

MODERNISATION OF RUBBER INDUSTRY IN KERALA

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It is a fact that Kerala has all the favourable factors for the healthy growth of rubber industries. Raw materials, labour, water etc are available here. In spite of all these facilities, the rubber industry is not prospering. In the absence of new industries, the existing ones have to be expanded and modernised. Probably this is an area where only little has been done so far. Although the present conditions prevailing in the small scale rubber industry is thus not favourable for enhancing production and full capacity utilisation, methods available for enhancing production and efficient working are described in the following article. The author Dr. E. V. Thomas is Joint Director (Training) in Rubber Board.

Rubber industry has an important place in the economy of Kerala. Almost 90 percent of the natural rubber produced in India is from this State. The rubber goods manufacturing industry in the State has not recorded a proportionate growth rate. Although the number of rubber industry units in the State exceeds 600, hardly three or four can be included in the list of major industries. Almost 95 percent of the units are in the small scale sector and over four hundred of them are using latex as raw material for producing products like rubber bands. Among the registered units a good number are sick units.

It is often repeated in various forums that Kerala has all the favourable conditions for the growth of rubber industries. Availability of raw materials, intelligent labour, adequate water supply, improved commu-

nication facilities etc are the favourable situations mentioned. Position of electricity is now not high lighted. Although favourable factors are there, rubber industry or any other industry is not growing well in the State. Since new industries are not coming in the State, it is desirable to ensure that the existing industries expand and modernise. In this discussion the points

proposed to be examined are:

- 1) The objectives of modernisation
- 2) The methods for modernisation
- 3) The areas where modernisation is possible in different types of rubber industries.
- 4) Need for adopting integrated approach of modernisation in technical, managerial and marketing aspects of small industries.

Modernisation of any industry will have following objectives.

- 1) To improve quality of the products
- 2) To reduce cost of production
- 3) To minimise pollution problems or related environmental disturbances.

Rubber products manufacturing industry in this country has not earned a good reputation as producers of internationally acceptable quality products. In order to produce quality products an industrialist should know the service requirements of the products and also the specifications prescribed for the product by national and international Standards Organisations. Good quality products can be manufactured only from good quality raw materials. The specifications prescribed for the raw materials by national or international standards agencies should be known to the industrialists. Each unit should set up a laboratory for the basic and essential testing of their raw materials and finished products. Industrialists should collect information on specifications of raw materials and finished products from the Bureau of Indian Standards. Contact address of the BIS is given below.

The Director (P&C)
Bureau of Indian Standards,
Manak Bhavan,
9, Bahadurshah Zafar Marg,
NEW DELHI 110 002.

Many small scale industries are not aware of the services available through the BIS. There is a Central point of GATT working in BIS. This centre can provide information to industrialists on type of rubber products required in various rubber product importing countries. Japanese industry has grown to the present level of excellence mainly because of the importance they have attached to quality of products. For many years Japan controlled the ISO committees on specifications and test methods for steel. Any industry disregarding standards, specifications and test methods of the products cannot progress in the modern world.

Reduction in cost of production

There is a relation between cost of production and capacity utilisation. Smaller the capacity utilisation higher the cost of production. Many small scale industries like tread rubber, foam rubber etc are not able to utilise their full installed capacity owing to the higher slabs of excise levies that may fall on them when the production and turn-over increases. The present excise policies are not conducive to the growth of the industries. Many small units are becoming sick as they are operating only on one shift or part of a shift to escape from the ambit of excise net. A realistic approach has to be adopted by the concerned authorities to save the situation. This is ultimately in the interests of the financing institutions. When an industry becomes sick the financing institution loses 75 percent while the industrialist loses only 25 percent. So the maintenance of the industry as viable enterprise is in the interest of the Government financing institutions.



Dipping the moulds for manufacturing the rubber bands.

Although the present conditions prevailing in the small scale rubber industry is thus not favourable for enhancing production and full capacity utilisation, methods available for enhancing production and efficient working can be described below, taking the example of some popular rubber products.

Tread rubber

Most small industries are now making rubber compounds in mixing mills and extruding the compound as tread slabs using hot feed extruders. This is the costliest process involving maximum unit operations. The energy consumption also is high. In this sector modernisation is possible only by changing the mixing procedure. In tread rubber production it is desirable to use high capacity mixing equipments like internal mixer or banbury. This ensures uniformity in mixing, better dispersion of ingredients and high output. The mixed compounds should be stored for conditioning and extruded after warming up in mixing mills.

If the tread rubber factories can buy premixed compounds of this nature from central mixing units, with the present facilities they can double or treble their production. The impact of such high production on reduction of direct cost need not be elaborated. Tread rubber factories also have to take steps to improve their competitive position by adopting marketing of cured treads. The tread slabs can be cured in long presses. Such multiday light presses for producing pre-cured treads are available from New Beonco Engineering Company, Belgium. The solution used for bonding pre-cured tread to carcass can also be made with know-how available from indigenous sources.

Rubber threads

Kerala has the largest concentration of rubber thread manufacturers in India. Over 15 units are engaged in the manufacture of this product in this State. The main complaint on the produce from the small unit is that it lacks both uniformity and heat re-



Sorting and packing of rubber bands and finger tips.

sistance. Almost all the major consumers are importing rubber thread. The cost of imported rubber thread is as high as Rs. 150/- per kg while the small units are selling threads at Rs. 35/- or 38/- per kg. A study conducted recently by experts on this industry has highlighted the following factors as the constraints for its growth and modernisation.

1 Initial investment for establishing a plant to manufacture rubber thread of high counts with heat resistance quality will be very high compared to existing plants.

2 Thread manufacturing is reserved for the small scale sector, but the cost of plant and machinery imported from abroad for producing high quality thread is higher than the limits prescribed for small scale sector.

It is understood from the studies that the capacity utilisation by the small thread manufacturing units are only in the range of 32 percent. Most units exporting garments and knitted fabrics are using

high count threads with good heat resistance. There is an expanding indigenous market for threads of this nature. But the local units are unable to meet the service requirements of the threads used in export quality garments.

The thread units working abroad for producing high count threads are high capacity units having production in the range of 5 to 8 tonnes per day. There is no potential for such high capacity units in the country, if they are to sell the products exclusively in the internal market.

It is felt that modernisation of local units producing threads should be achieved by their collaborative effort with Rubber Board and the Rubber-Research Institute. Heat resistance quality can be imparted to the threads by adjustment in compounding. Correct type of antioxidants and cure systems have to be used. The manufacturers should compare the quality of their produce with those of the imported latex threads. Only those who are const-

antly doing such cross verification can produce goods of quality. Even with the available machinery much better quality threads can be produced. Manufacturers also should enter into a dialogue with the important consumers of rubber threads and find out the essential service requirements in the threads required by them. There is a communication gap now between the two sectors. It is not advisable to install rubber thread machinery with huge capacity as it may throw out of business a number of small scale units. The existing units should try to improve and do better.

Foam rubber

There are 40 small manufacturers of foam rubber in the State. All are working at far below the installed capacity. The main problem of this industry is the restrictions imposed on production by excise regulations. The main raw material, concentrated latex is not available at steady and consistent prices. If the industry is to be modernised, equipments like continuous mixers should be used. This will increase production considerably. Existing small units may not be able to do this.

The extent of modernisation possible in the individual units can be ascertained only after a detailed study of the facilities in the units. Although there are 40 units in the State producing foam rubber, only two or three have taken licence from the BIS for marketing foam products with ISI mark. This itself shows the level of modernisation possible in other units. All assistances for getting BIS licence for the small units can be made available through the Rubber Board. Many agencies like Tourism

Department of State and Central Governments, Transport Corporations and Railways prefer to buy foam products having ISI mark. The units will have to build up necessary testing facilities for this. They should also get their personnel trained at the Rubber Board in various aspects of testing foam rubber.

Foot wear

In Kerala there are over 150 units engaged in production of footwear or soling material. There is considerable variation in quality of footwear produced by different units. Some of the units are able to sell their products without difficulty, while some others are finding it difficult to keep the units viable. The areas where modernisation is possible in footwear units are:

- in mixing of compounds,
- in testing and standardisation of the products and
- in diversifying the nature of footwear manufactured.

Mixing

Currently most of the units

are using mill mixing process for making the compounds. This is time-consuming and costly. Use of kneader type mixers are popular in some of the units outside the State and reports show that these are more efficient and can give compounds of consistent quality. Units which are establishing mixing facilities in different locations should as far as possible, mix and prepare the compounds using a suitable internal mixer or kneader. If the concept of mother unit for mixing compounds is popularised the footwear units can also buy compounds from such mother units and convert the compounds to products with incorporation of additives at pre-warming stage. This will help the small units in increasing their output substantially. For diversification in production of footwear, the existing units may have to buy some additional equipments. D. V. Machines available from Nova (Italy) or Desma (Germany) can be utilised by small scale units for producing a variety of footwears like Can-

vas shoes, sports shoes and leather shoes with rubber sole. The compounding for the different soles will be different. Information on this can be obtained from the consultancy division of the Rubber Board.

Rubber Bands:

This is an industry which has grown like mushrooms in the state. Almost half of the registered rubber goods manufacturing units are rubber based units and many of them are sick. It is felt that modernisation of this industry should be done with a view to improve its marketing. A workshop was held at the Rubber Board in 1986 to discuss the problems of the industry. The points emerged during discussions clearly showed the need to modernise the marketing techniques adopted by this industry. Majority of the small scale units are following unethical trading practices and as a result they have no bargaining capacity. The buyers from north Indian cities are able to dictate terms with the marginal industrialists and obtain goods at costs very often below the actual cost of production. The industrialists have no management expertise to assess their direct and indirect costs. The situation can change only if marketing capabilities of the numerous small scale units are improved.

If an attempt is made to modernise rubber band production using sophisticated equipments and high quality rubber, it may result in meeting the entire production by three or four major industrial units and the small scale/cottage industry's nature will be lost. But it is desirable to retain the small scale nature of this industry to maintain rural capital formation and employment opportunities. An agency for marketing the



Chappel Making



Various Rubber Goods are displayed in an International Exhibition

products of this small sector may be set up. There is good potential for export of this item to USA, Canada, Germany and Japan to whom Malaysia and Sri Lanka are the main suppliers now.

Moulded rubber goods:

Kerala has only very limited number of moulded goods manufacturing units. These can produce products like automobile bushes, oil seals, pharma-

ceutical closures, pipe seal rings etc. Almost all the units in the State are using compression moulding process. Transfer moulding process can improve substantially the product finish and reduce rejections.

Injection moulding techniques will improve quality and productivity still further. Winsor Company in Bombay can supply injection moulding machines. Modernisation is a continuous

process. There is scope for modernisation in all the industries.

It is desirable to link it up with quality circle operations. In fact modernisation should come from within. The persons intimately connected with day to day operations in the factory should give suggestions for improving production and quality.



DISTRIBUTION OF MANUFACTURERS ACCORDING TO THEIR TOTAL CONSUMPTION OF ALL KINDS OF RUBBER DURING 1987-'88

CONSUMPTION IN METRIC TONNES	Number of Manufacturers	CONSUMPTION			
		Natural Rubber	Synthetic Rubber	Reclaimed Rubber	Total
10 and below	2,296	9,275	2,374	1,110	12,759
Above 10 and upto and including 50	1,519	33,054	4,634	4,387	42,075
Above 50 and upto and including 100	309	19,519	5,659	4,098	29,276
Above 100 and upto and including 500	202	35,622	12,956	5,817	54,395
Above 500 and upto and including 1000	36	17,597	4,166	3,597	25,360
Above 1000	31	172,413	46,621	22,131	241,165
TOTAL	4,393	287,480	76,410	41,140	405 030