

## NATURAL RUBBER FROM SRI LANKA. CURRENT MARKET SITUATION AND CONSTRAINTS

by

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Natural Rubber (NR) is still considered "crude" by most people in the rubber trade. It is tagged as crude rubber and also described as crude rubber in some journals and other publications. Every NR producing country should endeavour to change this picture and should present this excellent material, which the rubber tree produces, in a form acceptable to the consumer. It should meet the stringent requirement of the modern industry. The product should meet the required quality standards. Quality per se is not sufficient. It should be consistent as well. Some short cuts and malpractices in the presentation of plantation rubber in order to have a better net sale average should be eliminated at all cost, if we desire to continue to hold a share in the market and be profitable in business. It is ludicrous, for instance, to spoil your image as an excellent sole crepe producer if you suddenly think that you can get away by inserting some sub standard material in between the good ones.

**Pale crepe :** Pale crepe has its ups and downs. 1986 was a good year for pale crepe but 1987 was a particularly bad year specially during the latter half of the year (table 1). Several factors contribute to this situation.

USSR has been purchasing large quantities of our crepe rubber and generally speaking there is some influence on the price when USSR buys bulk quantities (table 2) The fear expressed now is that USSR is pulling out of this market. The Van Gelder report of 1976 clearly stated that the traditional markets for latex crepe are being irretrievably lost to lower cost rubbers such as TSR L and synthetic cis polyisoprene. The price factor is important. If the price is high or it fluctuates too much the consumer would prefer to use another grade of rubber. So, apart from market promotion, price stability is also considered and important factor in selling this grade provided all the other conditions are met, such as consistency in quality and adequate supplies. One should not switch over to the production of other types of rubber when the prices are poor. Rubber price fluctuates in a rather strange manner. It does not obey the normal laws of supply and demand. When prices are up one must be cautious in concluding that there is a greater demand and vice versa.

**FIG. 1. AVERAGE RUBBER PRICES (Rs.)**

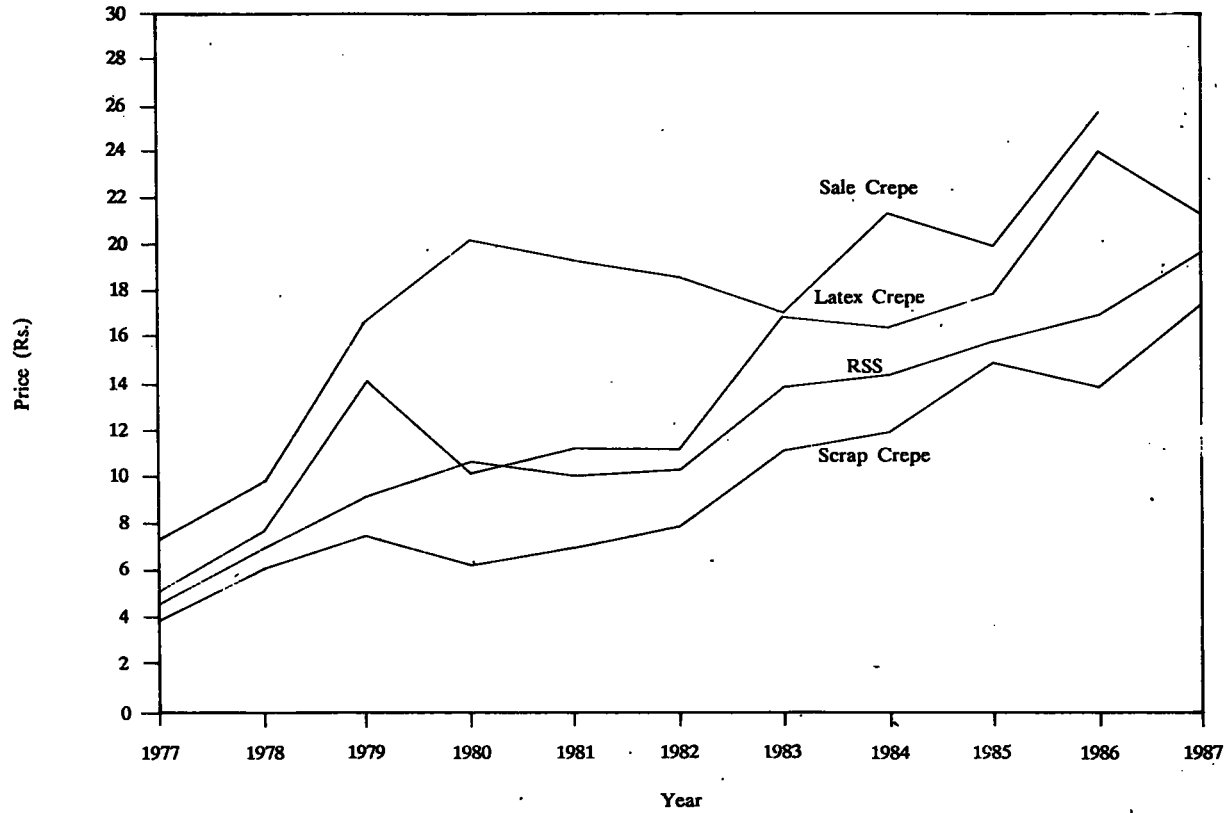


Table 1. *Average Rubber Prices (Rs.)*

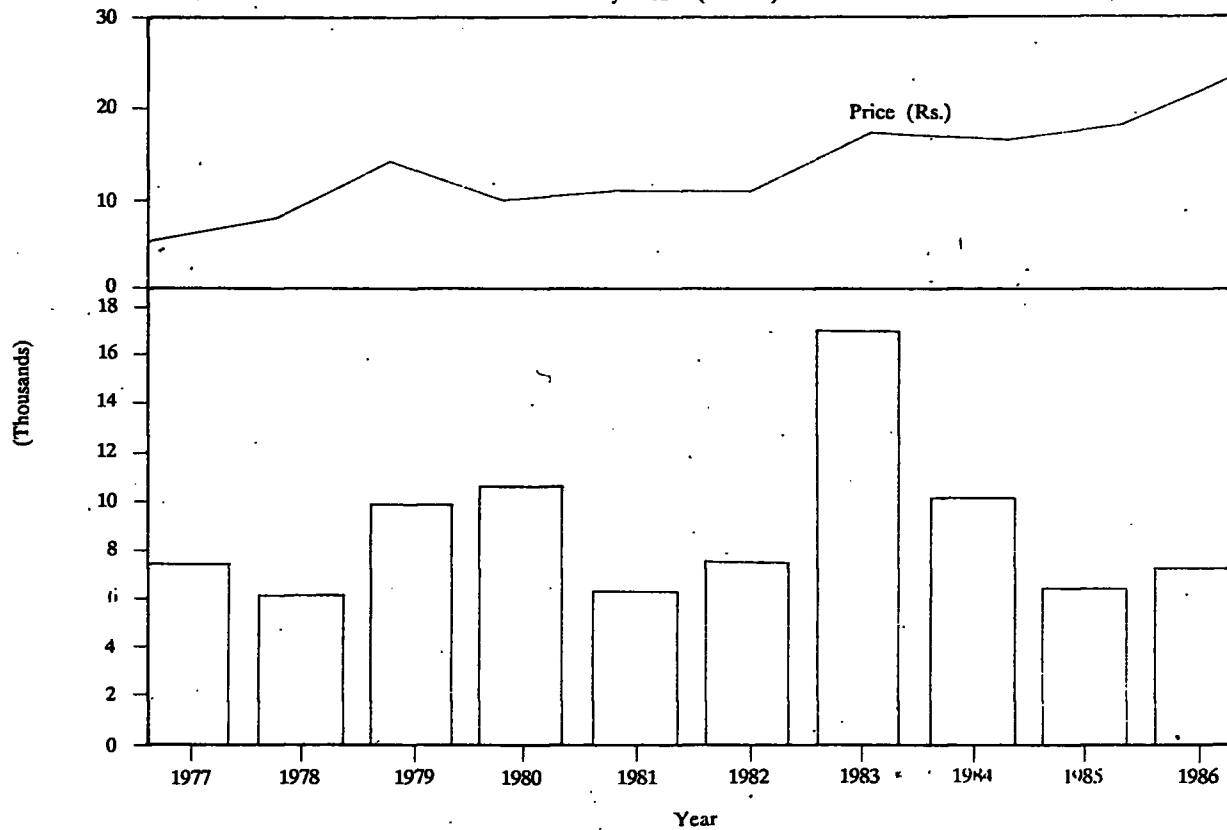
	RSS I	Latex Crepe IX	Scrap Crepe IX	Sole Crepe
1977	4.53	5.12	3.85	7.21
1978	6.93	7.78	6.11	9.91
1979	9.12	14.08	7.41	17.01
1980	10.68	10.04	6.28	20.29
1981	9.95	11.12	6.91	19.31
1982	10.19	11.13	7.91	18.58
1983	13.93	16.95	11.13	17.25
1984	14.44	16.54	11.80	21.30
1985	15.89	18.02	14.97	19.97
1986	17.12	24.03	14.00	25.72
1987	19.80	21.20	17.51	NA

Table 2. *Purchases by the USSR (in tonnes)*

	Latex Crepe	Scrap Crepe	Sole Crepe
1977	7347	4	480
1978	6175	100	—
1979	9800	—	219
1980	10573	—	259
1981	6244	—	181
1982	7470	—	398
1983	16983	—	315
1984	10057	—	253
1985	6389	—	314
1986	7243	—	420

FIG. 2. PURCHASES OF SRI LANKAN LATEX CREPE

By USSR (Tonnes)



A few rubber mills installed after 1985 showed signs of exudation of graphitic material and continuous migration of this blackish crystalline powdery material will cause problems in the manufacture of good quality crepe rubber. The reason for this is the high carbon content in the cast iron used in the fabrication of the rolls. In other words a low grade of cast iron has been used and one wonders whether this is necessitated by circumstances beyond the control of the fabricators. Recently under the MTIP, the JEDB called for tenders for rubber mills and none of the tenderers were able to fully satisfy the specifications laid down for the 2-roll mills. Certainly this is not a happy situation for crepe production which is trying to retrieve from the shock of low prices.

#### Sole Crepe :

According to estimates from Shoe and allied Trade Research Association (SATRA) in the U. K. crepe soles make up only about 1 percent of the soling materials used for shoes. The main soling materials are vulcanized rubber, PVC, polyurethane, EVA and leather (Table 3). More than for technical reasons crepe soles are used for fashion considerations, so it is not possible to predict future usages.

However, the fact that it is only 1 percent of the market would lead one to expect that it has much potential for growth and that there is little risk of seeing the quantity used decrease drastically.

Remilled sole crepe is big business in Italy. They used to do this on a large scale in the late 70's and early 80's. The reasons for the enthusiasm in the production of remilled sole crepe in Western Europe are compelling. Shoe manufacturers have to follow fashion and so decide at the last minute what colour and thickness of sole crepe they require. They can call a remiller in their own area and order the exact grade they want for delivery within weeks or even days, but when they order from Sri Lanka they must order months in advance. On the other hand the quality of remilled sole crepe is not as good as plantation sole crepe. This probably explains why a large proportion of the market requirements still come from the plantations.

#### Technically specified rubber (TSR) :

When I refer to TSR, I refer to the block rubber produced by the comminution process which involves the initial size reduction of the lumps of wet rubber or other types of dry rubber, homogenization and cleaning operations, followed by drying and pressing into bales.

TSR industry in Sri Lanka represents an investment of about Rs. 130 million on plant and machinery with an installed annual capacity of 30,000 t, which is equivalent to approximately 25 per cent of the current production of rubber in the country.

The TSR industry has received policy incentives since its early stages. Although the objective of the policy incentives was to make the TSR industry an economically viable entity in the short and medium term, it is unable to survive without government subsidy even after 15 years of operation. The cash subsidy which the industry received since 1981 cumulatively amounted to Rs. 30 million by December 1987. TSR industrialists have now requested increased relief measures if they are to continue their production activities.

Table 3. *Soling materials: A Summary of types and properties*

Leather	Density g/cm <sup>3</sup>	Wear Resistance	Crack Resistance	Adhesive Properties	Slip Resistance
Leather	0.95-1.05	Low	Good	Satisfactory	Satisfactory
Vulcanized Rubber	1.05-1.40	Fair to Excellent	Good to Excellent	Good	Good
Sole crepe	0.88	Good	Very good	Good	Good on dry surfaces
PVC	1.18-1.23	Moderate to Good	Satisfactory	Good	Can be Slippery
PU Cellular	0.4 - 0.6	Moderate to Good	Good	Satisfactory	Can be Slippery
Solid	1.24- 1.28	Moderate to Good	Good	Satisfactory	Can be Slippery
Cellular	0.2 - 0.8	Low	Good	Satisfactory	Satisfactory
EVA solid	0.9 - .96	Low	Very Good	Satisfactory	Can be Slippery

Why is it that the TSR industry has not been able to function as an economically viable industry despite continued policy incentives. Now can the continuation of assistance to TSR industry be justified?. What are the constraints on the growth of the industry?. What is the relative importance of TSR within the rubber industry in Sri Lanka in relation to its potential contribution to Sri Lanka's economy in particular income, employment and foreign exchange?. Genuine answers should be found to these questions.

TSR capacity is grossly under utilised (see table 4) Under utilisation of capacity is due to the following inter related problems ;

- (a) Shortage of raw materials.
- (b) Fluctuation of raw material prices.
- (c) High price of raw material.
- (d) High cost of production which makes the Sri Lankan TSR referred to as standard Lanka Rubber (SLR) not competitive in the world market.

Most of the field grades (cup lumps and other field coagula and tree laces) are processed into scrap crepe or TSR either directly or via scrap crepe. TSR produced via scrap crepe involves two multiple operations resulting in high and unnecessary power consumption. However, TSR producers have to depend mostly on scrap crepe for their supplies of raw material. TSR producers also have to depend on low price RSS and it is a mixture of RSS and scrap grades which ultimately form the bulk of the SLR 10's and 20's produced in Sri Lanka. The price difference between the high and low grades of RSS have narrowed down since recent times and this again is making matters uneasy to TSR producers.

Table 4. *Installed capacity of TSR and its utilisation in 1984/85 and 86/87*

Name of Company	Capacity (t)	% Rate of utilisation	
		84/85	86/87
Ceymac	7,200	59	NA
Shermans	6,000	47	NA
Statcon	5,000	30	20
SRMC	3,000	30	12
Lanka Star	3,600	30	NA
Associated Traders	4,800	30	NA
Cenat	3,000	31	NA

NA - Not available

The rubber market in the world today demands more and more TSR (mainly TSR 10 and 20) to feed the tyre market and Sri Lanka will be out of step if our TSR industry is unable to revive and come to grips with this situation. Quite apart from the difficulties faced by the producers there are very significant and tangible benefits in the production of TSR. Reduced freight costs, fewer quality claims and the production of one grade of rubber form specific raw material inputs are some of the advantages.

## RSS

Japanese buyers have lodged several complaints about the quality of our RSS, especially with respect to the volatile matter content. As a consequence it is believed that the Japanese have reduced their purchases of RSS from Sri Lanka.

Demand for RSS continues to grow all over the world. In countries like the United States of America, RSS is bought in sufficiently large quantities for stockpiling purposes mainly for strategic reasons. The largest share of RSS is produced by the smallholders. It is the small mans product and the quality control machinery cannot be applied efficiently when the production units are small. The Advisory Services Department (ASD) of the Rubber Research Board through its network of field staff and the EDB through its assistance scheme, help the small holders in many ways to produce good quality RSS. ASD has also its Training Centers to train not only the field staf but also the smallholders in the correct methodology for RSS manufacture.

## Concentrated latex:

In spite of the long history of centrifuged latex manufacture in Sri Lanka there has been no serious attempt to increase the production of centrifuged latex. The maximum production potential of centrifuged latex according to the capacities of installed machinery is about 6000 t (dry). JEDB accounts for about one third of it. About 5000 t (dry) of centrifuged latex is produced annually for the production of latex based products both for the local and export market. Due to the inadequacy in stocking of centrifuged latex this commodity is in short supply during certain periods of the year affected by monsoon rains. Some manufactuers of latex based products who have set up their own centrifuging plants depend heavily on the small holders for the supply of field latex. This again is beset with many problems such as the uncertain quality assurance. The large estates are controlled by the two main plantation corporations, the JED B and the SPC. A facility to produce centrifuged latex by one of these corporations is what every one is hoping for, so that the availability of quality centrifuged latex can be pushed up to over 10,000 (dry) or even more in the not too distant future. Several latex based products are currently manufactured for the local market.

Hospital sheeting, foam rubber, rubberised coir, dipped products, latex castings, cot sheets and rubber bands of various sizes are some of the products made from latex for the local and export market. Export potential for some of the products is promising. Two projects, one approved by the GCEC and the other approved by the FIAC are doing substantially well judging from the fact that they are expanding production. A limiting factor, quite obviously is the n on availability of centrifuged latex of good quality.

In a special study conducted in 1985 several products including centrifuged latex were identified for promotion both for local consumption and export. they are,

- (1) Centrifuged latex.
- (2) Latex based products.
  - (a) Gloves (House hold, Industrial, surgeon's)
  - (b) Foam rubber.
  - (c) Rubberised coir.
  - (d) Latex tubing/Catheters.
  - (e) Latex adhesives eg. Pressure sensitive adhesives.

(1) Centrifuged latex :

The demand for centrifuged latex in the world is rising dramatically. Not only should it be available for export it should be available in large quantities for local consumption as well. The premium prices paid to centrifuged latex over RSS 1 is increasing sharply. Malaysia has reached a virtual "Saturation" point as centrifuged latex manufacture is concerned. With the growing demand for centrifuged latex in the world companies like Guthries are willing to look in to possibilities of not only marketing centrifuged latex from other countries but also would be willing to talk to other NR producing countries like Sri Lanka to produce centrifuged latex for export.

Table 5. *Demand forecast for centrifuged latex.*  
Tonnes (Dry)

	World	Malaysia
1988	329,000	32,000
1989	337,000	34,000
1990	348,000	38,000

Even though Guthries are producing only 60,000 t (dry) they are committed to distribute nearly twice as much to USA & Europe. There is a tremendous surge in the requirement of centrifuged latex in the USA. Last year alone the increase has been about 10,000 t (dry).

## (2) Latex based products

Quality centrifuged latex should be freely available in the country for the promotion of latex products. There are several tangible advantages in making rubber products from latex. The added value is high, latex products generally have a high rubber content and less energy is required to manufacture latex based products. There are International Standards on quality of centrifuged latex and in order to meet these standards good quality field latex should be made available.

### Opportunities for rubber products

Manufacture using centrifuged latex is favourable in the country of origin of centrifuged latex as otherwise it involved the transportation of water (which is as much as 1/3rd the weight of rubber) over long distances before processing into finished products.

#### (2) (a) Gloves :

The demand for gloves (examination, house hold and surgeon's gloves and condoms) in Europe and USA is "hysterical". This is believed to be mainly due to "AIDS" a deadly disease which is feared by all and the doctors and paramedical staff prefer to use some sort of protective gloves during clinical examinations. The British medical journal WHO, Communicable disease surveillance centre, London and US centre for disease control in Atlanta all support the view that there are about 65,000 AIDS victims in the world today in addition to the 5 to 10 million people who carry the AIDS virus.

#### (b) Foam rubber :

The total consumption of flexible foam amounts to about 1.5 – 2 Kg. per person per year in highly affluent countries where as the world average is around 0.3 – 0.4 Kg./year. Should the world average increase to 0.75 Kg/year, this would mean an increase in consumption of at least 1.5 million tonnes per year.

As living standards improve, mainly in the third world countries, the demand would increase to 80 million mattresses per year (quoted from a study carried out by SCARAB, Stockholm, Sweden (1981). With the improvement in the living standards and quality of life, there would be a substantial local demand for foam cushions and mattresses, met only partially by the existing local production. The closest alternative which is polyurethane (PU) foam can liberate highly toxic fumes at high temperature in an event of a fire.

## (2) (c) Rubberised Coir :

This is a composite product which is made from two natural products (rubber and coir) abundantly available in this country. The demand for natural products of this type is running high, particularly in the Scandinavian countries and Federal Republic of Germany. The finished product is very versatile, a considerable range of densities can be achieved and the density of the moulded pad can be varied from one part of the pad to another.

Europe accounts for the consumption of approximately 500,000 tonnes of flexible foam mainly for the upholstery of beds, furniture and vehicles. The European market for rubberised coir alone is 50,000 tonnes which is about 10% of the upholstery market. The world consumption is probably three times this amount. It is expected that the market share of rubberised coir in the world would rise to 30 - 40% by 1990. The estimated 50,000 tonnes does not include most of the East European market which offers a substantial, if difficult to measure possibilities. Growth prospects for rubberised coir in the region of the Asian Pacific Coconut Community, Japan, South Korea, China, Nigeria, East Africa, Middle East and North America are enormous.

(2) (d) *Surgical tubing/Catheters* :

The world wide market for latex catheters is about 75 million items and this is believed to be growing rapidly.

(2) (e) *Latex adhesives eg. Pressure sensitive adhesives* :

It is possible that a significant proportion of the market presently occupied by solution adhesives will eventually change to latex based adhesives. Solvent based adhesives have been under pressure in recent years due to legislation in many countries controlling release of solvent into the environment.

## Administration of Rubber

The subject of rubber is handled by not less than ten ministries. In alphabetical order they are :

- Agriculture
- Finance and planning
- Industries and Scientific Affairs
- Janatha Estate Development
- Land and land Development
- Plan Implementation
- Plantation Industries
- Power & Energy
- Rural Industrial Development
- State Plantations
- Trade and Shipping

While the Rubber Plantation Industry is served by the Rubber Research Institute the Rubber products Industry is served by three main institutions including the R.R.I. and these three institutions are under three different ministries. R.R.I. is under the Ministry of Plantation Industries. CISIR is under the Ministry of Industries & Scientific Affairs. The I.D.B. is under the Ministry of Rural Industrial Development.

### Marketing

The NR markets, both primary in the producing areas and terminal in the consuming countries, have evolved historically. NR trade is not merely concerned with the simple activity of selling and buying alone. It is greatly complicated by the hedging and arbitrage activities of those market intermediaries who deal in paper rubber, and by different shipping services, currency uncertainty and unstable prices. NR has also been extensively used as a hedge against currencies and other commodities. This complicated and complex structure cannot be ascribed solely to the needs of either the producers or the consumers. However, these markets have performed effectively the function of channeling rubber produced in the East by a multitude of producers to the diverse consumers the world over. Prior to the advent of synthetic rubbers, these markets were effective in meeting the requirements of producers. Today, while producers have already responded effectively to the changing requirements of consumers, following competitive pressures from synthetics, the market largely has remained unchanged and indifferent to the promotional requirements called for on behalf of NR.

Shipping is an important item of costs in NR trade. This is further aggravated by the fact that while production costs of NR and prices obtained for the polymer have diminished through the years, shipping costs have increased considerably. The availability of non-conference ships has enabled some reduction in these costs. However, with rubbers arriving at destinations using both conference and non-conference services, dealers have been able to create differentials in price. In many instances the savings in freight have been passed on to consumers in the form of cheaper NR, tending in part to depress prices in the terminal markets.

The availability of rubbers particularly from Thailand and Indonesia at varying discounts in terminal markets have also tended to depress prices. Reasons given for such discounts include lack of quality guarantee, uncertainty in shipments, weak bargaining strength, absence of primary markets and greater need for foreign exchange. Technically specified rubbers have also been reported to be sold at a discount in the terminal markets. While dealers obtain these discounts, they are not necessarily passed on fully to consumers. This has led to the changing of place of origin by packers, remillers and/or dealers both in the producing and consuming areas, in order to evade rubber fetching discounted prices.

The absence of adequate technical dialogue between the primary producers and the ultimate consumers is one of the major weaknesses of the present marketing system. While the large consumers and large plantations are able to ameliorate this situation through their respective representation in the producing and consuming countries, the smaller consumers and the vast majority of producers depend on the trade to act as the communications link. This has inevitably led to a lack of appreciation of consumer requirements on the part of producers and a lack of information on producer abilities in the consumer sector.

### *Conclusions :*

The price obtained in the commodity market neither reflects the value of Natural Rubber nor its competitive strength. Every Kg of NR produced have been sold through the years. The market propotion for NR is potentially greater than what is consumed. Yet, the price obtained through the commodity marketing system is low, fluctuating and unpredictable. INRO has a buffer stock of 370,000 t. Even the removal of such quantities of rubber from the market has not relieved the market stress. Some quarters have ascribed the low price levels to excess NR supply. Yet a historical analysis by Sekhar, of prices, world stocks, production and consumption over 30 years has indicated clearly that this cannot be true. Neither production nor consumption influence the price as much as the speculation demand in the futures market.

The indicators are that paper rubber exerts a more decisive influence on the market and prices, than any physical functions. Producers will have to get together to redress this situation. Alternative marketing systems or complementary marketing activity will have to be sought. Such marketing systems should be aimed at a closer rapport between producer and consumer.

### *Down stream activity :*

Down stream activity is a necessary adjunct to improved marketing of NR. Rubber based industries should be given priority attention. Proximity advantages are many. Ready to vulcanize, tailor compounded rubber can be produced at the plantation for the manufacture of rubber products.

### *Acknowledgements*

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