by Shashi Singh,
All India Rubber Industries Association

Rising demand for eco-friendly products fuels surging global demand for natural rubber: Exploring the factors and diverse applications in this versatile industry

The rising global interest in environmental awareness has sparked a remarkable surge in demand for sustainable products, leading to an increase in demand for natural rubber (NR). This trend has specifically impacted the natural rubber market, driven by consumer preference for eco-friendly options. As president of the All India Rubber Industries Association (AIRIA), I wish to shed light on the factors driving this demand for natural rubber and its applications within the rubber industry.

Since the late 19th century, rubber has been playing a crucial role in people's daily lives because of its versatility and usefulness. From car tires and medical gloves to household products, rubber's uses remain unparalleled. While India faces a shortage in the production of natural rubber, the growing demand has led to a considerable rise in the adoption of its alternate option: synthetic rubber.

The year 2022 witnessed a notable uptick in global natural rubber (NR) consumption, reaching 14.306 million metric tons (MT), a discernible 1.7% increase from the preceding year's 14.069 million MT. The surge in demand was particularly pronounced in major consumer nations, encompassing economic powerhouses such as China, India, USA, Thailand, Japan and Indonesia, all registering an uptrend in NR consumption compared to the previous year. In contrast, Malaysia and Brazil experienced a decline in consumption during this period. A closer look at India reveals a fascinating aspect: Despite its

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growing economic stature, the per capita consumption of rubber remains considerably low at 1.47 kg. This figure stands in stark contrast to developed nations like Germany and the U.S., where per capita consumption is at 9.30 kg and 8.07 kg, respectively, as well as the global average of 3.73 kg. This intriguing consumption pattern prompts a deeper exploration of the factors influencing NR demand and the dynamics at play in the global rubber market.

The application of rubber has been pivotal in almost every sector, starting from the automotive industry. Increasing global vehicle production fuels a rising demand for rubber tires and components. India is poised to become a global automobile hub, with the significant presence of almost all major automobile companies. In the construction sector, rubber finds application in sealing and insulation, and as an additive in materials like asphalt for road construction. Consumer goods production relies heavily on rubber, contributing to essential items such as footwear, gloves and toys, driving an increasing demand. The healthcare sector extensively utilizes rubber in the manufacturing of medical gloves, tubing, syringes and various medical devices. Industrial machinery relies on rubber parts for shock absorption, vibration, reduction and sealing, crucial for the smooth functioning of equipment. In electronics, rubber serves the purpose of insulation and as a protective coating for cables and wires. Agriculture benefits from rubber in the production of equipment like hoses, belts and seals used in farming machinery. The textile industry incorporates rubber for waterproofing, elasticity and grip enhancement. In mining, conveyor belts, predominantly heavy duty, are a staple for transporting materials like ore, stone, tailings, gravel and aggregate. The transport sector, encompassing railways, roads, water and air, utilizes various rubber production such as railcar suspension components, pump seals, valve body seals and metal-to-rubber bonded assemblies. Lastly, the defense sector leverages rubber's unique properties in the aerospace/military industry in custom molded parts such as eye shields, control surfaces, bushings and vibration isolation mounts, rubber mats and pads, grips, covers, armrests, jackets, mounts, line clamp cushions, etc.

A growing number of sectors are working to accommodate consumer demand for eco-friendly products and practices. Natural rubber has environmental advantages, since it is a renewable resource derived from rubber trees. The biodegradability of natural rubber aligns with sustainability objectives by reducing non-biodegradable waste. The production method has a smaller carbon footprint than synthetic rubber, since it is based on tree cultivation rather than petrochemicals. Rubber plantations not only support sustainable agriculture, but also foster biodiversity and contribute to local economies. The production involves fewer synthetic chemicals, leading to reduced environmental impact. Increasing consumer awareness and regulatory support for eco-friendly materials contribute to the growing preference for products made from natural rubber.

There is growing recognition within the rubber industry of

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the vital role that recycling plays in enhancing the sustainability and longevity of rubber products. Recycling rubber has emerged as a top priority for major players in the industry, driven by a dual commitment to environmental responsibility and resource optimization. This approach serves as an effective means to extend the life cycle of rubber products, diverting them from becoming waste and contributing to environmental conservation. The utilization of recycled rubber represents a noteworthy shift towards sustainable practices in various sectors. Applications for recycled rubber in hospitals, playgrounds, landscaping and sports surfaces have embraced recycled rubber in innovative ways, presenting a compelling alternative to conventional new materials. This creative application of recycled rubber not only demonstrates a commitment to eco-friendly solutions, but also showcases the versatility of rubber as a material that can be repurposed for diverse applications.

Data from the International Rubber Study Group (IRSG) reveal a notable 4.80% increase in NR production in the year 2022, marking a substantial rise from the 13.808 million MT recorded in 2021 to 14.477 million MT. This upturn in production is a significant indicator of the industry's dynamism and its response to the evolving global demand for rubber. Delving deeper into the geographical breakdown, the top producing nations, including Cote d'Ivoire, India, Indonesia, Vietnam and Cambodia, experienced growth in NR production during 2022. This growth signifies the crucial role played by these nations in contributing to the overall surge in global production.

According to a recent estimate, India's gross domestic product (GDP) is rising at an average rate of 6% to 7%, thanks to massive government investment in infrastructure and other vital areas, bringing the country to 5th place in the global rankings. The government is also actively monitoring rubber plantations through subsidies, and has recently announced a subsidy of 708 crores for the period 2024-2026. This is a testament to the government's dedication to fostering a conducive environment for the growth of rubber plantations. This financial support not only incentivizes rubber cultivation, but also underscores the government's recognition of the industry's role in bolstering economic activities, generating employment and contributing to foreign exchange earnings. The strategic alignment between economic growth, infrastructure development and support for key sectors like rubber underscores a comprehensive approach to sustainable development, positioning India as a key player in the global economic landscape. The government's proactive measures are favorable for the natural rubber industry, ensuring its resilience and capacity to meet the rising global demand, while contributing significantly to the nation's economic prosperity.

In essence, the global demand for natural rubber is intricately tied to environmental consciousness and sustainability goals. With a growing emphasis on eco-friendly practices and products, the natural rubber industry stands at the forefront, offering versatile solutions, while addressing challenges

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through innovation, recycling and government support.

As the elected president of AIRIA for the year 2023-24, I play a pivotal role in steering the association forward. Drawing upon a wealth of experience, having served in the rubber industry for two decades and holding diverse positions within AIRIA, I am committed to building upon the foundation laid by my predecessors. Acknowledging their invaluable contributions, I aim to bring a blend of continuity and innovation to the association's initiatives, shaping its future endeavors.

Established in 1945, the All India Rubber Industries Association (AIRIA) boasts its headquarters in Mumbai, while extending its presence through regional offices in Kolkata, Delhi and Chennai. Furthermore, it has chapter offices in Pune and Ahmedabad, strategically positioning itself across key industrial hubs. With a membership of around 1,300, AIRIA plays a pivotal role in uniting and representing the rubber industry. The association actively promotes knowledge exchange and industry growth through a diverse range of events, including seminars, factory visits, international conferences, workshops and the renowned India Rubber Expo. These platforms not only serve to enhance the expertise of its members, but also provide a vital stage for interaction with international markets. AIRIA's multifaceted approach underscores its commitment to fostering a dynamic and globally connected rubber industry in India.