PROSPECTS OF VALUE ADDITION TO NATURAL RUBBER

by
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Rubber products play a unique role in making the life of modern man more comfortable. They are useful in an array of fields such as transportation, communication, industry, agriculture, health and family planning, sports and games, defence etc. According to an estimate, more than 50,000 products are made using rubber as the basic raw material. Till the Second World War, Natural Rubber (NR) produced mainly in the plantations in Asian Countries was the only rubbery raw material available for the manufacture of rubber products. Subsequently, when the then main rubber consuming countries viz., Europe and U.S.A. found it difficult to obtain NR for their requirements, they started research for developing a replica of NR which ended up with the production of a number of general and special purpose Synthetic Rubbers (SR). Data pertaining to production and consumption of NR and SR in the main rubber producing and consuming countries are given in Table 1 and 2.

Even today, the Asian Countries account for the lion's share of World NR Production and Thailand, Indonesia, Malaysia, India and China together share about 89 per cent of it. Details of area, production and share of small holdings are furnished in Table 3.

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An analysis of NR production by the leading countries indicates that bulk of the production comes from the small holders. However, data (given in Table 4) relating to consumption of NR in the major NR producing countries indicate that except for India and China, all the other countries export a major portion of their production as raw rubber. Thus, the benefits of value addition of NR are enjoyed by the main producing countries only to a limited extent.

Eventhough the productivity of NR plantations in the leading producing countries is moderately high now due to adoption of modern technology by the farmers, rubber cultivation becomes less attractive and at times non-remunerative also due to fluctuations in the price of NR in the world market, increasing cost of plantation inputs and ever-increasing wages. It becomes imperative that while all efforts are to be made to increase productivity from rubber plantations, attempts have to be made for raising additional income for the growers from other sources also. The concept of promoting small scale rubber products units by growers becomes important in this respect. The rubber growers now get only limited benefits of value addition, mainly by adoption of modern methods of processing. The extent of value addition can be much increased if they are able to convert the rubber they produce into various products and then sell them in the internal market or export the products. It is also a fact that the major rubber consuming centres are often far away from the NR producing areas and since the consuming centres play a major role in controlling the prices of NR, any problem affecting the consuming centres will have a profound impact on the bulk of NR growers. Hence, encouraging genuine rubber growers to enter the line of rubber goods manufacture will help rubber producing countries to fetch better value addition for their raw material. Besides, it will also help to alleviate the unemployment

TABLE - 1
PRODUCTION OF NR DURING 1996 ('000 MT)

Country	Production of NR	% Share
Thailand	1 923	30.67
Indonesia	1 600	25.52
Malaysia	1 077	17.18
India	540	8.61
China	432	6.89
World	6 270	100.00

TABLE - 2
CONSUMPTION OF NR & SR DURING 1996 ('000 MT)

Country	Consumption of NR and SR	% Share
U.S.A.	3 209	20.16
Japan	1 840	11.56
China	1 835	11.53
India	701	4.40
Rep. of Korea	692	4.35
World	15 920	100.00

problem in these countries to some extent. Thus, small scale rubber goods manufacture offers an attractive alternative, if the growers are properly guided. Identifying good entrepreneurs from rubber growers and motivating them to set up profitable ventures in rubber goods manufacture thus assume greater importance in view of the position explained.

Strength and Weakness of Rubber Growers for entering rubber goods manufacturing line.

Let us now find out the prospects of rubber growers in succeeding in such ventures. The success of any manufacturing concern depends, other factors being equal, on the ability of the entrepreneur in planning, implementation and running the unit efficiently. Most of the rubber growers, though fairly educated, do not have much idea how to enter the rubber goods manufacturing line. By promoting the entrepreneurial qualities of selected rubber growers, a number of promising entrepreneurs can be developed. Agriculture being less risky when compared to industry, many growers may hesitate, entering the manufacturing field thinking about the consequences of failure in case they set up manufacturing units. Considering their practical experiences in cultivation, they may continue to prefer the rubber plantation sector. This attitude can be changed only by motivating them properly and giving them practical advice and training as to how to establish successful rubber goods manufacturing units.

The second constraint is the lack of technical knowledge of the growers in the manufacturing techniques of rubber products. Hence the entrepreneurs have to be thoroughly trained in various processes of manufacture of different articles made from rubber. The training required in such cases may be provided by technical personnel having thorough knowledge in various aspects of rubber technology and experience.

TABLE - 3

SHARE OF SMALL HOLDINGS IN AREA AND PRODUCTION OF NR IN DIFFERENT COUNTRIES, 1996

Country	Area under NR cultivation ('000 Ha)	Share of small holdings (%)	Production of NR ('000 tons)	Share of small holdings (%)
Thailand	1 949 (a)	96	1 923	96
Indonesia	3 449 (b)	84	1 600	77
Malaysia	1 724 (a)	85	1 077	62
India	533	86	540	86
China	611 (c)	35	432	13 (c)
Sri Lanka	162	36	111	NA

Note : Small holding in India refers to a unit holding of up to 20.23 Ha, whereas in other countries it refers up to 40 Ha.

(a) for the period 1995
(b) for the period 1994
(c) for the period 1991

Since the rubber growers have with them the basic raw material viz., NR, raw material inventory can be kept at a low level which will help to reduce the working capital requirement and improve the financial viability of the manufacturing unit.

How to choose the appropriate product line?

Choice of the product for manufacture is very important as far as the success of the unit is considered. Before selecting the product, the rubber growers should be advised to consider the following aspects.

1. **Marketability** : Whether the product selected can be marketed easily without much competition from other manufacturers of the same product.
2. **Technology involved** : Whether the manufacturing technology is available locally within the country itself or has to be brought from outside. If the required technology has to be imported, the project may become costly.
3. **Financial capability** : Whether the entrepreneur is in a position to meet the finance required.
4. **Quality of the product** : Whether the unit can meet the minimum quality standards prescribed for the product.
5. **Price Competitiveness and Production Capacity** :

   In capturing market for the products, capability of the unit to cater to the consumer requirements in terms of timely supply and competitiveness in price play a very significant role.

   Proper training has to be imparted to the entrepreneurs considering all the above factors.

Certain products suitable for manufacture by rubber growers :

Apart from the above requisites, the entrepreneurs have to know about their limitations also while considering the selection of product line. Certain products may look very attractive economically, but their processing may be cumbersome owing to the low level of technological knowledge on the part of the grower.

Considering the two types of rubber products that are manufactured world over, viz., latex based goods and dry rubber based goods, latex goods are comparably easy to produce and require less investment and power. Considering the above factors, some of the latex based products that can be considered for manufacture by rubber growers are toy balloons, rubber bands, finger caps, baby soothers, feeding bottle teats, adhesives, rubber toys, gloves, etc. From the dry rubber side, products such as hollow mats, automobile rubber components, sports goods, industrial (moulded and extruded) products etc. offer good scope.

The Mother Unit – Home Unit Concept

Considering the scale of investment, difficulties in maintaining quality and consistency in quality of products, problems in the marketing of products etc. it may be more appropriate for the rubber growers to set up units adopting the mother unit – ancillary unit concept.

Manufacture of rubber products involves the following unit operations.

a) **Compounding**–which involves the intimate mixing of definite proportion of ingredients essentially required for confering the desirable service properties for the products. On completion of compounding, a rubber compound is formed.

b) **Shaping** – which converts the rubber compound already formed into the shape of the final product, and

c) **Vulcanisation or Curing** – which confers the required physical properties to the shaped compound. The products are then subjected to finishing operations, tested for quality, packed and marketed.

In the Mother Unit – Home unit concept, a mother unit is set up which produces and sells various types of rubber compounds required for the manufacture of a large number of rubber products. It is very important to mention here that the most critical step in the manufacture of any rubber product is the compound formula design and compounding which require a thorough knowledge of rubber technology and rubber products manufacture and long years of experience in the line. When the mother unit provides rubber compounds, it controls the quality and consistency of the products to a very large extent.

The mother unit also will have adequate facilities required for testing and quality control of rubber products. The product made in the home units will be subjected for finishing operations such as trimming etc. and sent back to mother unit for testing, packing and despatch. This system has the advantage that it relieves the home units from the most difficult task viz., the marketing. If properly co-ordinated and operated, this system can be a good success. The mother unit can be established by a co-operative body to be formed by the units or even by private sector. In India, in the southern most State of Kerala, the above system is working satisfactorily in the case of manufacture of automobile rubber components from dry rubber and Urine drainage condoms from NR latex concentrate.

To conclude, it is hightime that atleast a few of the rubber growers turned their attention to rubber goods manufacture. Their success will be a boost for the many who want to enter the rubber goods manufacturing line but lack of confidence in the absence of trend setters.

TABLE - 4
CONSUMPTION OF NR IN MAJOR PRODUCING COUNTRIES, 1996

Country	Production of NR ('000 tons)	Consumption of NR ('000 tons)	% Share
Thailand	1 923	160	8
Indonesia	1 600	144	9
Malaysia	1 077	355	33
India	540	558	103
China	432	965	223
Sri Lanka	111	40	36