Rubber Goods Manufacturing Industry in Natural Rubber Producing Countries — Recent Developments

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■ Natural rubber accounts for almost thirty percent of elastomers used in the rubber industry today. Production of natural rubber is concentrated in three or four South-East Asian countries. Till recently these countries concentrated only on producing more natural rubber as per the demands in world rubber industry. But the position changed in the eighties. Some of the rubber producing countries found it essential to convert their raw materials to value added products and export to consuming centres. The manufacturers in developing countries also found it advantageous to tap the cheap labour and abundant availability of raw materials in rubber producing countries. Coupled with this favourable environment came the massive demand for latex based examination gloves in developed countries. The result was a remarkable growth in rubber goods manufacturing industry in natural rubber producing countries.

DEVELOPMENTS IN RUBBER INDUSTRY OF MALAYSIA

Malaysia has played a key role in the impressive growth of the world's rubber manufacturing industry by being a major supplier of quality natural rubber to the consuming industries. Rubber manufacturing activities started in Malaysia around 1932. There was no noticeable growth in rubber goods manufacturing activities in this country till 1970. Till then the objective of the manufacturing industry was only to produce essential products like tyres needed for local consumption. This position changed by the eighties and Malaysia is today the world's largest producer of examination gloves, latex thread and catheters. In 1985 the export earnings from rubber products in Malaysia was as low as 11 percent of that from raw natural rubber export. But by 1990 the value of product export rose to 55 percent of that for natural rubber export. Malaysian experience shows that they could make almost four times value addition on their primary produce by resorting to manufacturing activities.

The growth in rubber consumption in Malaysia between 1985 and 1990 was at an astonishingly high rate of 21.6 percent per annum. The growth in latex goods industry during this period was at the rate of 39 percent per year. Growth rate in different segments of Malaysian industry during the period 1985-90 is given in Table 1.

TABLE 1 AVERAGE ANNUAL GROWTH RATE BETWEEN 1985-90 IN RUBBER INDUSTRY IN MALAYSIA

Type of Industry	Annual Growth Rate/Average Percent
Latex Industry	39.0
Tyre	12.1
General Rubber Goods	9.4
Industrial Rubber Goods	17.5
Footwear	8.5

Malaysia is now world's largest user of natural rubber latex and accounts for 18.7 percent of world natural rubber latex consumption.

From a study of value of rubber goods it is seen that gloves as a group accounts for 63.3 percent of value of goods exported. Almost 79 percent of earnings in rubber goods units is through export of products. The USA is the main market for Malaysian rubber products. Malaysia has set a target of 300 000 tonne rubber consumption by 1995. So far the targets set for the industry were surpassed. Malaysia is now concentrating on enhancing export of tyres. The target set in this area is to triple the export earnings on tyres in the course of next three years. Table 2 gives the details of the growth of tyre and non-tyre sector in Malaysia.

The success of Malaysian rubber goods manufacturing industry is due to the sound government policies, effective technology supporting facilities and the full participation of various sectors of the industry.

DEVELOPMENTS IN INDONESIAN RUBBER INDUSTRY

Indonesia has shown remarkable growth in tyre industry and footwear manufacture. The export value of footwear from Indonesia has exceeded that of the tyre sector. Indonesian motor vehicle tyre industry consists of 13 separate enterprises with a total installed capacity of 11.8 million tyres for four wheeled vehicles and 10.1 million tyres for two wheelers per year. Export of motor vehicle tyres from Indonesia recorded a growth rate of 99.4 percent per year between

TABLE 2 GROWTH OF TYRE AND SELECTED NON-TYRE PRODUCTS IN MALAYSIA

Product	Year		Change Percentage
	1985	1990	
Tyre (all types '000 tonne)	3662	6764	86.7
Inner Tubes (all types 'ooo tonnes)	5948	12224	105.5
Rubber Gloves ('000 pairs)	255450	1796112	603.1
Catheters ('000 Nos.)	14242	50623	255.4
Rubber Footwear ('000 pairs)	19766	21632	9.4

1986 and 1989. Cycle tyres also recorded an impressive growth during the period and in 1989-90 the growth rate in export value of cycle tyres was 31 percent. Production and export of different types of tyres from Indonesia is given in Table 3.

TABLE 3 PRODUCTION AND EXPORT OF TYRES FROM INDONESIA

Tyre Type	Production ('000 units)	Export Value (US $ '000)
Four Wheelers	8204	10 288
Two Wheelers	6052	64 367
Bicycle Tyres	—	12 955
Inner Tubes	—	2 656

Footwear industry in Indonesia has shown maximum growth during the last 5 years. There are 270 companies in Indonesia engaged in footwear manufacture. The total installed capacity is 311 million pairs. The growth of footwear export was at an astonishing rate of 285 percent. The position of footwear export for two years is :

Year	Export Value (US $ '000)
1989	58 437
1990	225 483

The growth in export of industrial and general rubber goods in Indonesia is given in Table 4.

TABLE 4 INDONESIAN EXPORT OF INDUSTRIAL AND GENERAL RUBBER GOODS

Product	Value (US $ '000)
V Belts	2 666.0
conveyor and Transmission Belts	114.1
Pipes and Hoses	977.6
Other Automotive Goods	168.2
General Rubber Goods	5 934.9

The important latex products exported from Indonesia are examination gloves and surgical gloves. This country is importing both condoms and latex thread. Some companies are trying to establish units for manufacture of these products also in Indonesia. Total natural rubber consumption in Indonesia is only around 12 percent of their production.

DEVELOPMENT IN THAI RUBBER INDUSTRY

There are over 300 rubber goods manufacturing units in Thailand including four big tyre factories which produce a variety of tyres required both for domestic consumption and international market. Thailand has shown remarkable growth in rubber manufacturing activities during the last two years. Table 5 gives the consumption of rubber in different rubber products.

TABLE 5 CONSUMPTION OF RUBBER IN THAILAND (IN '000 TONNE)

Product	Year	
	1989	1990
Tyres	37.1	45.0
Tread Rubber	1.2	1.2
Vehicle Parts	2.3	3.3
Rubber Band	10.1	11.4
Shoe and Parts	7.0	9.5
Tube and Hose	0.6	5.2
Battery Box	0.6	0.5
Elastic Thread	4.0	4.8
Gloves	11.8	14.0
Foam Products	0.8	1.3
General Rubber Products	2.1	3.1

SRI LANKAN RUBBER INDUSTRY

Sri Lanka is consuming around 23 600 tonne of rubber annually for product manufacturing in the country. Most of the industrial units in the country are very small. There is only one tyre factory in Sri Lanka. There are five solid tyre manufacturing units and six glove units. The country has ambitious programmes to enhance rubber consumption to 70 000 tonne by 2000 AD.

RUBBER INDUSTRY IN INDIA

Indian rubber industry has a history of over seven decades. There are over 5 000 rubber goods manufacturing units in the country consuming over 500 000 tonne of rubber per year. Among rubber producing countries, India has the distinction of being the only country which consumes all the rubber produced by it. Table 6 gives the size distribution of manufacturing units in India.

TABLE 6 SIZE OF MANUFACTURING UNITS IN INDIA

Consumption in tonne/annum	No. of Units
10 tonne and below	2568
Between 10 and 50 tonne	1614
Between 50 and 100 tonne	349
Between 100 and 500 tonne	269
Between 500 and 1 000 tonne	36
Above 1 000 tonne	45

Although there are 5 000 units in the country nearly 45 percent of rubber consumed is through the thirty tyre factories. Most of the non-tyre units are small scale manufacturers. The industrial growth in the country was around 8 percent during the past few years although the position changed in 1991-92. consumption of rubber in India in different products is given in Table 7.

TABLE 7 CONSUMPTION OF RUBBER IN INDIA

Product	Consumption in tonnes	
	1990-91	1991-92
Automotive Tyres and Tubes	222 120	226 207
Cycle Tyres and Tubes	77 453	81 059
Camel back	34 352	35 517
Footwears	63 654	67 204
Belts and Hoses	36 387	38 029
Latex Foam	19 598	20 750
Dipped Goods	15 578	17 067
Others	37 879	39 515

Almost 45 percent of the rubber consumed in Indian rubber industry is in tyre sector. Cycle tyres is the next important product. Export of cycle tyres from India is fast picking up. Most of the other non-tyre products manufactured are used for domestic consumption. Export value of rubber products from India is given in Table 8.

The value of tyres exported from India has almost doubled by 1991-92 thereby indicating almost hundred percent growth. Similar results

are shown by some latex products and cycle tyres.

TABLE 8 EXPORT VALUE OF RUBBER PRODUCTS FROM INDIA

Product	Export Value 1990-91 (Rs million)
Automotive Tyres and Tubes	1795.0
Rubber Footwear	117.5
Belting	241.0
Cycle Tyres and Tubes	120.0
Hoses	77.0
Medical Products including Gloves	139.0
Cots and Aprons	11.0
Others	97.0
Total	2597.5

OTHER RUBBER PRODUCERS

The other major rubber producing countries are China, Vietnam, Nigeria, Ivory Coast and Liberia. China has a well developed rubber goods manufacturing industry and is an important exporter of examination gloves. Vietnam is slowly developing its vast damaged plantations and the manufacturing industry in that country is yet to make its impact in the international market.

CHALLENGES AHEAD

Unhealthy Competition

All natural rubber producing countries are now manufacturers of rubber products required in the international market. These are being sold to more or less the same users by different producers. This situation has resulted in unhealthy competition and the price realised for some products has become unremunerative. Examination glove manufacturing units in some countries had to be closed down because of this situation. The position can improve only if the producers in different countries enter into some kind of agreement in capacity utilisation and market exploitation. Some efforts in these lines are being taken by the Association of Natural Rubber Producing Countries (ANRPC).

Strict Quality Requirements of Consumers

Importing countries in the West have become highly quality conscious and some of the measures appear to be protectionist in nature. Products exported to the USA should meet FDA regulations — and those exported to Europe should conform to ISO 9000 systems of certification. Manufacturers in some of the producing countries have already risen to the occasion and strengthened their quality certification base. India has adopted the ISO 9000 series of standards as IS 14000 series of standards. The Bureau of Indian Standards (BIS) is also helping manufacturers in getting certification under IS 14000/ ISO 9000. The expertise available in this area with BIS can be shared by other rubber producing countries also. Very recently some reports of allergic effects of proteins present in natural rubber based products are finding place in specifications drafted by some countries. It is surprising to note that products which were successfully used for several decades with the proteins in them are suddenly becoming source for allergic reactions. But producers have to make very effort to supply products as per consumer expectations. When International Standards are evolved, the producing countries have to adhere to them. They should impress upon the standards body the producer capability. Thus the standards evolved should be a compromise of consumer requirement and producer capability. Very often these are finalised for ideal conditions of consumer requirements.

Need for Scientific Market Assessment

Rubber goods manufacturing industry is comparatively a new activity in many natural rubber producing countries. A study was recently conducted by the ANRPC to evolved strategies for modernising rubber based manufacturing industries in these countries. From the study it become clear that all rubber producing countries together account for only 12 percent of world natural rubber consumption although 85 percent of natural rubber is produced in their territory. So the manufacturers in these countries will have to compete with their counterparts in other areas for successful marketing operations. So, successful producing countries are always associating their manufacturing activities with major multinational product manufacturers. Such collaborations will ensure not only production of articles as per needs of users but also guaranteed market. Producing countries also will have to assess market requirements and changes occurring in markets at various intervals for making modifications in their production operations. Natural rubber producing countries other than India have no good market within their territory for the rubber products. Although free market economy will help all countries to produce goods and market anywhere, tariff protection and other trade barriers will exist at various consuming points in different countries. There should be a data bank giving details of trade regulations in different consuming countries.

Rubber industry in natural rubber producing countries has very bright future. Some of the industries in Taiwan and Korea are getting relocated to countries like Thailand, Indonesia and Malaysia. But these small countries were only exporters and had no good market for the products within their territory. The position is different for the major rubber product manufacturers in the USA, Europe and Japan. For them rubber product from other countries are not welcome materials. They cannot also stop their business as is being done by manufacturers in Taiwan or Korea. But the cost of manufacturer of products in developed countries is becoming prohibitively high. Table 9 shows the cost of tyre manufacture in the USA.

TABLE 9 COST OF TYRE MANUFACTURE IN THE USA (US $ PER TYRE)

Item	Car Tyre	Truck Tyre
Natural Rubber	0.9 (3.4%)	9.5 (6.1%)
Other Inputs	9.3	43.4
Energy	1.0	3.7
Labour	8.4	57.1
Capital Changes	6.9	41.4
Total	26.5	155.1

From the Table it is clear that the labour component in cost of production of a tyre in developed countries is several times the cost of rubber used in it. So the manufacturers in these countries are eager to shift their factories to low wage countries. This will be a slow process and the countries who move last in accepting industries thus getting shifted will be benefited. All

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QUALITY SYSTEMS CERTIFICATION

BIS has launched Quality Systems Certification Scheme against the IS 14000/ISO 9000 sreies of standards. There is increasing trend towards Quality Systems Certification the worldover and with the introduction of common European market, this is going to be an international requirement. The manufacturing activities in the rubber industry should be identified as one of such areas where quality systems certification can be introduced.

FUTURE AREAS OF WORK

Some of the important future areas of work are: single use surgical gloves, examination rubber gloves, cold polymerised acrylonitrile-butadiene rubber (NBR), nitrile rubber, rubber threads, X-ray rubber gloves, etc.

INTERNATIONAL LIAISON

At the international level, standardization in the field of rubber and rubber products is being carried out by technical committee ISO/TC 45 Rubber & Rubber Products and ISO/TC 157 Mechanical Contraceptives. India has been actively participating in the work of TC 45 and its various Subcommittees/Working Groups since its inception in 1947 with a view to keep abreast with technology developments taking place at international level. Indian standards have been harmonized with international standards by and large wherever applicable.

A one member BIS delegation attended the meeting of ISO TC 45 Rubber & Rubber Products held at Montreal during 26-31 October 1992, where India's views in most of the cases were agreed upon namely, rubber and plastic hoses; latex; certified reference materials; and hose testing policy. Hose testing policy had been clarified and interaction to work as closely as possible with CEN had been stressed.

CONCLUSION

Standardization is a scientific activity which at best may be described as an adaptive research. It basically comprises selection and fixing thereby establishing norms for products, processes, methods of test, definitions, codes of practice taking cognizance of current trade, manufacturing and testing practices. Standards take care of prevailing practices by stabilizing them at current attainable and acceptable levels and serve as a basis for future growth. Standards define optimum levels of quality in the interest of overall economy of resources and management. Standards are an effective management tool designed for progress.

From the foregoing it may be seen that formulation of national standards in the field of rubber and rubber products have played a predominant role by placing the industry and trade including exports on a sound scientific basis. Both producers and consumers are now becoming increasingly quality conscious and this has inculcated standardization and quality control and upgraded production manifolds in the field of rubber. ■■

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the rubber producing countries in South-East Asia are eager to welcome industries from the developed world and in that process the multi-national companies are able to extract attractive terms from the host countries. There are several areas where the rubber producing countries should evolved common strategies for healthy and viable growth of rubber industry in their area.

CONCLUSION

There is a need, on the part of natural rubber producing countries, to accelerate the pace of utilizing the wonder raw material, namely natural rubber, for the manufacture of value added rubber products for internal consumption as well as for exports. While aiming for exports it has to be well understood that goods for export must be produced with consistency in quality and in conformity with the international standards and specifications. It has to be borne in mind that exporting is not a casual business and that international markets are not places to get rid of occasional surplus. The enormous wealth of information available on rubber goods manufacture and marketing in different natural rubber producing countries can be pooled for mutual gains. The natural rubber industry had passed through troubles and struggles in the past but had always emerged successful and it will continue to overcome any challenge it may have to encounter through cooperation among the natural rubber producing countries. ■■