

# AN OVERVIEW OF THE RUBBER INDUSTRY

I N Samarappuli

## The World Rubber Industry

The world presently consumes some 15 million metric tonnes (Mn. MT) of rubber each year. About two-third of this is synthetic rubber (SR) which is derived from petroleum products and synthesised in chemical plants. The other one-third is natural rubber (NR) which is tapped from trees (*Hevea brasiliensis*) growing in tropical climates.

NR, chemically known as cis-1, 4-polyisoprene, is an important primary commodity produced mostly in South and South East Asia for export to the industrialized countries. The three major producers viz. Malaysia, Indonesia and Thailand account for over 75% of world NR production. Presently, rubber is planted over a total extent of nearly 9 million hectares which produced 5.4 Mn. MT of NR in 1991. This agricultural commodity provides the main livelihood for over 22 million people in these places and benefits additional workers through its manufacture in industrial countries. NR accounts for 37 percent of total world supply of rubber today. It is used primarily in vehicle tyres, but is also contained in many other products including tubing, footwear and belting. This plantation rubber industry has contributed vastly to the economic development of a large number of South and South East Asian countries in particular and still continues to do so.

SR which accounts for the balance 9.3 Mn. MT of world annual consumption, substitute fairly well for the NR, although the latter is still pre-eminent where high strength resistance to dynamic flexing, superior resistance and low heat build-up are required (Barlow, 1978). NR accordingly preferred in passenger-car radials and in truck and aircraft tyres. In practice, rubber manufacturers adopt widespread blending of various synthetic and natural types, with the precise mix being decided by cost, quality and availability considerations (RRIM 1971; D'ianni, 1969). The United States (US) and European countries produce 70% of world SR. The world consumption of SR is also distributed in roughly the same manner. Within each region of the world the production of SR is highly concentrated among few companies. In the US, the five largest SR producers account for about 75% of total output. This is largely due to the minimum economic size of a SR plant which is relatively large when compared to domestic needs of the most countries.

Of the 15 Mn. MT of annual rubber consumption, some 8 or 9 Mn. MT absorbs into pneumatic tyres. The remaining 40 percent or so is used in a variety of other products, ranging from rubber bands to conveyor belts. Nearly half of all non-tyre rubber also goes into the automotive industry. This implies that the automotive sector: tyre and non-tyre, absorbs some 75 to 80 percent of all the world's rubber. Consequently, the world elastomer (NR+SR) industry is heavily dependent on the world automotive industry. The health of the world's rubber industry therefore follows the same cycle as the world's overall economy, since the automotive industry is heavily dependant on the general economic trend of a region. This is why the rubber industry has suffered during this prolonged global recession.

### **The Sri Lankan Context**

Sri Lanka is comparatively a small producer in the context of the world rubber economy. In 1992 Sri Lanka produced 105,000 metric tonnes of NR. Thus, Sri Lanka's production is about 1.9 percent of world's NR production and 0.7 percent of world's total rubber (NR & SR) production.

Nevertheless, the rubber industry is of vital importance to the economy of Sri Lanka. Next to tea, it is the most important commodity being the second major contributor to agricultural export earnings and employment generation. Its contribution to total export earnings accounted for 3.8 percent in 1992. This industry has provided employment for nearly 500,000 persons both directly and indirectly in Sri Lanka's 155,000 smallholdings, 7000 small estates and 800 large estates and also employed in various stages of processing up to shipment (Central Bank, 1980). It also contributes a base for the production of industrial rubber products, thus providing additional employment to several thousand persons. Some vital statistics pertaining to rubber are given in Table 01. The total area of land under rubber is reported to be 198,500 hectares representing 9 percent of the total cultivated area (Department of Census and Statistics, 1992). Nearly, 74 percent of the production is exported whereas the balance is utilized by local industries.

Rubber cultivation in Sri Lanka consists of estates and smallholdings. According to the structure of the rubber industry in 1990, about 44 percent of the total extent belongs to large estates (in extent about 40 hectares). Another 23 percent is under small estates (in extent between 4-40 hectares), and the balance 33 percent in extent falls to the category of smallholdings of less than 4 hectare (Table 02).

Industrial activity in the developed countries have shown a significant influence on NR prices. Hence, prices of NR have shown wide fluctuations in the past. These price fluctuations affect the economic well-being of producer nations as well as rubber producers with undesirable consequences for their welfare. In order to recapture former production levels, producers are being encouraged in many ways.

Subsidy schemes are in operation for replanting, new planting, nursery management and factory modification (Table 03 and 04). The rubber export duty has also been abolished to provide the producer with better producers margins.

#### REFERENCES

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- D'ianni, J D (1966). Symbolic relations between Natural and Synthetic Rubber. *J. Rubb. Res. Inst. Malaya*, 22 (2): 214 - 224.
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Table 01. *Some Vital Statistics of Rubber Sector in Sri Lanka (1985-1992)*

Item	Unit	1985	1986	1987	1988	1989	1990	1991	1992
Total Rubber Area	Ha ('000)	204.3	202.8	201.9	200.3	199.7	199.7	198.5	197.9
Mature Area	Ha ('000)	154.4	149.9	147.5	145.5	147.3	146.3	147.0	148.3
Immature Area	Ha ('000)	49.9	52.9	54.4	54.8	52.4	57.7	51.5	49.6
Total Replanted Area	Ha	6,514	5,910	5,512	4,115	6,147	5,202	3,507	1722 <sup>1</sup>
Total New planted Area	Ha	2,723	1,808	1,760	1,338	1,336	1,297	1,602	N.A
Subsidies for Replanting & New Planting	Rs.Mn	139.9	135.5	126.1	113.2	121.1	149.6	141.7	N.A
Total Production	MT ('000)	137.5	137.8	121.8	122.4	110.7	113.1	103.9	105.0
Ave. Yield	Kg/ha	890	919	826	841	752	773	706	708
Total Exports	MT ('000)	120.4	110.0	106.0	99.3	86	86.7	76.4	78.6
Export Value	Rs.Mn.	2569	2622	2930	3706	3112	3079	2641	2960
Export Value	SDR.Mn.	93	80	77	87	67	57	47	48
F.O.B. Price	Rs/Kg	23.84	23.84	27.65	37.32	36.18	35.50	34.59	37.65
Local Consumption	MT ('000)	15.1	16.4	19.4	19.9	21.0	23.6	26.8	28.5
Stocks	MT ('000)	12.2	23.6	20.0	23.2	26.9	29.8	17.3	16.0
Collection of Cesses	Rs.Mn.	255.6	151.9	143.0	138.8	133.0	152.2	138.2	N.A
Collection of Duties	Rs.Mn.	255	307	525	827	766	747	475	N.A
Cost of Production <sup>2</sup>	Rs/Kg	10.50	10.93	11.37	13.41	15.06	17.92	19.11	20.50
Fertilizer Usage	MT ('000)	24.2	26.3	23.2	25.1	22.6	21.4	13.7	12.7

Sources :

1. Rubber Control Department
2. Central Bank of Sri Lanka
3. Department of Customs
4. National Fertilizer Secretariat

5. JEDB
6. SLSPC
7. IRSG Bull.

- <sup>1</sup> Private Sector only  
<sup>2</sup> Weighted Average of Private Sector Estates & Small Holdings  
N.A - Not Available

Table 02. Rubber Area By Districts and By Size Groups (1990)

Revenue District	(hectares)			
	40 and above	4-40	Below 4	Total
Colombo & Gampaha	5,638	6,202	10,254	22,094
Kalutara	19,983	9,944	16,387	46,314
Galle	9,160	4,128	5,662	18,950
Matara	2,373	2,853	2,500	7,726
Hambantota	-	46	34	80
Ratnapura	15,886	10,280	9,867	36,033
Kegalle	25,022	9,854	18,493	53,369
Kurunegala (Incl. Puttalam)	2,273	941	524	3,738
Kandy	1,919	1,149	840	3,908
Matale	2,308	1,063	442	3,813
Badulla & Monaragala	2,558	321	144	3,023
Total	87,120	46,781	65,147	199,048
Source : Rubber Control Department				

Table 03. *Rubber Subsidy Payments (1981- 1991)*

( Rs.Mn)

Year	Replanting	New planting	Factory Development	Total
1981	61.8	4.4	1.7	67.9
1982	77.6	10.8	3.3	91.7
1983	88.4	14.3	2.5	105.2
1984	92.8	17.4	1.7	111.9
1985	112.0	27.9	3.0	142.9
1986	106.4	29.1	2.4	137.9
1987	94.1	32.0	3.2	129.3
1988	87.2	26.0	0.6	113.8
1989	92.7	28.4	1.5	122.6
1990	114.0	35.6	5.2	154.8
1991	106.3	35.4	N.A	N.A

Source : Rubber Control Department

N.A - Not Available

Table 04. *Total Rubber Planted Area (1981-1991)*

Year	(Hectares)		
	Replanted	New Planted	Total Planted
1981	6,440	1,056	7,496
1982	6,792	1,650	8,442
1983	4,861	1,745	6,606
1984	5,528	1,263	6,791
1985	6,514	2,723	9,237
1986	5,910	1,808	7,718
1987	5,512	1,760	7,272
1988	4,115	1,338	5,453
1989	6,147	1,336	7,483
1990	5,202	1,297	6,499
1991	3,507	1,602	5,109

Source : Rubber Control Department

Note : Planted Area Including State Sector