Value addition to natural rubber needed

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The world natural rubber products manufacturing industry is a sizeable one with long history, diverse interests and in the more recent past, it has been through some turbulent waters (Daily News - Sri Lanka, 10 March 2010). However, it largely remains a poor member of the family dominated by the end-product giant, the tyre industry.

The Sri Lankan rubber industry, both upstream and downstream, has to survive and prosper in the era of rapid globalization, with trade barriers continuingly being dismantled, formation of regional trading blocs and bilateral and multi-lateral Free Trade Agreements, the emergence of lower-cost rubber producers and rubber products manufacturers and the threat of substitutes.

It is therefore useful to take stock of the recent developments, both domestic and global, in order to infuse professionalism into our value-addition business.

Malaysia

During the period of the Third Industrial Master Plan (IMP3), 2006 -2020, Malaysia's position as the leading producer of latex products was expected to be enhanced by measures in expanding export markets and encouraging outward investments. Production of industrial and general rubber products will also be increased, by diversifying the product range.

In addition, measures are being taken to upgrade the technology, improve the skills and develop regional centres for testing and certification of rubber products. Under the IMP3, export value for rubber products in 2020 is projected to be RM25.3 billion; 150 percent higher than the current level of RM 10.09 billion.

Gloves, rubber threads and catheters will continue to be major products manufactured in the latex products sub- sector. Application of latex in high-end pharmaceuticals medical products, such as coronary catheters used in surgeries and specialty gloves used in clean rooms are estimated to expand.

The USA is the major market, where these catheters are used for angiography, electro-physiology, angioplasty, atherectomy and ultrasound procedures in the hearts of peripheral veins and arteries.

China

The emergence of China as a significant consumer and at the same time as a potential manufacturer of rubber products is an undisputable fact.

China has overtaken the US and consumes more than 1 million tons of rubber and produces more than 600,000 tons of NR. China's well developed machinery industry, with its advanced overseas technology and innovations and low-cost workforce, is luring more foreign investments and joint ventures to the country which is gradually emerging as the centre of global rubber machinery.

The competitive pricing of China's rubber machinery is changing the traditional pattern and pricing system of the world rubber industry. The world's top ten tyre manufacturers use the machinery made in China. Almost all major rubber companies are relocating in China to serve the world's largest market.

Sri Lanka is yet to integrate with this most promising market.

India

One cannot overlook the potential of India as the newly emerging market and source of competition as well.

Efforts should not be spared in determining the needs of these emerging markets as far as rubber and rubber products are concerned and appropriate trade and business arrangements need to be initiated with these countries. Accounting for about 75 percent of the total market, Asia is the biggest NRL consuming region with market dominated by a single end-product; Gloves.

The consumption is highly focused around dipped goods, which reflects their comparative advantage in labour-intensive industries and industrial policy supporting the gloves industry. The trend is to shift manufacturing operations to Asia by major

manufacturing companies. Two reasons are: coming closer to the markets and becoming cost competitive. However, this is for bulkier medium technology products. Sophisticated high value added products that require continuous innovation based on R&D will be made in the West. Resource and Energy efficient, environmentally friendly manufacturing will be the West's competitive advantage.

Industry out look

Biotechnology: Looking to the future, strategic research is on-going in several areas to value-add to rubber growing. The rubber tree is a versatile factory of diverse products.

Whereas rubber and rubber wood are of course familiar harvests of the rubber tree, Hevea brasiliensis has yet more to offer.

Somewhat more obscure, but of great economic potential are exciting products such as Vitamin E from the latex and an anti-cancer extract from the rubber tree.

With genetic engineering, the product range from the rubber tree factory can even be extended to foreign proteins of commercial value, such as pharmaceutical proteins. It is expected that these products would be commercialized successfully in the future.

Experts project an impending shortage of rubber wood supply. One way to resolve this problem is to establish rubber forest plantations. In Malaysia, rubber wood furniture export has exceeded RM 5 billion (Rs 130 billion), approaching RM 18 billion by 2020.

The Malaysian government has responded to the call of the private sector to provide incentives, including soft loans for the establishment of rubber forest plantation. This is in addition to the earlier fiscal incentives of pioneer status and investment tax allowances.

Sri Lanka continues to make brush handles and low value MDF from rubber wood.

Global Automotive Industry

In today's borderless world, the global automotive industry faces many serious challenges in terms of financial, geographical and regulatory requirements.

In order to remain profitable it is inevitable that only some companies will survive despite over 50 million cars being produced every year.

With typical profit of 2-3 percent and average plant utilization of 70 percent, the industry is in dire need of cost reduction and restructuring to cope with manufacturing diversity and technical innovation.

The industry also faces regulatory challenges to meet emissions target, end-of-life vehicle disposal and stringent safety requirements.

The ever better-informed and more demanding customers are increasingly putting pressure on the industry to compete with inevitable further reduction in profitability.

Tehnologies

Companies makes use of six sigma methodology and lean manufacturing approaches with the key aims to increase customer satisfaction, reduce cost, improve profit margins and improve its competitive position.

The rigorous application of six -sigma, helps to produce significant bottom-line results, provides better products and services for customers, develops and empowers employees, and sustains gains which have been achieved.

Lean manufacturing is characterized by a continuous flow of work with minimum inventories, small batch production capability synchronized to shipping schedules, defect prevention by building quality into work processes, implantation of real time quality feed back procedures, production planning that is driven by customer demand, team-based multi-skilled operators empowered to make decisions which can improve work operations.

The message is clear that zero defect is what customers expect to receive.

Latex products

NR latex remains the main raw material used in latex products, capturing a share of 63 percent compared to PVC (15 percent) and nitrile (7.5 percent). Despite the latex protein allergy concern, NR latex will likely continue to be prominently viable, but measures need to be taken to ensure low protein content.

Technological advances including low protein NR lattices and improved products will continue to push the NR latex products to greater height.

Medical gloves remain the main highlight product, and the most notable issue is the changing trend from powdered to low protein powder-free gloves both in the US and Europe.

Regulatory restrictions in these countries remain a great challenge to be addressed. Synthetic products are foreseen to match those of NR latex, and improve their eventual penetration into the market share.

Some niche attributes of NR latex will continue to be the pillar of strength for this material, among which are, its green image, sustainability, as a renewable resource, and its biodegradability.

However, allergy issues, improved technologies of alternatives and litigation impact will prove to be a strong challenge in future.

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The synthetic products are obviously undermined by the health hazards of their monomers, and by-products from incineration, and in the case of vinyl products, the carcinogenic plasticizer.

Barrier integrity of NRL product is the primary advocate for its strength in medical devices, a characteristic that is yet to be equally matched by their synthetic counterparts.

Recycled rubber

Each day we hear of new technical advances in the tyre and automotive industry. In 1999, major tyre manufacturers like Michelin, Continental and Goodyear all announced programs or breakthroughs for using recycled rubber in new tyres. Keeping up with these developments is a formidable challenge for ground rubber producers.

The European Union demands that all end-of-life tyre arisings be reused, recycled or recovered for the simple reason that scrap tyre has a value, which should be exploited and not wasted. There are other benefits. Their annual CO2 emissions will drop by a massive 3000 tonnes a year, and environmental damage being much reduced.

Synthetic rubber

The Goodyear Tyre and Rubber Company is looking to "tap" into several new proprietary synthetic rubber products it has developed that could help the company reduce its natural rubber dependency by as much as 15 percent over the next few years.

Frequent natural rubber price volatility, has created a sense of urgency for their research and development activities.

Among all of the world's tyre and rubber product producers, Goodyear has long been considered a leader in synthetic rubber development capability.

The years 2009 and early 2010, have seen world natural rubber prices climb steadily as demand has increased. Most industry observers expect the prices to continue upward through 2010.

Tyres and sensors

Sensors for continuously monitoring vehicle tyre pressure and temperature have provided opportunities driven by vital driver safety concerns, as well as by fuel economy and environmental issues.

Opportunities in the U.S. for sensors that provide real-time information about vehicle tyre pressure and temperature have been spurred by the recall of 6.5 million defective tyres by Firestone tyres, a few years ago.

Sourced from:
http://www.therubbereconomist.com/The_Rubber_Economist/News/Entries/2010/3/10_Value_addition_to_natural_rubber_needed.html