92	380	4.3	540	3.4
1992-93	414	8.9	585	7.8
1993-94	450	8.8	627	6.7
1994-95	486	7.9	673	6.9
1995-96	525	8.2	725	7.2
1996-97	562	6.9	771	5.9
1997-98	572	1.8	803	3.9

Source : The Rubber Board, Indian Rubber Statistics, Vol. 22, 1997 Kottayam.

by a basically inward oriented dry rubber products group which is contrary to the dominance of export oriented latex products sector built up in Malaysia since 1980's.

FOREIGN TRADE

Despite an insignificant share of rubber Products (0.96 per cent) in India's total export earnings, the country has been enjoying a favourable balance of trade in the foreign trade of rubber products during the 25 year period between 1971-72 to 1996-97. In fact, the surplus has been registering a steady increase as the total value of imports expressed as a percentage of the value of exports has declined from 40 per cent in 1971-72 to 27 per cent in 1996-97. To a large extent, Indian rubber products exports is a horizontal extension of the structure of its rubber products manufacturing sector. Table - 6 shows the trends in sector-wise shares of exports.

The relative shares of the three product groups, viz., dry rubber products (including auto tyres and allied products), latex products and other products show disparate trends during the 26 year period. Though the auto tyres and allied products group has been maintaining its position as the most important individual product group with a marginal increase of more than 7 per cent, its share has declined from the peak level achieved in 1990-91. The share of dry rubber products as the major sub group has registered a steady decline to the extent of more than 12 per cent. Conversely, the latex products and the other products groups have more than doubled the relative shares indicating higher export intensity of production compared to the dry rubber products group. In this connection, it is important to note that in 1996-97, the export intensity of bus and truck tyres which is the single important product accounting for about 55 per cent of the exports was only 21.50 per cent.

Another important dimension of the exports is the relative share of the major country groups. Destination-wise exports of rubber products from India has undergone significant changes over time and currently Asian region is the most important trading block. Table - 7 shows the current status of destination-wise exports of rubber products from India.

Although Asia as a region accounts for more than 49 per cent of the exports, USA is the most important country-wise destination

TABLE 4

RUBBER CONSUMPTION BY END PRODUCT GROUPS (1996-97)

Product Group	Share in Total Rubber Consumption (%)
Auto tyres & tubes	45.86
Cycle tyres & tubes	13.71
Camel back	5.84
Footwear	11.77
Belts & hoses	6.58
Other dry rubber products	2.38
Sub Total	86.14
Latex products	6.78
Others	7.08
Total	**100.00**

Source : The Rubber Board, Indian Rubber Statistics, Vol. 22, 1997 Kottayam.

TABLE 5

TREND GROWTH RATES OF RUBBER CONSUMPTION (1970-71 TO 1996-97)

Product Group	Growth Rate (%)
Auto tyres & tubes	6.50
Cycle tyres & tubes	7.31
Camel back	7.07
Footwear	7.29
Belts & hoses	8.20
Latex foam	10.61
Cable & wire	5.49
Battery box	7.99
Dipped goods	10.09
Others	4.19

Source : The Rubber Board, Indian Rubber Statistics Vol. 22, 1997 Kottayam.

tion for Indian rubber products exports (26 per cent). The other important countries next to USA are UAE (14 per cent), Bangladesh (7 per cent) and Singapore (7 per cent). Among these four countries, UAE and Singapore are the major sources of re-exports. An important feature of the composition of exports to the various trading blocks is that while a significant share of the dry rubber products; especially truck & bus tyres (61 per cent), is exported to the Asian region, the major destinations of latex products are EEC, USA and other countries group.

In contrast to the exports, composition of rubber products imported into the country does not exhibit any product concentration. Table - 8 shows the composition of rubber products imported into India during 1996-97.

The 'other products' group consisting of unclassified individual products constitute more than 64 per cent of the total value of imports. The relative share of tyre and allied products (including aircraft and cycle tyres) was only 19.6 per cent during the year 1996-97.

IMPACT OF THE CRISIS

The assessment of the major implications of the east and south-east Asian crisis on the Indian rubber sector are conceived in two parts : The first part summarises the salient features of the economic consequences in the crisis-ridden economies and the potential issues for Indian economy in general. The second part analyses the major sources of influence on the Indian rubber production, rubber products manufacturing and foreign trade sectors.

Embracing free market mechanism without compatible market institutions based on transparency and accountability is identified as the single major factor behind the Asian financial crisis. The proximate causes of the crisis appear to be threefold : (i) sweeping financial sector reforms inconsistent with the trends in the real sector, (ii) premature capital account liberalisation and (iii) channelling a major portion of the borrowed capital into unproductive and highly risky assets like real estate. The quintessence of the consequent financial panic has been a dramatic reversal of expectations, with the change far outstripping the sensible adjustment warranted by altered fundamentals. The most obvious and immediate impact was a reversal of capital flows to the five economies (Thailand, South Korea, Malaysia, Indonesia and Philippines). The capital inflows which peaked at $ 93 billion in 1996 were reversed to an outflow $ 12.1 billion in 1997 (Bhala *et. al.*, 1998).

One of the immediate consequences of the crisis has been devaluation of the local currencies in these countries and the country to be hit first was Thailand. Downtrend in the Thai currency had a contagious effect in the Asian and subsequently

TABLE 6
TRENDS IN TOTAL VALUE AND RELATIVE SHARES OF EXPORTS

Year	Total Value (Rs. million)	Auto Tyres & Allied Products	Sub Total of Dry Rubber Products	Latex Product	Others
1970-71	96.96	57.12	91.13	6.37	2.50
1980-81	313.60	41.94	82.41	6.68	10.91
1990-91	2630.50	69.42	91.28	5.28	3.44
1995-96	10952.90	65.52	80.74	11.76	7.50
1996-97	12168.00	64.92	79.04	12.25	8.71

Source: The Rubber Board, Indian Rubber Statistics, Vol. 22, 1997 Kottayam.

TABLE 7
RELATIVE SHARES OF MAJOR TRADING BLOCKS (1996-97)

Major Trading Blocks	Relative Share (%)
Asia	49.50
EEC	8.00
USA	26.20
Others	16.30
Total	**100.00**

Source : DGCI & S (Calcutta), Ministry of Commerce, *Government of India, Monthly* Statistics of Foreign Trade (Annual Number of 1996-97), Vol. 1, Exports and Re-exports.

Malaysian ringgit as well as Indonesian rupiah were devalued. Table - 9 shows the extent to devaluation of local currencies in Thailand, Indonesia, Malaysia and India vis-a-vis dollar during the period between June 1997 and September 1998.

The emerging trends in the financial sector had a cascading effect on the various segments of the real sector as evident from the sluggish performances of exports, GDP growth rate, the external balance and FDI flows into these economies. Among the various segments, the trends in the export segment assume more importance for two reasons; (i) the sluggering growth performances of the NICs since 1980's has been based on the export-led growth strategy and (ii) the net impact of the crisis on Indian economy and its rubber sector will be mainly transmitted through the external trade channel.

Theoretically, the exports from the crisis-ridden countries now have to be super-competitive and extraordinarily cheaper mainly on account of the higher rates of devaluation. In fact, the affected countries are India's competitors in several major markets for products ranging from primary commodities to engineering goods. However, it is reported that at least in the short run, apprehensions on this issue are unlikely to be realised for three reasons : (i) a relatively higher interest rates consequent to tight monetary policy, have pushed up the exporter's costs, (ii) a higher import-intensity of exports from these countries and (iii) difficulties of exporters in securing letters of credit through local banks (Bhalla *et. al.*, 1998).

There are other potential sources of threat on India's performance emanating from the financial and trade sectors. However, all major crisis indicators (Bhalla *et. al.*, 1998) of India vis-a-vis the five affected countries suggest a comparatively stronger position of the country except the Government budgetary deficit.

TABLE 8

COMPOSITION OF RUBBER PRODUCTS IMPORTED (1996-97)

Product Group/Product	Value (Rs. Million)	Relative Share (%)
Tyres and allied products	655.5	19.60
Belting	403.24	12.06
Vulcanised rubber thread & cord	62.15	1.86
Hygienic & pharmaceuticals	60.58	1.82
Hoses	14.77	0.44
Ebonite products	1.44	0.04
Latex foam sponge	1.40	0.04
Other foam sponge	1.40	0.04
Others	2144.07	64.14
Total	**3342.70**	**100.00**

Source : The Rubber Board, Indian Rubber Statistics, Vol. 22, 1997, Kottayam.

TABLE 9

EXTENT OF DEVALUATION VIS-A-VIS DOLLAR

Country	Currency	Percentage Change from June, 1997 to September, 1998
Thailand	Baht	(-) 35.90
Indonesia	Rupiah	(-) 77.10
Malaysia	Ringgit	(-) 33.60
India	Rupee	(-) 15.80

Source : Compiled from Business Line (Various Issues).

TABLE 10

RELATIVE SHARES OF MAJOR TRADING BLOCKS (1997-98)

Trading Blocks	Value of Total Indian Exports	Relative Share
	(Rs. Million)	(%)
European Union	329078	26.06
USA	246406	19.51
Asia*	197856	16.67
ASEAN	87423	6.92

* Includes Japan, China, Singapore, Malaysia, Thailand, Indonesia, South Korea and Philippines.

Source : Centre for Monitoring Indian Economy, (August 1998), Foreign Trade, Bombay.

Nevertheless, controls on capital account convertibility is the single major reason for insulating India from the serious consequences of the Asian crisis. Similarly, the direct trade impact of the Asian crisis on India is also likely to be limited as the major destinations of Indian exports are European Union and USA. Table - 10 illustrates the point.

As bulk of India's exports are accounted for by the developed industrial countries, the direct impact of the crisis on Indian exports would be marginal atleast in the short run. However, the case of rubber products exports demands further analysis since relative share of Asia is about 50 per cent of the total value of exports from this sector. Conceptually, there are three important sources of indirect or 'echo' effects on the rubber sector in the context of the current crisis. The three potential sources are : (i) impact of the declining world NR prices on India's NR production sector, (ii) indirect and direct effects on the rubber products manufacturing and export sectors on account of Asia's dominant share in exports and (iii) competitiveness of the latex products manufacturing and export in the back drop of the decline in raw material prices consequent to devaluation of currencies.

The declining trends in world market prices of NR assume importance due to a very high degree of export-orientation of NR production in Thailand, Indonesia and Malaysia and its indirect effect on Indian NR prices since early 1990's. Table-11 shows the trends in Indian and world market prices of equivalent grades of rubber.

Despite a higher price of NR in 1998 in Indian and world markets compared to the 1992 level, there has been a substantial decline in both the prices since 1996. To a certain extent, the comparability of the prices is circumscribed by the exchange rate variations in the relevant local currencies vis-a-vis the US dollar. However, an important trend having serious implications on the Indian NR production sector has been a more or less synchronised movement of prices in both the market since 1992. Table - 12 illustrates the point.

A plausible explanation for the observed trend since 1992 is the policy changes on the procedural formalities regarding the channel of imports. Since 1991-92 the canalised imports through the State Trading Corporation has not only been dropped, more than 97 per cent of the total quantity of imported NR till 1997-98 (1,61,7[illegible] tonnes) was exempted fro[illegible] import duty under the Expo[illegible] Incentive Scheme and Publ[illegible] Notification Scheme. Inspite of [illegible] serious limitations in quantifyi[illegible] the net impact of the polic[illegible] change, it is increasingly becomi[illegible] evident that with the liberal[illegible] sation of the procedural formaliti[illegible] the Indian manufacture[illegible] exporters of rubber product[illegible] be inclined to import NR if [illegible] domestic prices are higher tha[illegible] the C.I.F. value of the import[illegible] rubber. Therefore, the reperc[illegible] sions of the declining world N[illegible] prices and the liberalise[illegible] export-import policies appear [illegible] have serious impact on [illegible] dominant NR production sec[illegible] in India as there are limitations [illegible] pursuing a protected price poli[illegible] regime.

The potential issues arising fr[illegible] Asian Region's share (4[illegible] cent) in the total rubber p[illegible] exports from India suggest [illegible] analysis of destination-wi[illegible] composition of exports. Table

TABLE 11

TRENDS IN NR PRICE SINCE 1992

Year	Indian Market (for 100 kg. of RSS 4)		World Market (for 100 kg. of RSS 3)	
	Rupees	US $	Rupees	US $
1992	2463	79.9	2457	79.7
1993	2456	81.1	2538	80.8
1994	3107	99.1	3455	110.2
1995	5059	155.4	5030	154.5
1996	5122	145.6	4764	135.4
1997	4091	112.3	3614	99.2
1998	2944	82.9	2885	71.5

* upto July, 1998.

Source: The Rubber Board, Indian Rubber Statistics, Vol. 22, 1997 Kotta[illegible]

shows destination-wise composition of major product groups.

The composition of exports shows that except the EEC, among the four trading blocks, the major product exported to all other three regions is truck and bus tyres and Asia's share is the highest (67.9 per cent). The relative share of latex products group is the highest in the EEC followed by other countries and USA. However, the most striking feature of composition of the exports is a higher degree of diversified exports to the EEC compared to other regions. The net impact of the current export structure will be centered around the truck and bus tyre segment due to its share in total exports (55 per cent) and Asia's share in the total exports of this product (61 per cent). Apparently, the implications of the destination-wise and product-wise compositions of the truck and bus tyre segment would not be significant as only around 22 per cent of the total production is exported. This segment is heavily dependent on the trends in the internal market which in turn is closely related to the rate of industrial growth and commercial vehicles production. The slow down of industrial growth in 1996 and 1997 and negative growth in the production of commercial vehicles (-6.9 per cent and 33.2 per cent respectively) have reflected in a negative growth rate (-0.4 per cent) in the production of truck and bus tyres in 1997. Despite a large captive internal market and prevalence of the trace of protectionist policies, the tyre sector is on the verge of significant shake-ups with the entry of multinational corporations in the field of vehicle and tyre manufacturing in the country consequent to policy changes in recent years (Rubber Trends, 1998).

The potential impact on the latex products sector consequent to the crisis in Malaysia, Thailand and Indonesia has implications for the export and NR production sectors in India. The currency devaluation in these countries leading to a comparatively cheaper raw material base enable the latex products manufacturers to compete with an inherent initial advantage. The issue assumes importance since it is reported that between 1992-94 India has made the highest increase in exports of gloves (156 per cent) offering stiff competition to other NR producing countries in the world market (Bachik, 1997). This product group is considered as the booming segment as it nearly doubled its share in exports during the period between 1970-71 to 1996-97 (Table-6). An important dimension of the issue

TABLE 12

COMPARISON OF WORLD AND INDIAN PRICE OF NR

Year	World Price RSS 3 (Rs./100 kg.)	Indian Price RSS 4 (Rs./100 kg.)	Ratio of India Price to World Price
1976	674	620	0.92
1977	692	630	0.91
1978	789	885	1.12
1979	1011	1024	1.01
1980	1083	1154	1.07
1981	872	1423	1.63
1982	739	1473	1.99
1983	1042	1672	1.60
1984	1040	1689	1.62
1985	890	1694	1.90
1986	988	1670	1.69
1987	1217	1760	1.45
1988	1600	1811	1.13
1989	1482	2040	1.38
1990	1425	2147	1.51
1991	1796	2128	1.18
1992	2457	2463	1.00
1993	2538	2546	1.00
1994	3455	3107	0.90
1995	5030	5059	1.01
1996	4764	5122	1.07
1997	3614	4091	1.13
1998*	2885	2944	1.02

* upto July, 1998.

Source: The Rubber Board, Indian Rubber Statistics, Various issues.

is the net effect of a deceleration in the exports and production of latex products on the NR production sector in India. As the NR content of latex products is relatively higher a reversal in the exports will have serious implications of the NR production and latex processing sectors in India.

To summarise, the analysis of the impact of the Asian crisis on the Indian rubber sector indicate the following :

i) in the short run the direct impact of the crisis would be limited on India's financial sector and exports due to controls on capital account convertibility and destination of exports.

ii) the impact on the NR production sector is mainly confined to the sychronisation of domestic prices vis-a-vis world market prices due to policy changes.

iii) the trends in the dominant dry rubber products sector would be mainly influenced by the growth indicators in the Indian economy rather than the exports to Asian Countries and

iv) the emerging trends indicate a comparatively higher potential impact on the export oriented latex products manufacturing sector.

PRIORITIES AND STRATEGIES

The future priorities and strategies of Indian rubber sector shall be focussed on the basis of the emerging issues confronting the production, manufacturing and export sectors. The foregoing analysis suggests considerable recasting of the policy inputs in the backdrop of growing market integration, liberalisation of policies and procedural formalities and recent developments in the three major NR producing countries.

The focus on the production sector is confined to the NR sector due to its dominant position in total rubber production and consumption in the country. Inspite of the achievement of the highest reported productivity of NR in the world, there exist marked differences in productivity among the different rubber growing regions to the extent of more than 40 per cent. The major issues in the traditional rubber growing region of Kerala are; increasing share of part-time farmers, growth of homestead farms and operational level problems associated with the availability of hired labour. In the emerging scenario, there are serious constraints in pursuing expansion of NR cultivation in marginal areas where the realisable productivity is below the national average. Simultaneously, R & D inputs and specific extension packages are required to enhance productivity in the regions with lower levels of productivity as competitiveness and quality are the prime guiding factors determining the feasibility of NR production in the context of globalisation. Table - 14 shows the projections of NR

TABLE 13
DESTINATION-WISE COMPOSITION OF EXPORTS (1996-97)

Major Product Groups	Relative Share (%)			
	Asia	USA	EEC	Others
Truck & Bus Tyres	67.9	55.2	10.7	36.1
Other Tyres	7.9	10.2	11.9	14.1
Latex products, Apparel & Clothing Accessories	4.0	16.9	26.8	21.8
Others	20.02	17.7	50.6	28.0

Source : DGCI & S (Calcutta), Ministry of Commerce, Government of India, Monthly Statistics of Foreign Trade (Annual Number of 1996-97), Vol. 1, Exports and Re-exports.

TABLE 14
PROJECTIONS OF RUBBER PRODUCTION AND CONSUMPTION IN INDIA ('000 TONNES)

Consumption Year	NR Production	NR	SR	Total
1998-99	620	600	173	773
1999-2000	651	633	190	823
2000-01	687	674	207	881
2001-02	717	717	226	943
2002-03	744	762	247	1009
2003-04	773	810	270	1080
2004-05	795	861	295	1156
2005-06	811	915	322	1237
2010-11	930	1170	501	1671
2015-16	1018	1453	783	2236

Source : The Rubber Board, Statistics and Planning Department, Kottayam.

production and consumption of NR and SR.

The attainment of the short term and long term targets and realisation of the projections depend to a great extent on the potential issues influencing the relative profitability of NR production in the country. The strategies employed to achieve the desired results are : squeezing unit cost of production of NR and increasing net income per unit of area. The promotion of the practices of discriminatory fertiliser application, low frequency tapping systems and group processing of raw rubber are expected to yield considerable savings in the operational cost components of NR production. At the same time, earnest attempts are being made to increase the ancillary sources of income by popularising inter-cropping in the immature phase and commercial exploitation of the by-products, viz., rubber seed, rubber honey and rubber wood in the mature phase of rubber plantations. The primary objective is exposing the NR sector to globalised production.

Though a comparatively large industrial base ensuring a captive domestic market has a "cushioning effect" to the manufacturing sector at times of crisis in the export market, it is important to note that the industrial base itself is undergoing significant transformation process. Therefore, matching efforts to modernise and upgrade the manufacturing sector are vital for maintaining the share in the domestic market as well as sustaining the growth in exports. Already, substantial investments have been made by the dominant tyre sector for the production of radial tyres consequent to the entry of MNCs in the commercial vehicles and tyre manufacturing sectors. Nevertheless, the prevailing differences in the nature and quality of products required for the internal and export markets call for policy prescriptions from a long term perspective. While equipping the manufacturing sector for global production with competitiveness and quality in the long run, the immediate concerns are centered around identification and promotion of products suited for the domestic and export markets with an inbuilt option for flexibility in restructuring the production process. The guiding principles in this endeavour shall be optimum allocation of the available resources in the rubber sector and comparative advantage in the manufacturing and exports of rubber products.

REFERENCES

Bachik Bin Talib Abu (1997), The Use of Rubber in Latex Products and Consumption Trends for Latex Goods in the Short and Medium Term, Malaysian Rubber Review, 2/97, MRRDB, Kuala Lumpur.

Bhalla Ajit S and Nachane Dilip. M (1998), Asian Eclipse: India and China in the Penumbra? Economic and Political Weekly, Vol. 33 Nos 36 and 37, Bombay.

Centre for Monitoring Indian Economy (1998), Economic Intelligence Service, Industry; Financial Aggregates and Ratios, CMIE Pvt. Ltd., Bombay.

DN (1998), End of Catch - Up Industrialisation : Notes on South-East and East Asian C... Economic and Political We... Vol. 33, No. 20, Bombay.

George K.T. Haridasan, V. ... Sreekumar, B. (1988), Ro... Government and Struc... Changes in Rubber Plant... Industry, Economic and Po... Weekly, Vol. 23, No. 48, Bom...

George K.T. and Joseph, T. (1... Rubber Based Industrialisat... Kerala; An Assessment o... Missed Linkages, Economic ... Political Weekly, Vol. 27 Nos. ... 2, Bombay.

George K.T. (1996), Governm... Policy, Captive Market ... Dynamic Growth of Rub... Smallholdings: A Review, p... presented at the Research Sc... of Pacific and Asian Stud... Australian National Univers... Canberra.

George, K.T. and Thomas, K.K (19... Five Decades of Rubber Board ... the Indian Rubber Industry ... Assessment in Retrosp... (Monograph), Rubber Boa... Kottayam.

George, K.T (1998), Natural Rub... Sector in Kerala: Emerging Iss... in the 1990's in Prakash, B.A. ... Kerala Economy (forthcom... Sage Publications, New Delhi

International Rubber Study Gr... (1998), Rubber Statistical Bull... Vol. 52, No. 10, London.

McFadyean Andrew (1994), ... History of Rubber Regulat... (1934-43), George Allen ... Unwin, London

Patibandla Murali and Pra... Ramkanta (1998), East As... Crisis as a Result of Institutio... Failures: Lessons for In... Economic and Political We... Vol. 33, No. 9, Bombay.

Rubber Board (1991), Indian Ru... Statistics, Vol. 19, Kottayam.

– INDIAN RUBBER JOUR...