

## **FUTURE OF MALAYSIAN RUBBER PRODUCTS INDUSTRIES**

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### **Introduction**

Natural rubber (NR) was introduced in Malaysia in 1877 when 22 seedlings from a batch of 70,000 seedlings that Sir Henry Wickham collected from the Amazon jungle in 1876 were dispatched to Singapore Botanical Garden. The arrival of 22 seedlings in Singapore did not create the Malaysian plantations overnight. *Hevea* seedlings were initially planted in the Residency gardens at Kuala Kangsar where they were nurtured by the Resident, Hugh Low. The large scale planting of *Hevea* by the government was only started in 1888 when Henry Ridley was appointed Director of the Singapore Botanic Gardens.

The rubber industry in Malaysia has since evolved through the years and has transformed itself into a more integrated industry where the rapid developments of the mid- and downstream industries have made the industry a multi-billion ringgit one. This was vastly aided by the tremendous progress made in the R&D of rubber cultivation & harvesting as well as rubber processing. The invention of technically specified rubber (the SMR) in 1965 and the introduction of the three Industrial Master Plans, (IMP) (1986- 2020) gave greater impetus to the growth of the rubber processing and manufacturing sectors. Currently NR rubber industry is a 25 billion ringgit industry. Being a largest exporter of raw natural rubber (Standard Malaysian Rubber) in the 80's, Malaysia now becomes one of the biggest importer & consumer of raw rubber and a major exporter of rubber products.

### **Global Economic Outlook and its Implication on Elastomer Industry**

The demand for natural rubber is not expected to decrease. The growth of the automotive sector will be the driver of growth of the natural rubber industry. Between 2006/2007 China tyre production has increased by about 28.5% while the US tyre production has decreased by about 6.6%. The Global demand for NR has shifted from Europe and the US to Asia Pacific particularly China and India. China, with a huge population base and a rise in the middle class population who has a much greater purchasing power as well as impressive GDP growth is expected to contribute about 7-8% growth in elastomer consumption.

The consumption pattern of the NR is predicted to increase gradually. By 2020 the world NR consumption is predicted to around 12.49 million metric ton (MMT) while the forecast production is about 8.94 MMT, a shortfall of about 3.55MMT. The price of NR is also expected to increase due to a possible limited supply. This scenario has resulted with a renewed interest in the plantation industry in ASEAN and the West African nations

### **Competitiveness of the Malaysian Rubber Products Industry**

The rubber products manufacturing industry has achieved remarkable progress with the launching of the IMPs in terms of rubber consumption and export earnings. In the last seventeen years (1990-2007) total rubber consumed by the industry increased by 209% from 187 592 tonnes to 579 248 tonnes, of which NR was the main material used. Malaysia is now the fifth largest consumer of NR in the world after China, the USA, India and Japan and also the biggest consumer of NR latex. Malaysia is also the world's largest producer of latex gloves, catheters and latex thread.

In tandem with the increase in rubber consumption, the corresponding increase in the volume and value of exported rubber products has also grown significantly. Export earnings of the industry expanded by 438.1% from RM 1.87 billion in 1990 to RM 10.09 billion in 2007. It is significant to note that the bulk of the earnings were attributed to the latex-based sub-sector, in particular gloves.

The country has also remained as a major rubber trader and exporter of quality rubber. The imports of NR had increased from 548,234 metric tonnes in 2000 to 605,000 metric tonnes in 2007. Resulting from the processors' activities, the country remains as a major global player in the export of quality and competitively priced rubber.

### **Policy Trust - Environment**

The rising tide of environmental consciousness has put rubber cultivation and processing in favourable light. Atmospheric pollution from the release of 'greenhouse gases', especially carbon dioxide, from the combustion of fossil fuels and the depletion of forests, especially the tropical rain forests, have been viewed with great concern. Studies have shown that rubber trees convert carbon dioxide at a rate comparable to if not better than that of the natural forest. The potential of natural rubber for sequestering the carbon from the atmosphere to support the ecosystem is widely recognised and adopted for establishing new forests or for reforestation purposes. Besides being environmentally friendly, natural rubber trees are a renewable resource where rubberwood can be extracted on a shorter cycle without endangering the environment.

In the processing sector, effort are bring made to turn the processing factory as a 'green' factory. New grade of rubber that enable the whole tyre products to be made from more 97% a non petroleum based material are being processed with less energy consumption. The discharged from the factory has been clean via bio processing up to a level where the water is drinkable. The new generation factory comes with a 'zero discharged' facilities, making it environmentally friendly. The 'greener' aspect of natural rubber will be the attraction of the future.

## **Technical & Industrial Support**

Most rubber product manufacturing industries in Malaysia can be categorized as SME's . The industry lack the facilities and expertise in certain aspect of rubber science and technology. Hence Malaysian Rubber Board, the government agency that overseas and regulate the orderly development of the industry has to provide technical and industrial support services to enable the industry to be more competitive.

### **a) Technical services**

The Malaysian Rubber Board provides a wide range of testing services for the rubber industry. To ensure the reliability and integrity of the test results, five laboratories have obtained accreditation to ISO/IEC 17025 under the governance of the Department of Standards Malaysia. They are the Physical Testing Laboratory (PTL), The Tyre Testing laboratory (TTL) , the Standard Malaysian Rubber Control Laboratory (SCL), the Pollution Control Laboratory (PCL) and the Material Characterisation Unit (MCU). Besides Malaysian standards, standards such as ASTM and ISO are also adopted and added to the scope of accreditation.

An accreditation to ISO 17025 has also been obtained for the calibration laboratory. The laboratory specializes in providing calibration services in the field of mechanical testing, with special emphasis on rubber and rubber product testing equipment, including on-site calibration.

The ISO accreditation of the laboratories will enable the local rubber product manufacturing in Malaysia to have access to testing services that is recognized world wide. Double testing will be will be eliminated and the cost of production should be able to be reduced.

### **b) Industrial Support**

Malaysian Rubber Board's technical advisory programme for improving productivity, efficiency and quality of rubber products manufacturing in Malaysia (Project A5) was initiated 2004. To date, the activities have included visiting 43 companies, where work was done with technical and production staff to review their manufacturing facilities and to address 'waste', 'not right first time' and housekeeping aspects as they arose in addition to improving quality productivity and efficiency levels and finding, whenever possible, cost savings.

Experienced scientists with industry expertise from the RRIM Rubber Technology Centre Malaysia and Tun Abdul Razak Research Centre, UK, all of whom have a 'hands on' approach providing real solutions to real problems, conduct these visits.

The approach has been to leave recommendations categorised as short term (ie. no/low cost to implement), medium-term (low/medium-cost to implement) and long-term (higher cost to implement).

The successes enjoyed so far by the companies involved in this project have been productivity and efficiency gains of up to 100 per cent, waster reductions of up to 20 per cent, operating cost reductions of up to 50 per cent, and mixed compound cost reductions of up to RM0.60/kg in addition to improvements in quality levels. The program has given benefit to participating factories.

### **International Linkages**

At the international level, jointly with the Federation of the Rubber Trade Associations of Malaysia (FRTAM), the MRE is a member of the ASEAN Rubber Business Council (ARBC). The MRE is currently appointed as the permanent Secretariat of the ARBC. The membership of the ARBC is open to organizations within the ASEAN region whose members are engaged in the production or marketing of natural rubber. MRE is also a member of the Management Committee of the International Rubber Association (IRA), which is a permanent international agency responsible for international commercial matters relating to natural rubber. The post of the Chairman of the IRA is currently held by the Director General MRB cum Chairman MRE. The Management Committee comprises of member Associations from both the producing and consuming countries. The IRA formulates International Contracts for natural rubber and ensures healthy trade practices among members of the trading fraternity.

Malaysia current holds the chairmanship and the secretariats for the ISO TC 45 on rubber and rubber products. This ISO technical committee discusses and deliberated on the standard to be published by ISO and it is a useful post to hold to enable us to be aware of the current development in the standardization matters.

Malaysia also chairs the ASEAN rubber based product working group. The group coordinate and deliberate on the ASEAN harmonized standardized. These ASEAN harmonized will form the basis for the forthcoming regulatory requirement within the proposed ASEAN union.

### **Concluding Remarks**

The rubber industry can no longer be viewed from the narrow perspective of a mere supplier of raw rubber. Developments in the last decade give a clear indication of the

vast potentials for the industry when it is developed in a more integrated manner. The competitiveness of the rubber industry should be examined as an integrated entity spanning the entire industry from rubber cultivation to the downstream value-added industries. Whilst rubber cultivation per se does not generate attractive returns to investment, rubber products manufacturing and rubberwood industries offer lucrative returns. The main competitive edge of Malaysia's integrated rubber industry vis-a-vis other producing countries is the comprehensive R&D and technical back-up as well as the several incentives offered by the government to all sectors of the industry. This has largely enhanced Malaysia's productivity in terms of output per unit of land, labour and capital.

The Malaysian rubber product industry has been dominated by the latex product sector because of their competitiveness. The general and industrial rubber sector is growing at a slower rate and is less competitive. To sustain and expand the current growth of the industry, proper strategies have to be put in place. The edge that natural rubber, particularly in the aspect of environment should be usefully utilized to ensure a comfortable future for the industry. Natural rubber is a green material and it is a material for the current era. It is also a strategic material. The Malaysian Rubber industry is here to stay and prosper.

AO/LGM/Monday, November 17, 2008