

Letters to the Editor

Sustainability: Thinking Wide



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My first feelings of the theme “Sustainability in the rubber industry”, were exciting and somewhat intriguing. Much has been conceived, conceptualized, discussed deliberated, implemented and various disciplines have emerged on sustainability, which are sometimes, overwhelming to a professional of the older generation. A wide array of theories, disciplines, and technologies have come up during the last 30 years in this area, reminiscing of the eras of 5S and ISO and Lean Management in the early 90s, which took the business and industrial community by storm. I must honestly admit that my experience, in the tyre industry and its sustainability in areas such as material development, (including Nanomaterials), green design and processing technologies, greener technologies and breakthroughs in EVs, is minimal and hence I prefer to leave it to the professionals, and endeavor to share some of my thoughts in this topic of contemporary interest. Another reason for my excitement is the status of affairs in the economic downturn in Sri Lanka and the hardships which we as Sri Lankans are personally experiencing at the moment. Indeed, we are not alone in this predicament and practically every nation is going through unprecedented difficulties, although Sri Lanka is one of the worst affected. Lack of focus, foresight and the inability to comprehend hindsight and not implementing and monitoring practical solutions and corruption are the reasons for not being in a sustainable position for any country, and this applies equally well to business organizations as well.

A little over two years ago I penned an article in Tyre Trends on “Sustainability or Vulnerability” at the peak period of the Covid-19 pandemic. The focus of the article was on the relevance of integrating traditional wisdom with modern strategies for sustainability, especially in countries like India and Sri Lanka, which possess a vast extent of collective consciousness accumulated for nearly 4000 + years, and the vulnerability of over-dependence on Western Models based on consumerism.

Milton Friedman, the American economist and statistician who received the Nobel Prize in 1976 for his research on consumerism argued in his famous essay that the social responsibility of business is to increase its profits for its shareholders and concluded profit maximization is justified for the risks taken by the investor. This statement made fifty years ago remains polarizing in today’s context; we cannot find fault with entrepreneurs who adopt a strategy of maximizing the use of resources for the maximization of business profits, since after all profit is not such a dirty word as first Prime minister of India, Shree Jawaharlal Nehru once stated. Profit motivation and maximization have been the driving force throughout the four industrial revolutions, resulting in enhancing the quality of life in most countries of the world; especially in what are called the developed countries.

Our environment is the source of all raw materials, utilities and energy. In a scenario of utilizing and maximizing natural resources, it was only later that the deleterious effects of over-exploiting the environment began to manifest and attract attention. The ISO definition of Environment encompasses “*surroundings in which an organization operates, including air, land, water, natural resources, flora, fauna, humans and their interactions*”. Rachel Carson in her famous book, “Silent

Spring” in 1962, specifically explained how, the indiscriminate use of agricultural chemicals, pesticides and other modern chemicals polluted our streams, damaged bird and animal populations, and caused severe medical problems for humans.

E. F. Schumacher in his visionary book, “Small is Beautiful” (1973), argued that capitalism brought higher living standards, at the cost of deteriorating culture. His belief that natural resources should be conserved led him to conclude that bigness, in particular, large industries and cities, would lead to the depletion of those natural resources. He suggested that the less developed countries, should not imitate Western technological development based on the trickle-down approach, but should adopt an alternative path of development, that is less expensive and thus, within the reach of the ordinary people, but which is more productive. Schumacher was largely influenced by his experience in India and Myanmar. He identified Gandhi as the people’s economist, whose economic thinking was compatible with spirituality as opposed to materialism. He also considered the importance of Buddhist Economics as a spiritual and philosophical approach to the study of economics as it examines the psychology of the human mind and the emotions that direct economic activity, by adopting “Middle Path” without swinging into extremes.

The official definition of Sustainable Development was developed for the first time in the Brundtland Report, also called “Our Common Future” published by the World Commission of Economic Development (WCED), in 1987. It is defined as development that meets the needs of the present generation without compromising the ability of the future generations to meet their own needs. The three main pillars of sustainable development are economic growth, environmental protection and social equality, popularly known as the Triple Bottom Line. Finally, the Earth Summit of 1992, in Rio, Brazil came up with Agenda 21, which was endorsed by the world leaders as the plan of action to guarantee life of the next millennium.

Since then, several Conferences, Forums, Protocols and Plans have materialized over the past 30 years, and in 2015, the United Nations adopted Agenda 2030, which is a shared blue print for sustainability, covering the four Ps (Peace, Prosperity, People and the Planet), consisting of 17 Sustainable Development Goals, (SDG). The success level of achieving these goals is mostly a matter of conjecture and your guess is as good as mine!

Now coming to areas more familiar and closer to us in Asia, a distinct feature that can be seen is that sustainability practices are not alien to countries like India, China, the Middle East and Sri Lanka. These are the countries where the great world religions and philosophies, Hinduism, Jainism, Buddhism, Confucianism, Taoism, Judaism, Islam and Zoroastrianism originated. In the cultures and civilizations nourished by these religions, living in harmony with Nature and the environment was an integral aspect of the people and their lives. I wish to give below the English translation of a short verse or a nursery rhyme, which we used to hear and sing in Sri Lanka in my very young days:

***“In this orange tree, there are many ripe oranges,
And the branches hanging down,
Two oranges are enough for me and my sister,
We are not naughty children who pick all the oranges”***

The entire concept of sustainable use of resources is embedded in this simple verse. Similarly, one can find many verses in the Vedas and Hinduism that venerate nature and the environment made up of the four great elements, earth, water, air and fire, signifying solidity, cohesion and flow, expandability and energy.

The Buddha in one of his discourses, to a businessman of his time advised that one’s income should be divided in to four portions. The first for consumption, two parts for re-investment and one part to be saved for an emergency. This is much in contrast to the modern ways of consumerism that we are used to. Similarly, four basic needs, namely clothing, food, dwelling and medicines have been identified for the sustenance of the monastic community, by the Buddha. This was almost 2500 years

before Maslow came up with the hierarchy of needs. The yellow or brown colored robe worn by the Buddhist monks consists of three components, namely the upper robe, the middle robe of shorter length and the under cloth. The practice of the monks was to use the upper robe as the middle and underclothes, once each component gets worn off and use them as the foot rags and cleaning up and dusting. Finally, the unusable robes were grinded and used for dyeing the new robes. Isn't that a clear example of Circular Economy?

In our ancient village homes, there were several practical examples of the 3Rs of sustainability which the modern exponents have proliferated to 7 or 8Rs). None of the usable items, especially food was allowed to go waste. Two good examples were the use of Jack Fruit (*Artocarpus heterophyllus*), called the second rice and Breadfruit (*Artocarpus altilis*). The fruit and the seeds made tasty curries, while other edible parts were sundried and kept in the kitchen over the fire place (dehydration and desiccation). to be used for emergencies. The other parts were fed to the cattle which provided milk and cow dung used as manure. Similarly, the village women used to put one handful of rice to a clay pot before cooking. The stock thus collected was used to serve on a rainy day. I am sure many such sustainable practices can be found in the Indian sub-continent too.

Reverting to the ancient history, of 3rd century BC, when Venerable Mahinda, a son of the great emperor Asoka visited Sri Lanka with the Buddhist doctrine, the first advice he gave to the ruling king who was on a hunting trip was; *'Oh great king, the birds of the air and the beasts have as equal right to live and move about any part of the land as thou. The land belongs to the people and all living beings; though art only the guardian of it.* This demonstrates the importance of leadership. Similarly, in the 12th Century, King Parakramabahu the First, who was famous for expanding the country's irrigation system said *"Let not a drop of rain, flow in the ocean without being made useful for the benefit of all earth"*. Being an agro-based economy in the older days, the ancients were prudent to build a sustainable eco-system by integrating, the irrigation tanks (man-made), canals, agro land (paddy fields and local produce), vegetation and the forests, through harmonious co-existence of the population, while simultaneously enabling ethical and spiritual way of lifestyles through the Buddhist temples and institutions. I presume this is the **"inclusive growth"** which the OECD defined in 2015, as **"Economic growth that creates opportunities for all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary terms, fairly across society"**

It can thus be seen that sustainability through judicious resource consumption was given a high priority by our ancestors. As in most Asian countries, colonial domination has caused the erosion of these values. Notwithstanding this, it is appropriate that we rediscover these and integrate same with the ongoing sustainability programmes which are more technology-based, and reinventing the wheel can have its own advantages.

I would now turn to some of my experiences and observations on sustainability, particularly in the rubber industry which would be useful for the managerial and other personnel who implement and maintain sustainability programmes. We are fortunate to have a naturally sustainable, raw material in Natural Rubber (NR). Compared to other NR producing countries, Sri Lanka's yield per hectare is one of the lowest. Similarly, the main method of reuse of rubber wood happens to be as firewood, for domestic consumption and the bio-mass boilers. Value addition by use in furniture and other products such as rubber seed oil is also low. During the early 70s, the then government policy was local substitution. It was a great period of innovation. I was involved with the Rubber Research Institute of Sri Lanka, in 1979 in manufacturing and using cyclized rubber as a partial replacement for high styrene resin in black and dark-colored shoe soling, on a commercial scale. Some very important research was carried out in using cashew nutshell extracts in developing an antioxidant, and using coconut oil derivatives to partially replace stearic acid as an activator. However, all these projects died a natural death, with the introduction of free economy in the late 70s, reminiscing how monkeys do house planning in the rainy season. Yet some important research is progressing in using paddy husk ash as a source of Nano silica and a few other initiatives.

The rubber product manufacturing and tyre industry in Sri Lanka has achieved varying levels of success through the management of energy, water, waste, emissions, chemicals, noise and land by way of greening the environment.

Vigilance of the managers and the floor level operators in identifying waste is a key attribute to be developed. **Waste is considered as a valuable resource but, at the wrong place, wrong time and wrong shape or form.** Unrecoverable chemical spillage during weighing of chemicals seen in most factories, and leaking steam pipes or hissing compressed air lines, dripping water taps, and excessive use of water in cleaning empty latex compound containers are common observations during audits. We are conveniently accustomed to handling and treating waste as an end-of-pipe treatment instead of reducing or eliminating waste at source, and the Cleaner Production methodologies, (UNDP concept) is adopted by many rubber companies with varying success rates. It is customary that some companies go for Cleaner Production methodologies purely to win awards and generate sustainability reports in their Annual Reports. Some large companies go for GHG emission verification and certification and Green Reporting while millions are spent by the public for the treatment of their product related illnesses. I suppose that this is a world trend. Sustainability should ultimately be related to the health and welfare of the people.

Establishing comfortable reject levels and process losses in some companies serve as shock absorbers for the managers to be complacent in their comfort zones. The quality assurance and process control functions can play a significant role in reducing the overall material and energy consumption.

The Seven Wastes of Toyota, namely, waiting, transporting, processing, inventory, motion, defects, rework, and overproduction serve as valuable starting points for sustainable practices., and the 8th waste, **Unused Talent is** applicable to all areas of management. A sustainability focused mind set is important for people, organizations and countries collectively. This will start with the identification of our physical, physiological, psychological, social cultural and spiritual needs and as Mahatma Gandhi once said, **“Earth provides enough to satisfy every man’s needs, but not everyman’s greed”**

It is just a myth that sustainability is costly; a society must seek to create a healthy balance between its environmental, social and economic dimensions in order to prosper. We need to understand that suitability is actually about building a community and sustaining a quality way of life.

Finally, Sustainability in nutshell can be described by the following famous Buddhist stanza from the Dhammapadha,

<i>“Health is the best profit</i>	<i>Physical health</i>
<i>Happiness is the best wealth</i>	<i>Mental health</i>
<i>Confidence is the best relation</i>	<i>Social health</i>
<i>Nirvana is the everlasting comfort”</i>	<i>Spiritual heal</i>

It is interesting to note that the World Health Organization has adopted the first three aspects in defining “health”, and in the long run sustainability is maintaining a healthy society.