



BUSINESS LANKA

Sri Lankan Pride Across The World

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Green Construction

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EDITORIAL

This timely edition of the Business Lanka Magazine delves into the subject matter that is the construction industry of Sri Lanka, focusing primarily on Green Construction through views on 'Green Labels' from the Green Building Council, insights into the Quality Certifications of the Construction Industry, a broader understanding of Architecture in the Construction Industry, an article on Red Clay tiles as a natural resource-driven product and an article on the idea of Increasing Profitability utilizing Lean Techniques in the Construction Sector by Arosha Jayasundera (Consultant, South Asia Lean Construction Institute, Ceylon Institute of Builders).

We also cover important points within the topic via an Interview with the Ambassador of Netherlands for Sri Lanka; Joanne Doornewaard discussing the important points about the Dutch Cooperation in Sri Lanka's reconciliation phase and how the Netherlands stands ready to help through capacity building and knowledge sharing.

The magazine also accesses our future in Green Construction and the export of Construction Services via an Industry overview along with a variety of Industry related insights that aim to provide us with a better understanding of the present as well as how to move forward.

We highlight and discuss these topics and ideas gathered from a multitude of informative sources to shed light on this industry regarding its current situation as well as its potential for growth to aim for a better and more productive Construction Industry in Sri Lanka.

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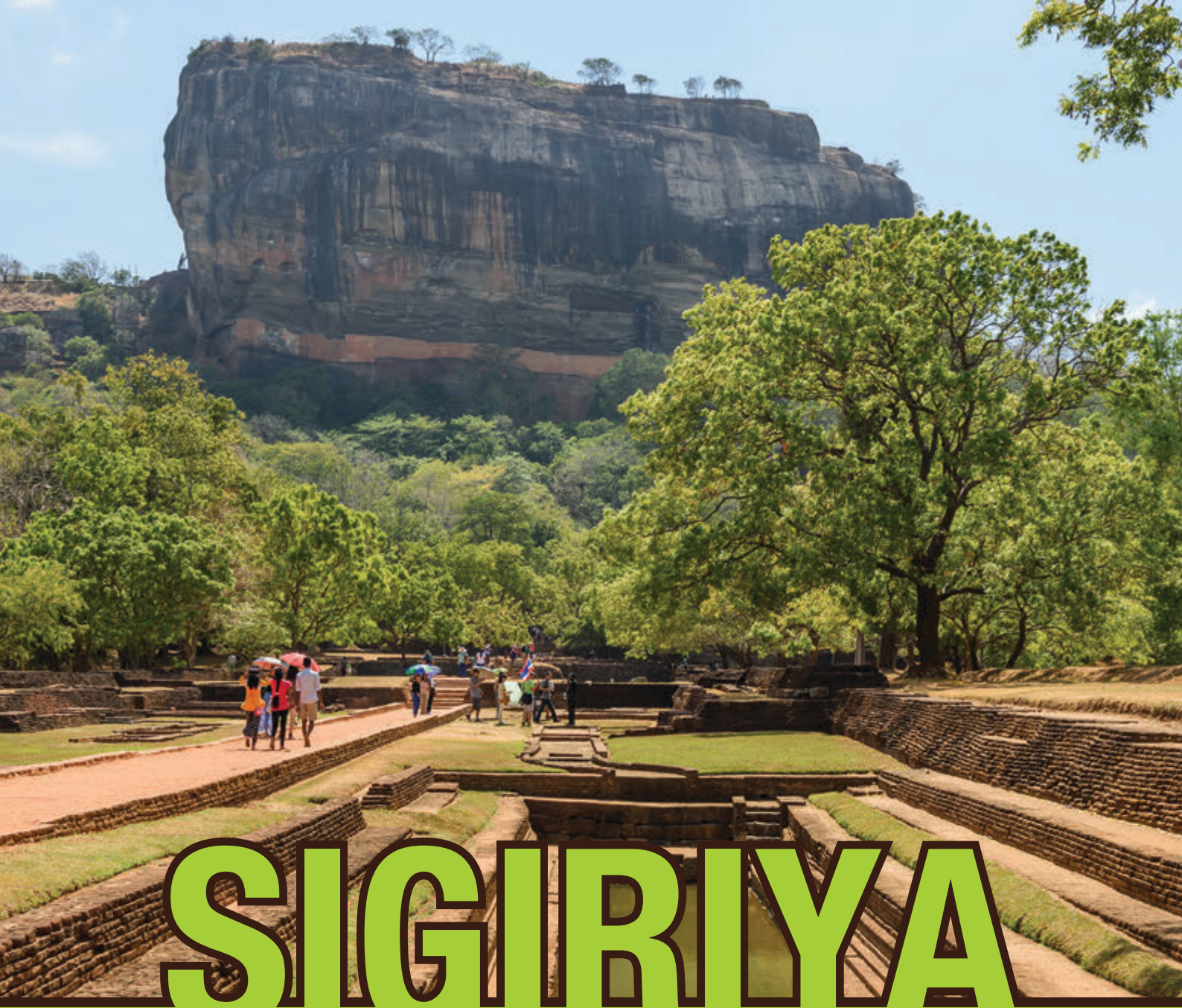
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Sigiriya is an iconic location in Sri Lanka and is also an important part of Sri Lankan history. Roughly translated to Lion Rock, Sigiriya is a rock fortress located near Dambulla in the Matale District. This ancient fortress is of high historical and archaeological significance. The rock is around 200m or 660ft high. The ancient Sri Lankan chronicle Chulavamsa notes that the site was a personal selection of King Kasyapa (477 – 495 CE) that was to be established as his capital.

Sigiriya is long thought to be of significant importance for its planning. The fortress is considered the most important urban planning site in the first millennium. The plan features highly elaborate and imaginative elements that make it stand out among other fortresses in its time. The design of Sigiriya incorporated the concepts of symmetry and asymmetry to intentionally combine the man-made geometrical and natural elements of its surroundings. There lies a park for the Royals on the west side of the park which incorporates a symmetrical plan inclusive of water retaining structures and highly advanced hydraulic systems, some of which work even today.



GREEN CONSTRUCTION AND THE EXPORT OF CONSTRUCTION SERVICES

Gaining momentum from the rapid development emerging in Asia and Africa, Sri Lanka's promising construction exports sector, is a sphere that has been growing from strength to strength in recent years. Over the last few years, the construction market in Sri Lanka has grown more modestly as the country looks to shift toward a services-led economy and more sustainable construction policies. Sri Lanka's construction service exports stands out not only for its expertise, but also its cost effectiveness. While the sector has developed in leaps and bounds in terms of technology and skills development, it can be said that the expertise in this field has always flown in the island, passing on from one generation to another.



Within the construction umbrella, the country is popular for its solutions in mini hydro projects, a unique area where the country stands tall. Sri Lanka's expertise is also sought after for hydraulic related construction, architecture, quantity surveying, Mechanic, Electrical and Plumbing services (PEB), civil engineering, general construction and green construction. In a bid to stay abreast with the ever evolving operative environment, Sri Lanka's construction sector has pumped in added efforts by way of technological knowhow and skills development to cater to its regional peers in this category via exports. The country has also embarked on a number of international projects together with countries such as Japan and China, allowing for exposure to global expertise, thus facilitating knowledge transfer.

Looking at potential markets, Sri Lanka is eyeing countries such as East African, Kenya, Uganda, Nepal and Cambodia to export its construction services.

With the foundation for the uplifting of this sector having been laid, the government has been taking additional efforts to exert a further push. Plans are afoot to expand investments in developing the skills of construction workers so they can be deployed at international project sites.

While challenges remain in exporting skills to markets that avail the service of Sri Lanka, the government has expressed that it looks to engage in conversations with partnering countries in relaxing laws pertaining to construction labour exports on a project basis.

In line with the government's determination in making Sri Lanka a service led economy, the Export Development Board (EDB), the apex organization for the promotion and development of exports, together with key stakeholders, is on the active lookout for potential markets that will help make construction services a key revenue earner to the national economy.

Meanwhile, green construction, an upcoming concept to the global construction sector itself, is an area that is booming by the day. Green construction essentially refers to both, a structure and the using of processes that are environmentally responsible and resource-efficient throughout a building's life-cycle: from designing, construction, operation, maintenance, renovation, and demolition.

With economic development agendas of nations across the world incorporating sustainability as a factor, green construction is just about the next big thing. While the concept of building a structure to complement its surrounding environment is not entirely new, there has been a sharp increase in the demand for green buildings in recent years.

The construction sector accounts for a large percentage of the world's total energy consumption and green house gas emissions. An effective and intelligent method of ensuring sustainable development is through the green building concept. "Green Building" concept is a practice of creating structures and using processes that are environmentally responsible and resource-efficient through the building life cycle.

A green building is a structure that is designed, built, renovated, operated or reused in an ecological and resource-efficient manner. Green buildings are designed to meet certain objectives such as protecting occupant health; improving employee productivity; using energy, water and other resources more efficiently; or reducing the overall impact to the environment.

Implementing the green building concept can result in reduction of carbon emissions by 35%, water usage by 40%, energy usage by 50% and solid waste by 70%.

The benefits of green building are the reduction in energy consumption, reduction in the destruction of natural

resources, reduction in water consumption, limited waste generation, increased user productivity and corporate image enhancement.

When planning to construct any type of building, the site should be selected after taking into consideration the conservation of local vegetation, wildlife, natural water resources etc while the landscaping and exterior design should be done to ensure more shaded areas, the light trespassing can be eliminated and local plants can be grown.

natural light and lessen the need of electric lighting during the day.

In a green building, occupants shall feel as if they are in a natural environment. Interior and exterior designs shall go hand in hand by blending natural and artificial lighting.

A comfortable atmosphere at workstations improves staff attendance and increases productivity. In an air-conditioned environment, a green building shall be specially equipped to ensure indoor air quality necessary for



The green building design should not disrupt natural water flow. Waste water from sources such as dish washing or washing machines can be used for subsurface irrigation or treated for non-potable purposes e.g. flush toilets and wash cars.

Green architecture also seeks to reduce waste of energy, water and materials used during construction. A well designed building will help reduce the amount of waste generated by the occupants as well, by providing them with on-site solutions such as composite bins to reduce matter going to landfills.

Natural light is harvested in intermediate floors to minimize electricity usage. In addition, via an effective window placement (day lighting) is used to provide more

a healthy atmosphere. Green buildings use products that are non-toxic, reusable, and recyclable wherever possible. Materials with higher recycled content should be selected in order to reduce the embodied energy of the buildings, thereby decreasing the environmental impact of the extraction and processing of energy extensive materials. Statistics have also shown that green buildings reduce 30-40% in operational costs.



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ARCHITECTURE IN THE CONSTRUCTION INDUSTRY

Architecture is a subject or word that is almost synonymous in effect with construction, however, it stands apart for a very different purpose. Its importance in the construction industry is prevalent, more internationally, even though that is something that may change with time, where we have to look into our past for inspiration. Thanks must first be given to Archt. D.H. Wijewardene, The President of the Sri Lanka Association of Architects who helped with key insights and understanding relevant to the subject for this article.



The word architecture originating from the Latin word *architectura* is considered to be the process as well as the final result of designing, planning and constructing a building or a structure. In an expanded form it's the design work of an architect, through the macro to the micro-level, giving professional services in the design and construction of buildings or environments utilizing a solid understanding or knowledge of art, technology, science and humanity. In the words of Mr. Wijewardene, it can be in the simplest form stated as the design and construction of a building that offers an identity to its location or environment along with an atmosphere that adds value or improves upon the purpose of its existence.

A key example internationally when talking about the definition of architecture and its importance are the Petronas Twin Towers in Malaysia,

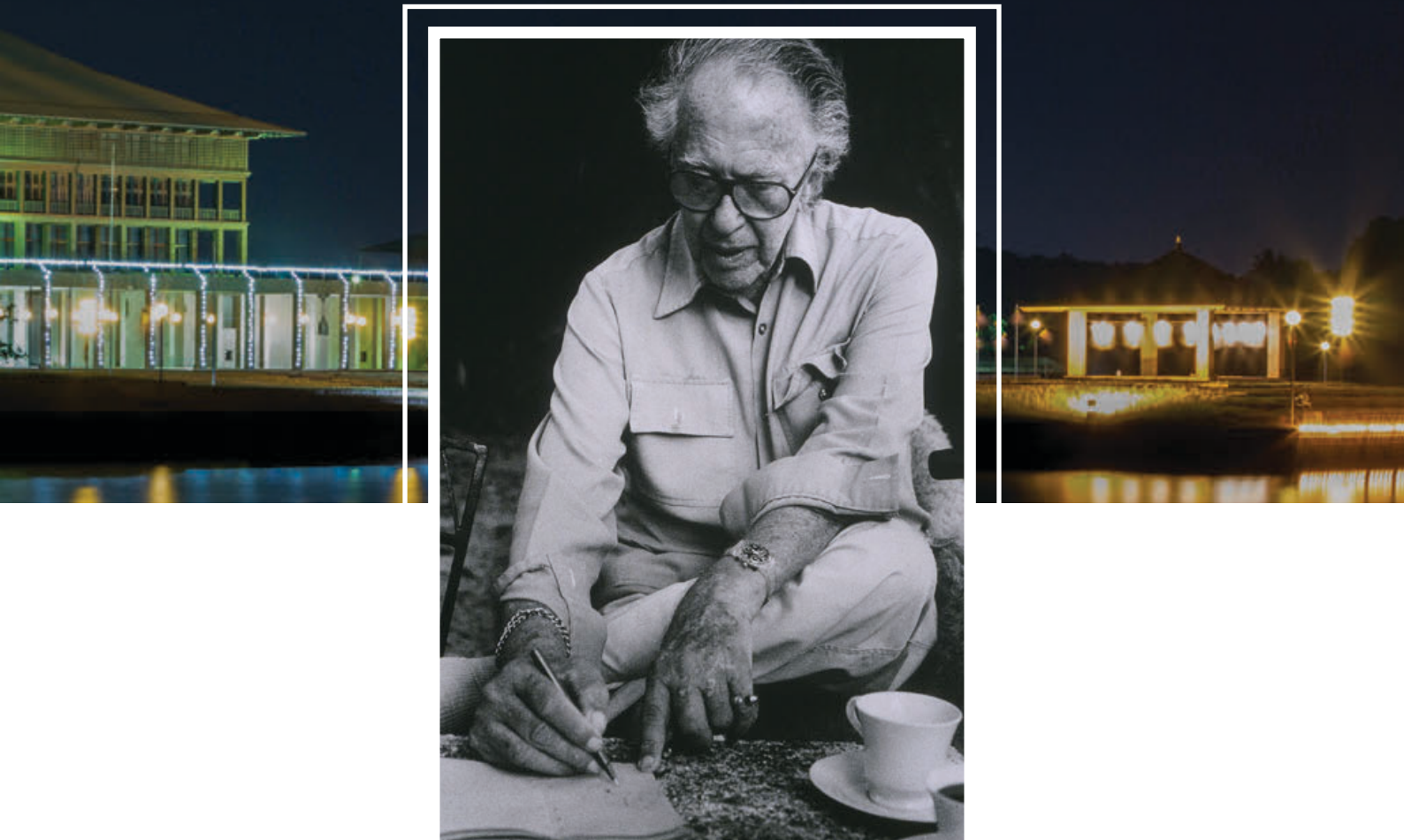
which held the record for the world's tallest building from 1998 to 2004 and are the center pieces or landmarks of Kuala Lumpur, being featured in almost every place that mentions the highlights of Malaysia. Designed by an Argentinian architect named Cesar Pelli, the project began in 1992 with it being opened in 1999. The building's design and style show a glass and steel facade that resemble motifs in Islamic Art, which was a key reflection of the country's religion.

Through the evolution of the practices and theories in design and construction, the world was introduced to Green/Sustainable

architecture, which is essentially the practice of designing with a conscious approach towards ecological and energy conservation to ensure that the decisions and actions we make today do not inhibit or negate the opportunities for our future generations.

Architecture within Sri Lanka has evolved through the passage of time, where it boasts a plethora of rich varieties in both its architectural styles and forms. The biggest influence from a cultural perspective towards the design language within these structures has been Buddhism, which displays key features of simplicity, minimalism, and serenity since its introduction to the island from the 3rd Century onwards.

A significant insight into how the architecture and construction industry in Sri Lanka has evolved can be witnessed through our ancient constructions such as cave temples, dagabas, stupas and how their essence has translated through to the colonial buildings and today's modern designs.



A noted and well-known name in Sri Lanka's rich heritage is Geoffrey Bawa, a Sri Lankan force who is considered to be the biggest influencer in a subject known as 'tropical modernism'. Bawa first having been educated in Sri Lanka and following his higher studies in London, has had an impact or mark on Sri Lankan architecture like no other. His work can be seen across the world, having designed in many countries like India, Indonesia, Mauritius, Pakistan, Singapore and Fiji. The biggest pieces of his architecture in our country that left exemplary strides are the Parliament building as well as the Kandalama Hotel. Bawa takes great inspiration from our roots within the nation, the cultural and religious aspects of it and relates this sense of peaceful serenity to these buildings, all the while being modern and relevant even today. Mr. Wijewardene notes the importance of Bawa's usage of local materials and elements in his designs such as terracotta tiles, cement walls, Calicut roofs and Sri Lankan timber doors which served a great deal in keeping an essence of locality to his designs as well as utilizing the country's own resources.



Green/Sustainable architecture has seen a significant demand within these last few years, which is a positive step in the right direction for us as a nation as well as a species. A prime example for this is the NSBM Green University Town in Homagama, South Asia's first green university that has sustainability at its core.

Cinnamon Bey in Beruwela too deserves a spotlight in its pledge to be green. This was the first Sri Lankan hotel to earn itself a LEED Gold ranking all the way back in 2014. Utilizing energy efficient lighting, thoroughly recycled water for its irrigation and cistern tanks and many other incorporations. A statement by Cinnamon Bey in achievement of the award received by LEED states that the hotel has made 32% savings in its utility costs and that it was able to direct 70% of its waste from landfills to various recycling plants within the country during its construction, in addition to 65% less usage of water today in comparison to regular buildings. Cinnamon Bey also employ's people from the local community in nearby villages to fully maximize its

efforts in sustainability, making its efforts in tourism beneficial to the locals.

Another important construction is the Brandix Eco Center in Seeduwa, which has seen a recognition in a Platinum status handed out by LEED. It was also awarded at the Global Energy Awards in 2009 as the National Winner for Sri Lanka. Through a thorough 2.5 million dollar reconstruction project towards energy management, the company has managed to decrease its carbon footprint by an incredible 77%. Further data shows a reduction in sulfur dioxide by 71%, a reduction in energy usage by 41%, a reduction in potable water usage by 70% and a reduction in carbon dioxide emissions by 80%. Further taking sustainability into account it has also introduced highly efficient LED lighting into its premises, utilizes rain water harvesting and begun using electric vehicles for some of its factory's transportation requirements.

The Architectural Association of Sri Lanka has taken strides in its awareness campaigns and has

initiated educational programs and workshops along with exhibitions to further instill the future of architecture amongst its peers.

When looking at the future of architecture in Sri Lanka Mr.Wijewardene brings to light some of the opportunities we have at present, such as the raw talent we have in our designers. He believes that a simple look into our past which showcases our country's identity in its construction and how that symbolism incorporated with modern principles can be utilized in further improving the architecture of today. Sri Lanka in that regard has the potential for a greater and more significant presence in the future within this industry, especially in areas of urban developments and city planning, taking cues from countries like Singapore and the like. However viewed, Sri Lanka has seen rapid evolution in its architecture and construction and thus, it is necessary for us to shape this path towards a greener, well built and organized industry through a process of learning, implementing and innovating.



DUTCH ASSISTANCE IN SMALL WAYS WHICH GOES A LONG WAY

JOANNE DOORNEWAARD
DUTCH AMBASSADOR



The Ambassador for the Kingdom of the Netherlands, Joanne Doornewaard speaks exclusively to Business Lanka Magazine about the **Dutch cooperation in Sri Lanka's reconciliation phase** and how the Netherlands stands ready to help through capacity building and knowledge sharing.

Driven by knowledge and innovation, the Netherlands, a small country with a big presence, has fast become the gateway to Europe.

BRIMMING WITH POTENTIAL

"The Netherlands sees a lot of potential in our relationship with Sri Lanka to make our bilateral economic relations even stronger. We can see that Sri Lanka is opening itself up to the world. Even though Sri Lanka is small in size, as a country you are open to the world to promote trade. We think that the current climate is more favourable for Foreign Direct Investment. Sri Lanka has regained the preferential GSP+ status in the EU as of mid-May this year. This means that Sri Lanka can now export products to the EU without any taxes. This will help to strengthen trade relations between Europe and Sri Lanka.

And if Sri Lankan companies want to export to Europe, the Netherlands is a very logical place to use as a port of entry. It is considered the gateway to Europe with both the port of Rotterdam and Amsterdam-Schiphol airport. We have a highly sophisticated logistics sector and distribution network, so goods can be transported from the Netherlands into Europe and to the rest of the world without a hassle or delay."

CREATING CONNECTIONS

“ We view the government's initiative to set policies towards a dynamic modern economy in the future, as described in Vision 2025, as commendable. It is important to have consistency in your policies if you want foreign investors to step forward with their money and invest in your economy.

We are particularly interested in Sri Lanka's agricultural policy, as it aims to increase production and become more efficient. “I think we have a lot to offer to Sri Lanka: latest technologies and many training possibilities where we also focus on sustainability. Sri Lanka is now looking to be self-sufficient in the dairy industry. With the Netherlands being the second largest world exporter of agricultural goods, it's very logical that we work together.

We see a lot of potential in the tourism sector as well. The number of tourists from the Netherlands visiting Sri Lanka has increased by 31% between 2012 and 2016. We expect that number to increase because as of the 1st of November there will be direct flights between Amsterdam and Colombo, 3 times a week. This is not only good news for tourists but also an interesting option for Sri Lankan business travellers who want to fly to the West. From Schiphol Airport you can fly directly to more than 300 worldwide destinations, offered by 108 airlines.”

EXCHANGING IDEAS

“The Netherlands has a lot to share with Sri Lanka. Our expertise in water management and flood control is something we share all over the world, especially in these times of weather extremes linked to climate change. If you look at sustainability there are lessons that we have learned that we could share with Sri Lanka, for instance in the agro business we make use of innovative technologies with regard to pest control and waste management. But there are things that we can learn from Sri Lanka as well. So I think its mutually beneficial for both countries to strengthen the existing relationship.”

EXPLORING OPPORTUNITIES

“Products related to coconut have the potential to make an impact in the Dutch market especially with coconut fiber being used as substrate in our horticultural sector. There is also interest for cooperation in the horticultural sector. At the moment the Netherlands imports decorative leaves from Sri Lanka, used for flower arrangements. Dutch bulbs like lilies are grown here for cutflower production. Another product that I think has full potential is the tourism sector considering the unique products Sri Lanka can offer like Ayurveda and kite surfing, which Dutch tourists will love to explore and experience.”

SUSTAINABLE CONSTRUCTION

“I think there is a need for planning when it comes to construction of buildings in the country. It is important that you prevent the whole coastal line from being obstructed by high-rise buildings. Sri Lanka's unique identity is based on the intimate personal vibe it resonates, so it is vital that you decide which areas will have high rise buildings, which areas should not go higher than a coconut tree and which areas would be green zones. When you have all these high buildings everywhere you could destroy the natural beauty of the country. You need to have spatial planning to guide development for the future, these lessons we learnt as a country which is small and populated.

In order to support Sri Lanka with regard to construction, we have initiated a program connected to Megapolis development whereby we provide assistance in helping Sri Lanka to integrate the country's cultural heritage when planning and developing cities.

We also have government to government programs with Megapolis with a view to encourage Public Private Partnership. The PPPs will focus on developing the internal waterways with the goal of creating a ferry service, as a possible solution to alleviate rush hour traffic issues.”

MISSIONS TO DEVELOP DIVERSE SECTORS

“Sri Lanka being a middle income country means that we have less instruments available focused on financial support. But we have instruments for trade missions and capacity building. This year we had a water management mission going to the Netherlands, and in two weeks time another dairy mission where 20 companies will be going to get an in-depth understanding of the latest technology available which will lead the way for business partnerships. Dairy, poultry and horticulture are among the most promising sectors where we can add value to Sri Lanka.

Our interest right now is to support the Dutch interests that come to Sri Lanka in the hope of forging partnerships. As a member of the European Union we are also part of this large scale program to develop Sri Lanka's national export strategy.”



ENGAGING DUTCH ENTREPRENEURS IN SRI LANKA

“We have identified certain sectors that are promising for Dutch businesses to involve themselves here in Sri Lanka which include the infrastructure/service sector, water management, and the agricultural sector, focusing on poultry and dairy farming and horticulture.

Cultural heritage is also an important aspect in our bilateral relations as we share 150 years of history together. We are also looking at opportunities in the heritage tourism sector because this might attract more tourists to this beautiful country. We are aware of how much Dutch tourists love visiting Sri Lanka to immerse themselves in the country's cultural heritage which is a big part of the attraction towards the country, so we have a program that creates awareness about cultural heritage where it to makes these old monuments sustainable and financially viable.

With regard to the dairy industry we have an instrument called ‘Partners in Business’. Through this program businesses in the Netherlands show interest in long-term corporation in Sri Lanka which is supported by the Dutch government's involvement by way of financial support. This initiative goes beyond selling cows but more on the lines of the transfer of knowledge and training farmers. So there is a whole group of companies that are interested in taking this initiative forward for Sri Lanka and that's why these missions continue to take place back and forth.

The IT sector is another area being explored by Dutch entrepreneurs. We have Dutch companies that are very successful in Sri Lanka, because they have some intelligent locals employed for them. Three years ago, a Dutch company started here with five people and now they have expanded to over a 140 employees. These companies are into E-Commerce and go to the extent of providing training and internships to entice young blood into the industry.

People want to invest in Sri Lanka, so it would be helpful if there was less bureaucracy and red tape, that impedes potential investors from establishing connections with Sri Lanka. There needs to be a one stop shop to streamline the process, but I understand that this government is working on that.”

A WORLD OF EXPERTISE THROUGH PUM

“Another instrument that we use to support trade with Sri Lanka is the PUM-Netherlands Senior experts program which promotes entrepreneurship and sustainable economic growth. Through this program, senior managers/experts can travel all over the world on the invitation of a country or a company that has a specific need that they would like to meet in their business. We have a data base of thousands of those senior experts and we look specifically at what knowledge is needed. The expert with the specific skills then comes over for about two weeks to share the expertise for free. Last year we had more than 50 PUM missions in Sri Lanka and this year we expect an increase in the number of missions because the PUM programme is also working with the EDB and the Ministry of Primary Industries to create awareness about the program. This instrument is a really important one as it is specifically targeted towards SME's.”

LIFE IN THE ISLE

“I've been here now for 2 years. I arrived in 2015 and I must say it is a pleasure living and working in Sri Lanka. The people are very kind. I love the food. Your country is green, and has everything; the mountains, the beaches, wildlife and a whole load of culture. I haven't seen everything yet, but I intend to see as much as possible while I'm here.”



Sanken Construction (Pvt) Ltd. *sky's the limit*

A JOURNEY OF STRENGTH, STABILITY AND EXCELLENCE.

Post-War Sri Lanka's sky lines are being redefined in ways that our ancestors in generations past had never foreseen or anticipated. As a company that has grown up with previous generations, Sanken Construction (Pvt) Ltd has joined the ranks of the giants of the construction industry and played a key-role in revolutionizing the way Sri Lankans looked at buildings and the construction industry at large.

**SANKEN IS A
HOUSEHOLD NAME IN
SRI LANKA;
ACKNOWLEDGED AS A
COMPANY WITH
INTEGRITY AND THE
NUMEROUS AWARDS
AND ACCOLADES UNDER
ITS BELT ALLUDE TO THE
COMPANY'S
COMMITMENT TO
EXCELLENCE.**

The milestones of Sanken's history can be presented in dry facts: the company came to life when Mitsui Construction Company Japan commenced its operations in Sri Lanka in the year 1977; Mitsui Construction Company Lanka (Pvt) Ltd was incorporated in 1984 to carry out civil construction work; the The foreign Investment Advisory Council (FIAC) extended its authorization to include the hiring/leasing of industrial equipment in 1985; the company changed its name to Sanken Lanka (Pvt) Ltd in 1988 and the same year saw the FIAC granting approval for the company to carry out overseas construction work, to employ relevant staff, and to cover

the construction of middle and upper class housing and commercial complexes; 1991 came with an ISO certification and approval to sell Ready-mix concrete; 2003 heralded the merger of Mitsui Construction Company with Sumitomo Corporation of Japan and 85% of the ownership belonged to Sri Lanka; the company rebranded itself as Sanken Construction (Pvt) Ltd in 2011 and was granted an ICTAD C1 Grade. The following years saw the company carving out even more milestones in its history.

What facts cannot unravel is Sanken's dedication to become a company designed for the future, focusing upon performance; its consistency, persistence in pursuing innovative strategies to benchmark customer service that goes beyond boundaries; and its commitment to the Sri Lankan community.

The success of the company lies behind creating a team that amalgamates the talents of highly professional individuals. Sanken Construction is home to a number of professional overachievers. Commitment towards punctual project delivery, commitment for the client's project budget, determination to meet customer expectations and high quality standard products have paved the way for the company to become one of the leading revenue makers in the Sri Lankan construction industry.

The company has been involved in several prominent construction projects in the country and is renowned for their commitment to quality. Spearheading the company, at its helm is Major (Eng.) Ranjith Gunatilleke- a member of the Institute of Civil Engineers, London and a member of the IESL who has held a number of prestigious positions. He served as the Chairman of the Major Construction Association for three years and served in the Director Board of ACTA. Eng. Gunatilleke is also the President of the Chamber of Construction Industry. He joined Mitsui Construction while serving in the Sri Lankan Army Engineers (V) and has grown with the company.

Sri Lankan people have grown accustomed to observing the name of

Sanken in tandem with construction projects that are carried throughout the country. From high rise buildings to commercial complexes, to hospitals, hotels and apartments, Sanken has been behind the construction of numerous recognizable landmarks throughout the years.



On 320

Cinnamon Red Hotel in Colombo 03, Iconic in Rajagiriya, Empire Towers in Colombo 02, The Emperor Apartment Building in Colombo 03 and On 320 Residential Apartment in Colombo 02 attest to Sanken's triumph when it comes to the construction of high rise buildings. Sanken has demonstrated its versatility when it comes to construction of landmark buildings such as the House of Fashions commercial complex in Colombo 08, the Auditor General's Department in Battaramulla, the Curb Front of Bandaranayake International Airport at Katunayake, the Institute of Chartered Accountants building in Colombo 07, which are only a portion of its completed commercial and government projects.



Cinnamon Red Hotel

The Radiation Treatment Centre for the Thellipalai Base Hospital in Jaffna, and the Cancer Radiation Treatment Center in Colombo 02- are the completed construction projects for the health care sector. The Kingsbury Hotel in Colombo 01, Mahagedara Heritage at Beruwala, refurbishment of Hilton Colombo, construction of the Pasikudah Beach Hotel are the completed construction projects for the tourism and hospitality sector. The company has completed Trillium Residencies in Colombo 08, Thulasi Mahal in Jaffna, and Hedges Court Residencies at Colombo 10 as apartment construction projects.



Auditor General's Department



Multi Storied Office Complex including Council Chamber for the Western Province – Provincial Council at Battaramulla

While these projects are of days past, Sanken has a staggering number of on-going projects lined up in its calendar, particularly the Capital Twin Peaks Residential Development project for Capital Developers (Pvt) Ltd., a subsidiary company of Sanken; the proposed Asiri Hospital Kandy; the Colombo City Center; the civil and structural works to the proposed Grand Beach Hotel, Negombo; the majority of the state university hostels; the construction of the District Secretariat Building Complex in Narahenpita; civil and plumbing works for the proposed Orion Towers phase I development; the proposed Dynasty Residential Apartment in Kandy; Urban Regeneration project in Colombo (a low cost housing project); proposed Union Place Apartment Complex in Colombo 02; the proposed building for the Faculty of Medicine – University of Colombo; Construction of an Office Building Complex in Colombo 02; Thirukkivil Source Improvement and augmentation of Pottuvil Treatment Plant and the construction of the Chirutheevu Destination Hotel in the Chirutheevu Island in Jaffna.



The trust that Sanken's clients place on the company is justified, as evidenced by the triumphs the company has celebrated throughout its operation. The year 2016 closed with the company receiving the Engineering Excellence Award from the Institute of Engineers, Sri Lanka (IESL) and the CIOB Green Builder Certification, which is supported and accredited by the Building and Construction Authority of Singapore and endorsed by the Ministry of Construction & Housing and the Ministry of Mahaweli Development & Environment.

The building rating system evaluates a building for its environmental impact and performance under the assessment criterias of Energy Efficiency, Water Efficiency, Environmental Protection, Indoor Environmental Quality and Other Green Features and Innovation.

The company possess the ISO 9001:2015 QMS, ISO 14001:2015 EMS and OHSAS 18001:2007 for complying with International Safety Regulations on a consistent basis for increased site safety.

The company was upgraded to the CS2 category which is the highest grade awarded by the Construction Industry Development Authority (CIDA) Sri Lanka.

In addition, over the years, Sanken has received many awards for construction sector exports, numerous National Business Excellence Awards, the ICTAD Award for Construction Excellence, the NCASL Construction Excellence Award, the National Export Award and the National Productivity Award.

Further to civil engineering constructions and supply of Ready-mix concrete, Sanken has expanded its services to include property development, hire of scaffolding material, hire or lease of construction machinery and equipment, hire of skilled manpower for construction projects, project consultancy, designs and development of projects and supply of construction material.

Sanken is a company that practices innovation in its operations and has introduced innovative concepts to the industry at large over the years. Though the design-build concept has been introduced on a global scale nearly 40 years ago, when Sanken introduced the concept to the Sri Lankan industry, it initially proved to be difficult for the industry to adjust to

the concept due to its unfamiliarity with the industry. However, the Design-build project delivery system is by now a vastly accepted concept within the country.

In contrast to the traditional design-bis-build method, design-build method delivers a project in which a single entity contracts both the design and constructions services. Through the design-build concept, Sanken has helped numerous clients to realize their dreams sooner.

Sanken Construction has branched out into other related businesses in the years since its birth. The company now has 13 subsidiary companies and 14 associated companies under its shadow. The amalgamation of the services of all these companies has

enabled Sanken to introduce the “One Stop Shop” concept allowing Sanken to offer a plethora of services to the customer. As a result, Sanken has also emerged as the pioneer of the concept amongst the local constructors.

“The Success of Sanken Construction is not only measured by the quality of the projects we develop but by the quality of people we employ and the environment we create for our employees to prosper and grow personally and professionally. We employ a large workforce of skilled people with strong technical and industrial expertise capable of delivering specialist feasibility, design, engineering and construction services,” Sanken Construction voiced.

Sanken is desirous of ensuring that its employees are well looked after and that their families too benefit. As a result, Sanken has taken steps to provide every one of its employees with shelter.

Furthermore, the company provides the children of the employees with books and other items necessary for their education so that they can become professionals later in life. In a bid to encourage their employees to have more offspring, the company provides them with a support system so that the family would not be burdened. Therefore, an employee receives Rs.100,000/=, Rs.250,000/= and Rs.500,000/= upon the births of his or her third, fourth and fifth child respectively.

In 2006, the Skills Training & Management (STAM) Institute was established in Kaduwela, benefiting the youth in the wider community. The Institute became a place where the youth received a thorough knowledge on Modern Construction technology and an opportunity to enhance their knowledge and to develop their skills.

The Skills Training & Management Institute has acquired accreditation to conduct a range of courses in the Construction industry. Among them, Construction Site Supervisor at NVQ level 4, Draughts person at NVQ level 3 & 4, Construction Craftsman (Mason) and Bar-bender at NVQ level 2 & 3 are prominent categories. The construction industry is booming across Sri Lanka

and the demand for qualified personnel is high in both local and overseas markets. STAM seeks to provide the requisite institutional training and on the job training to new entrants to the industry, helping them acquire the requisite skills based on National Competency Standards.

Listed among its objectives are:

- To provide advanced skills training for those who are in the same occupations to enable them to meet the output standards required by the relevant National Competency Standards established by Tertiary & Vocational Education Commission (TVEC).
- To conduct short-term courses to provide necessary theoretical training for those who acquire skill competency through on the job practical training.

In any company, CSR activities play an important role. Sanken Construction is a leader in providing construction services, knowing that other organizations in the field of construction follow us taking the company as a role model. With great sense of responsibility, Sanken, as the nation's leader in construction is involved in CSR activities. The company also wants to lead the way for the industry to conduct business sustainably. There are more known and unknown challenges that face the construction industry, community and world than can be counted. It is vital for the organization to continue to innovate and grow within a sustainable framework to preserve the future as a company and as citizens.

At Sanken, the company gives out to the community in a number of ways; this year the company carried out the “Samata Sewana” housing program under the UDA Gammuna Housing Project, and refurbished one ward of the Apeksha Hospital. In previous years, the company has renovated public toilets, donated funds to several welfare organizations and has even hosted a religious event at a prison.

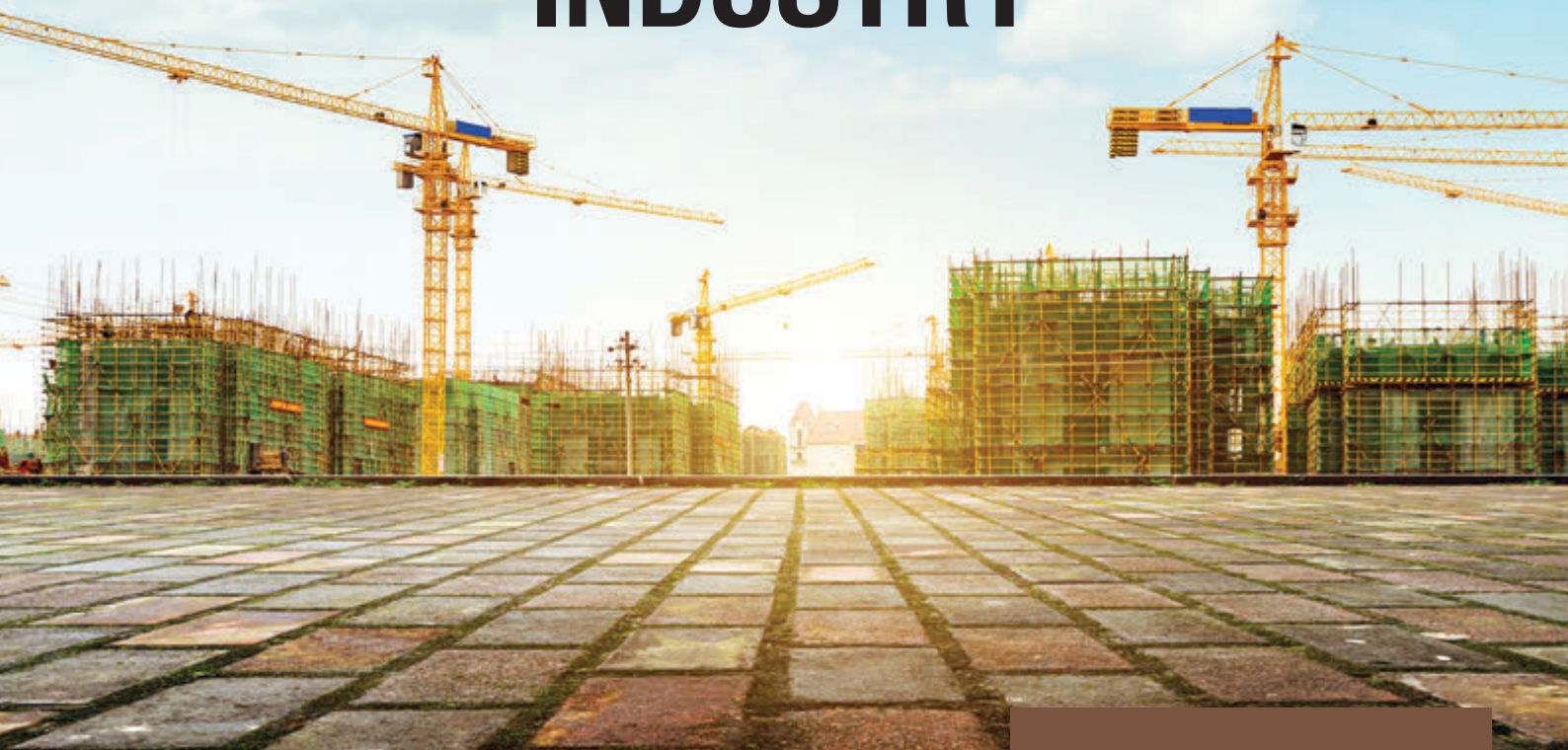
Sanken believes that the society at large benefits from Sanken Construction in a myriad of ways. Sharing the knowledge and experience

the company has gained over the years with the society, providing industrial training opportunities for undergraduates and trainees of civil engineering and related fields, providing job opportunities to the parties who are interested in joining the industry, producing the best product for the client's money, low waste generation, safer working conditions with fewer construction accidents and solid construction for physical protection and security, are practices encouraged at Sanken that the company feels would best benefit the society indirectly.

Sustainable construction is at the heart of the development strategy at Sanken. Its ambition is to build a sustainable living environment by delivering projects that protect the environment while ensuring the comfort and well-being of its users.

Sanken Construction observed that the common assumption among the Sri Lankan public towards the industry- that the sector continues to make large profits, due to the competitive nature of the industry, which is actually not the case. “While historically, contractors were merely regarded as simply contractors; those involved in the profession at present are highly educated professionals. However, regardless of this fact, due to the commonly held perceptions about the sector, people are reluctant to enter the industry. There are no unemployment opportunities in the country's construction sector,” the company asserted, stating that the construction industry in Sri Lanka generates a wide range of career opportunities for Sri Lankan youth.

BUILDING QUALITY INTO THE CONSTRUCTION INDUSTRY



Sri Lanka's construction industry is reaching a peak with a record number of mega construction projects currently underway, including the mammoth Colombo Port City, the Cinnamon Life complex and a number of other new ventures that are redefining the City's skyline.

The current hive of activity in the construction industry is already contributing to improved national indicators and in the future, will create thousands of new jobs and business opportunities as the properties come into the city's stock of real-estate.

Underpinning the success of the new development is the quality of the real-estate stock, especially to cater to the new mobile centric workforce. Quality, unlike previously, extends from the design stage itself, where meticulous research goes into

understanding the environmental conditions, maximizing space and natural resources to ensure ease of use and convenience.

The burgeoning construction industry has resulted in the shift in how quality is viewed where greater emphasis is on ensuring the avoidance of mishaps that burden finances and resources, rather than the previous approach of taking corrective measures when a discrepancy occurs.

Quality certification in the construction industry is a complex task to quantify and measure. Unlike the production line where the input and output is controlled where there is measure of uniformity, a construction site is ever evolving and therefore, the variables that need to be taken into account keeps changing as the project continues.

Quality Management in the construction industry includes managing one's material inputs, machinery, men, workforce and supervisory staff, efficiently and effectively. Most often, those involved in the construction industry are not aware of the difference between quality assurance and quality control.

The updated quality standards that need to be followed by the construction industry is ISO 9001: 2015. With this new standard the idea is to eliminate all the non-conforming things from the beginning of the construction process. Though insurance is used as a safety net to mitigate risks, insurance unfortunately doesn't cover mishaps that cannot be foreseen. Therefore, the understanding behind enforcing ISO 9001 : 2015 is to create a framework where mistakes can be avoided at any cost.

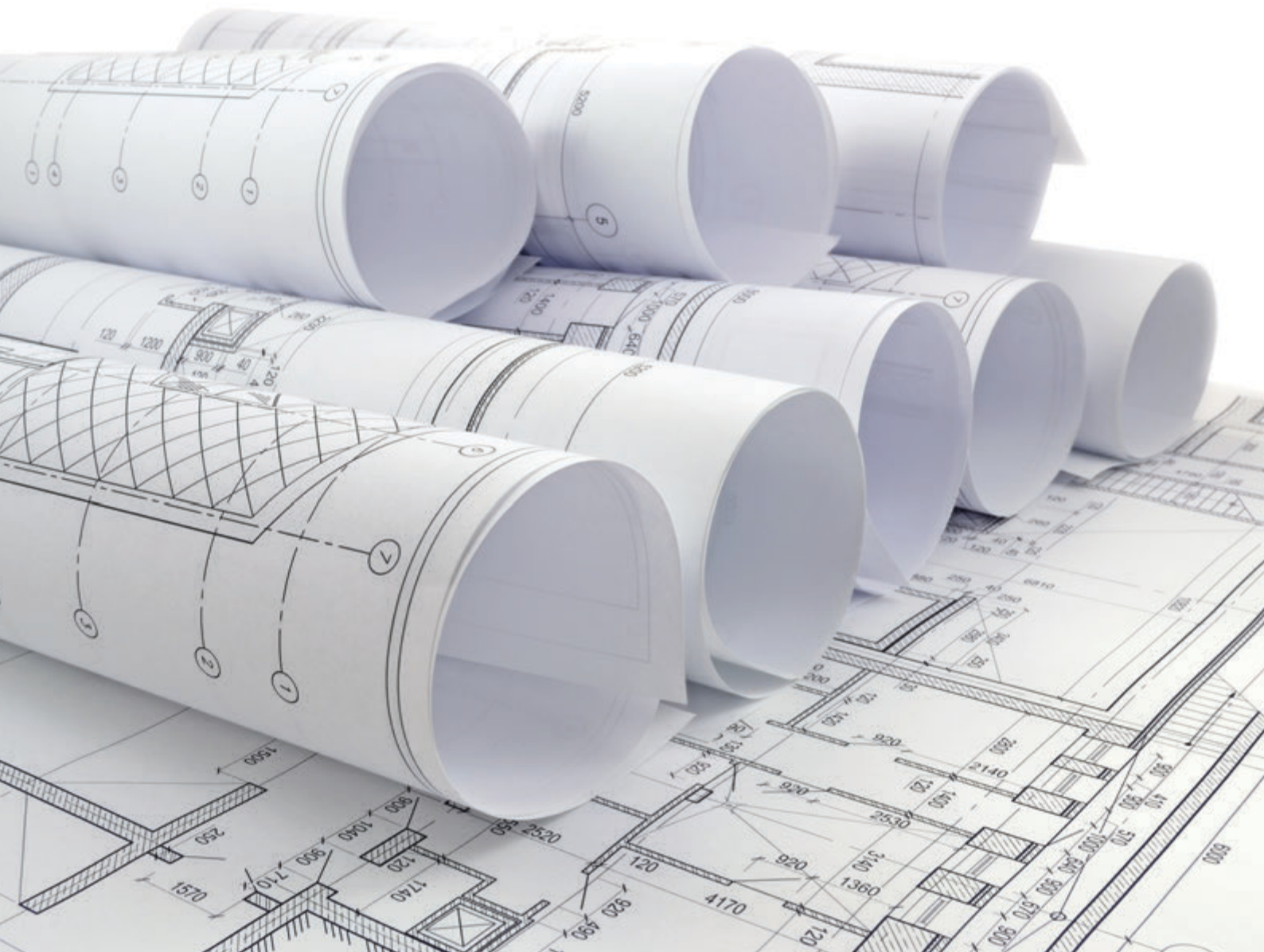
Quality standards in the construction industry can only be met, if the standards are stringently imposed on materials that are used for construction. If the quality of the materials are compromised then the quality of the final product cannot be assured. The quality of equipment is also a very important aspect that needs special attention, especially in the construction industry. Moreover, the chosen method of handling the project may differ however, the task of constructing needs to adhere to the

set standards. One of the most effective methods of ensuring that overall quality met is ensuring that the products that are used for construction industry fulfill quality requirements and are sourced from Quality Management System Certified Companies.

As per ISO 9001 : 2008 Standards, the previous standardization followed by the industry concepts such as corrective work and preventive work were integral components. Therefore, when a mistake happens, intentionally or otherwise, preventive measures are taken to rectify the issue. At present, according to the 2015 standard, the concept of preventive action does not exist. Instead of taking preventive action, the concept of identifying the risks based on the construction processes has been included into the standardization process.

A surefire measure of ensuring the overall quality of the construction is met is to enforce stringent standards for materials while ensuring that the construction industry provides lucrative

job opportunities that attract young blood. One of the biggest problems facing Sri Lanka's construction industry is that lack of youth joining the workforce, as a result of the stigma associated with the industry. As such the government needs to be proactive in taking concrete steps to secure the industry and its future, creating an environment where school leavers are attracted to join an industry that is fast becoming a main force in the country's development.





GREEN LABELING SYSTEM

GREEN BUILDING COUNCIL OF SRI LANKA

Today, the whole world is facing an immense challenge of coping up with the severe effect of climate change. Different countries face this challenge in different degrees while developing countries are and will continue to be the receiver of the worst part of the aforementioned impact. According to the estimation of the World Bank, developing countries bear around 75–80% of the cost of damage caused by the changing climate. It is alarming that, this much of economic, environmental and social impact due to changing climate will continue to act as a barrier for any country's development efforts not only today but in the future as well.

Though we are struggling to win life through technology, we will have to stop somewhere in this journey, if we fail to control environmental pollution and contamination at least to provide human beings with breathing air. We need to accompany our development efforts with the counteractive actions in protecting the environment.

Having a proud history of great civilizations with structures, monuments together with irrigation systems that impresses the entire world even today, going green is no strange concept to us Sri Lankans. The balanced lifestyle and coexistence with nature, which is provided to human society, is the ultimate goal of The Green Building Council of Sri Lanka. Fortunately for today, the increasing awareness and concern has created a demand and supply of “green” in many attributes, such as green buildings, green products and green services, from which we are focusing on green products in this article.

There are many products available in the market, marketed as green or in green packing, where consumers become confused of what product is really green. Consumers are also uncertain of the real character and validity of the products they are offered to buy. In order to help consumers, there should be an independent, reliable and acknowledged green (eco) label scheme in differentiating certain products which are environmentally friendly from other products that are not.

ECO LABELS IN THE GLOBAL CONTEXT

There are many eco-labeling schemes globally available today, which encourage the purchase of ‘greener’ products with improved efficiency, recyclability, greater durability and with higher recycled contents. Green Labeling systems are initially and mostly practiced in developed countries since profit based commercial industries have identified that the environmental concerns can be transformed into a market value of certain products through the adaptation of Eco Labeling procedures.

In 1978, The German Federal Ministry of Interior had developed the world’s first green labeling system which was named as ‘Blue Angel’. Eco Labeling

schemes came into practice since then and to date, Eco labeling, the concept of product certification in the form of labels is very popular and there are about 70 different countries worldwide that implement their unique green labeling systems.

Some of them are Eco Mark in Japan since 1989, Singapore Green Labeling Scheme since 1992, Green Seal in US since 1990, Korean Eco-Label Program since 1992, China Environmental Labeling since 1993 and the Nordic Environmental Label - the Swan - in the Nordic countries. Moreover, countries such as Indonesia, Malaysia, Philippines and Vietnam have launched their own green labeling schemes after 2000.

WHAT IS THE GREEN^{SL}[®] LABELLING SYSTEM (GLS[®])

Green Building Council of Sri Lanka (GBCSL) is a non-profit organization committed to its leadership in sustainability. Identifying the national level requirements, GBCSL took its initiatives to develop a home-grown green labeling system which is applicable to a Sri Lankan context as the criteria developed by the other labeling systems may not comply with our conditions and requirements.

Achieving the target, The GREEN^{SL}[®] Labeling System (GLS^{SL}[®]) for Sustainable Building Materials and Products (Version 1.0) was introduced to the country in 2012. It was another milestone and a huge step forward for GBCSL as well as a huge contribution and input to our society and the economy in our march towards creating a sustainably built environment. The GLS^{SL}[®] mainly focuses on providing criteria for sustainably building materials and products. In addition to the criteria we have already developed for the assessment of various product categories, we are now on the move to include more product categories and develop assessment criteria for them, in order to meet the increasing demand in the market.

The GBCSL labeling system (GLS^{SL}[®]) encourages sustainable practice throughout a product's life cycle and involves some of the analysis based on the environmental consequences of their raw material acquisition, manufacturing process, product use and disposal etc. The GLS^{SL}[®] has been developed by the Technical Expert Committee (represented by leading academics, scientists and industry experts) appointed by the Green Building Council of Sri Lanka together with the Building Economics and Management Research Unit (BEMRU).

Though there are a number of eco labeling systems prevailing worldwide, GBCSL has recognized that, the country, should have a home-grown Green Labeling System to suite its context. Criteria given in other labeling systems may not comply with our conditions at some occasions.



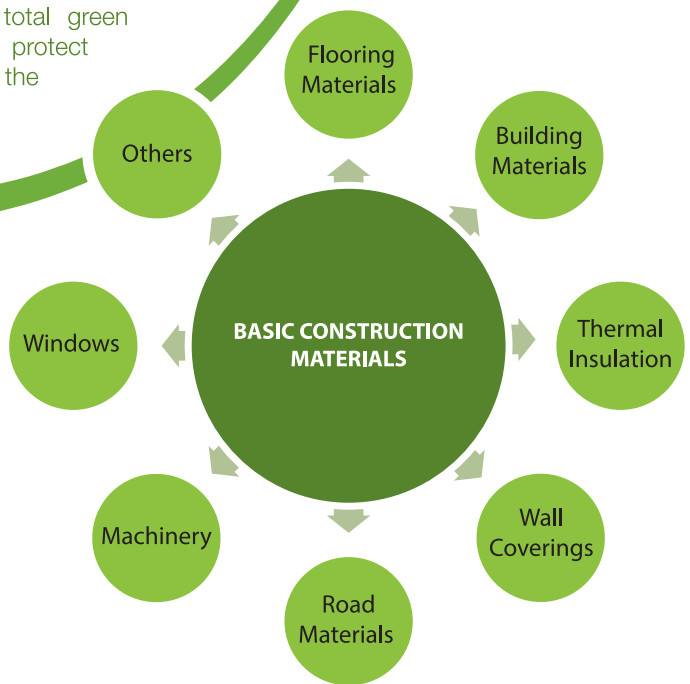
OBJECTIVES AND BENEFITS OF THE GREEN^{SL}® LABELING SYSTEM

The main objective of the Green^{SL}® Labeling System is to minimize the environmental impact of building materials and products throughout their lifecycle. In addition we assist the construction industry to identify and use proper materials and products with green features in their construction works.

Through the Green^{SL}® Labeling System our aim is to encourage local manufacturers to engage in producing more green products/materials and promote them by way of certifying the environmental performance of their products. Eventually this certification process would encourage building material importers to concentrate more on green certified products and materials to face the reality of the demand in the local market. GBCSL is in the process negotiating with the governmental authorities to grant concessions to green product manufacturers and importers as a positive measure of encouraging them.

With the introduction of the Green Labeling System the consumers as well as the manufacturers and importers will immensely benefit as we assist in creating a healthy marketplace with the constant demand and supply of green products and services. The consumers will have easy access to reliable environmental performance data of specific product categories and hence guide them to make environmentally conscious choices without any difficulty. On the other hand this system will provide the suppliers with the opportunity of having a competitive advantage in differentiating a product from similar ones in the market which would create market incentives for manufacturers to develop and supply more environmentally sound products. Certification of green materials would simulate the constant market-driven environmental improvement. Finally the Green Product Certification process helps in reducing the overall environmental impact (during manufacturing, utilization, consumption and disposal of products) and supports sustainable development. The total green process will lead to protect the environment for the future well-being of our planet.

IDENTIFIED SUSTAINABLE BUILDING MATERIAL AND PRODUCTS ELIGIBLE TO APPLY FOR GLS



USE OF "RED CLAY ROOFING TILES" IN THE CONSTRUCTION INDUSTRY

The main purpose of having a roof for a house is to keep out the rain, cold, noise and heat. It should be strong enough to withstand high winds, sloped adequately to drain water, and, in heavy snow, it must be constructed more rigidly to bear the extra weight. Selection of suitable roofing material is not an easy task as it needs to fulfill the basic requirements of the relevant roof.



THE MAIN FEATURES AND FUNCTIONS THAT SHOULD BE AVAILABLE IN ANY ROOFING MATERIAL ARE:

Long term durability

Aesthetic value

Fire resistance

Sound resistance

Heat resistance

Required Strength

Environment suitability and sustainability

Energy efficiency

Range of profiles, varieties and colours

Value for money

Adequate prevention of health hazards

Heat emission or reflection capacity

Ability to absorb more heat before transfer

Solar Reflection Index (SRI) must be greater than 29

The “RED CLAY ROOFING TILE” is one of the few which fulfills all the above requirements.



WHAT ARE “CLAY ROOFING TILES”?

The Clay roofing tiles are one of the oldest and most used types of roofing materials in the world. There has been evidence found of its use dating back to 10,000 BC, in locations of North America, to Egypt, to Rome. Its use and popularity fluctuates over time, but it is always there at some level. A well cared roof of this type can last for over 200 years.

Clay roof tiles offer numerous benefits to commercial and residential projects. Inherently, the material is associated with minimal environmental impact in its sourcing, extraction, as well as manufacture.

As environmental awareness in building design and construction has increased, the greatest focus has been on sustainable building materials, both in manufacture and performance. Many tile-makers utilize modern extraction and manufacturing methods that have enhanced the responsible production of roofing products.

SUSTAINABLE, ENVIRONMENT FRIENDLY & HEALTH FRIENDLY RAW MATERIALS

Sustainability in tile-making begins with the first phase of the tile’s lifecycle—the raw materials. Clay tile is made of naturally occurring geologic materials, such as clay and water. Some tile-makers use a high percentage of recycled materials, or the by-products of mining processes. Utilizing this post-industrial waste clay repurposes the raw material for use in new clay tiles. Tiles may be up to 60 percent recycled post-industrial waste, and may help contribute to Leadership in Energy and Environmental Design (LEED) pointing to recycled content in the Materials and Resources (MR) category.

GREEN MANUFACTURING

The second phase of the lifecycle—manufacturing—involves forming wet clay, drying it, and heating it to high temperatures. First, the raw clay is dried and ground. It is then passed through sieves to achieve the correct particle sizing. Finally, different clays are selected for their strength or color properties, and mixed to achieve a desired blend.

The mixed dry clay is hydrated to a density and viscosity much like natural clay, free of debris, consistent in texture, blended for a specific fired color, and reasonably homogenous properties that cannot be achieved on a large scale with materials in their natural state.

The manufacturing line presses the clay through an extruding machine, forming a continuous ribbon of the desired profile, cuts it into precisely sized units, and stamps any special features into the shape, a continuous process on a long production line. The pieces are

dried in a special drying unit and are then ready to be fired.

The firing, or kilning process is the most costly part and that may be the oldest “Chamber Kiln”, further developed “Tunnel Kiln” or more advanced “Roller Hearth Kiln”. Since firing in kilns is the major energy-consumer in the manufacturing process, new techniques have been developed to reduce the tiles’ embodied energy. It also lowers the carbon footprint, especially when the kiln is fueled by natural gas. Moreover, excess heat recaptured for use in drying the tile for firing, is another energy-saving strategy called co-generation.

Responsible tile manufacturing includes waste reduction. Green waste (i.e. pre-fire clay waste and manufacturing rejects; unfired clay has traditionally been referred to as ‘green’ clay), and a selection of unused fired product can be collected and

re-introduced into the manufacturing process. Used production water should be captured and recycled back into the mix, thus never leaving the facility or polluting the environment.

As daytime temperature rises and some solar heat penetrates past the tile surface, the clay ‘fills up’ with heat before it transfers heat to the interior. The thermal mass effect is most pronounced in locations where there is a wide difference between daytime and nighttime temperatures. It may delay heat flow through the envelope by as much as 10 to 12 hours, and peak heat transference may not be reached until late in the day, when exterior temperatures are already dropping and starting to cool down the roof. The interior experiences less temperature shift, and therefore may use less energy for air-conditioning. At night, absorbed heat is slowly released, which may help the building to maintain warmth.

CRADLE TO CRADLE

The last phase in the lifecycle of a clay roof tile begins after it is removed from the roof. In many products, this would be the ‘grave’ phase of the cradle-to-grave cycle, when many roofing materials enter the landfill.

Due to clay’s durability and longevity, it may outlast the building on which it is installed. Clay tile is 100 percent recyclable. It can be crushed and re-introduced into tile production, or put to other uses such as baseball fields.

Unlike most other building materials, however, clay tile, if properly salvaged, can be reused as a roof tile. This is perhaps the most pure version of the cradle to cradle lifecycle where products are repurposed for new use.



HISTORY OF THE RED CLAY ROOFING TILE INDUSTRY IN SRI LANKA



It started in the 3rd century BC during the "Abaya Wewa" construction period in the olden Kings' era. This industry is directly linked with the ancient kings' "Wewai Dagabai" (Water Reservoir & Dagaba) concept. The soil which was excavated from tanks (Wewa) was used to make bricks & those bricks were used to construct the Dagaba. Each year the Wewa, (Water Reservoir) is maintained by removing cumulated soil (de-silting), which is necessary to maintain the water retaining capacity and to avoid overflow. So they excavated (de-silted) the cumulated soil & manufactured the tiles. But with colonial administration this industry collapsed and small & medium level family owned factories were established surrounding 2 cities in the North Western province.

This industry has been prevailing for over 1,000 years with ups & downs under various administrations. A very good period for this industry started with the establishment of the Sri Lanka Ceramics Corporation in the 1960's with German technology. There were 9 factories covering all 9 provinces in the country under the Ceramics Corporation. All those factories were based on natural clay bases. Those factories were located in Mahiyangana in the Uva province, Ampara in the Eastern province, Weuda, Bingiriya & Bangadeniya covering the Western, North Western & Central provinces, Embilipitya in the Sabaragamuwa province, Yatiyana in the Southern province and Oddusudan in the Northern province.

But after the open economy was introduced, the Government owned Ceramics Corporation factories collapsed step by step. Then the manufacturing process of all 9 factories collapsed and the industry prevailed only for small & medium level family owned manufacturers in the Dankotuwa area. One of the major reasons for the above was the introduction of asbestos to the country. The average capacity of one factory was about 30,000 tiles per month & there were about 400 factories.



DEVELOPMENT OF THE RED CLAY TILE INDUSTRY

Despite the depressing situation in the industry, in the year 2000, "DSI Samson Group" with diverse manufacturing facilities in Sri Lanka decided on an investment to start a Clay Roofing Tile facility at Anuradhapura in the North Central province. The investment was LKR 700 million. Their factory had modern Japanese technology and a monthly production capacity of 300,000 tiles. The main reason to establish the factory in Anuradapura was to use silt (cumulated clay in tanks) as a raw material. Production started in 2003 and has now developed to the level where exports are made to Europe. The current production capacity is about 400,000 tiles per month. The product portfolio includes tile types and their fitting for local and export markets. S, Plain, Spanish, Restoration and Holkham Pantiles, Hela and Roman tile types and they are available in natural, engobed, painted, sanded, sprayed and glazed finishes. Samson Rajarata Tiles (SRT) is the only Sri Lankan tile manufacturer exporting to the European market keeping to the high CE standards. Their export tiles are regularly tested by CERAM, the leading tile testing body in the UK. The quantity exported is about 20% of SRT's production capacity. SRT products are "ISO 9001" certified and carry the "Green Label" from the Green Building Council of Sri Lanka tasked with the evaluation of sustainability and environment friendly aspects of the tile manufacturing process. Samson Rajarata Tiles was certified for the ISO 9001:2008 Quality Management system certificate in the year 2014.



DEVELOPMENT OF THE INDUSTRY WITHIN LAST 4 YEARS

In the past 4 years there was a significant development in the industry where the manufacturing capacity doubled. “Sri Lanka Ceramics and Glass Council”, the apex body which was established representing all the Ceramics sector organizations in the country came to a decision to annex and develop the “Red Clay Roofing tile industry” as a part of Ceramics. The council membership was offered to “Red Clay Roofing Tile” manufactures. CENTEC (Center for Technical Excellence in Ceramics) an institute functioning under the Ceramics council began to focus on the red clay tile industry lending their support. The “Ceramics & Glass Symposium” held in year 2015 conducted technical support sessions on the red clay industry. Moreover, support came via the ministry of Industrial Development & the Export Development Board arranging foreign visits and international experts for exposure, financial assistance and connecting government institutes for guidance and support.

The announcement of the Asbestos ban by H. E. President Honorable Maithripala Sirisena in 2015 resulted in the industry booming. It is hoped the industry will further prosper after January 2018 with the implementation of the announced Asbestos ban.

CLAY ROOFING TILES MANUFACTURING DETAILS:

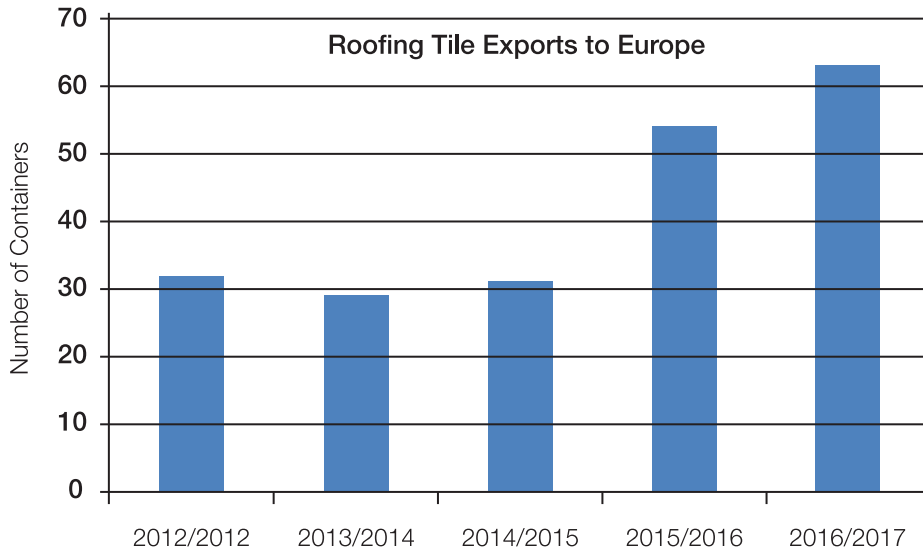
1. Large scale Factories (Monthly Capacity is more than 150,000 tiles)

Details	year 2014/2015	year 2015/2016	year 2016/2017
Number of large scale Factories Available	07	07	07
Number of large scale Factories Running	02	04	05
Average Capacity Utilization of running factories	45%	65%	82%

2. Small Scale Factories (Monthly Capacity is less than 150,000 tiles)

Details	year 2014/2015	year 2015/2016	year 2016/2017
Number of large scale Factories Available	400	400	400
Number of large scale Factories Running	200	235	290
Average Capacity Utilization of running factories	35%	60%	75%

EXPORT PERFORMANCE



QUALITY AND STANDARDS

The first Sri Lankan Standard for “Clay Roofing Tiles”, SLS -2 was published in 1967 covering only Calicut Tiles. It was then amended in 1974. The next amendment was in 2014 to be followed in 2015 by ministry of Industry directed and funded amendment of standards developed by the Sri Lanka Standard Institute (SLSI.) This new standard - The New Sri Lanka Roofing Tile standard (SLS 2:2016) - when published, had 26 manufacturers requesting for product certifications. At present, the certification process is in the final stage. The latest standard covers S, Calicut, Roman, Euro, Spanish, Plain and Sinhala tiles. In addition, SLS 2:2016 extends to cover the European export tile requirements.

Sri Lankan “Red Clay Roofing Tile” quality standards are now well accepted in the European markets. Some Research & development projects are going on to reduce the weight & cost of the tiles and to further improve their quality.



Wipul Kularathna
 General Manager,
 Samson Rajarata Tiles (Pvt.) Ltd.

THE 21ST PRESIDENTIAL EXPORT AWARDS (PEA)

Held on 14th September 2017 at BMICH



Sri Lankan Exporter of the Year- Brandix Apparel

The Presidential Export Award is the most prestigious Award in Sri Lanka presented to exporters who have made a significant contribution towards the export effort of the country. It is awarded by His Excellency the President of the Democratic Socialist Republic of Sri Lanka. Presentation of Presidential Export Awards (PEA) was initiated by the Sri Lanka Export Development Board (EDB) in the year 1981.

The 21st Presidential Export Awards Ceremony was organized by the EDB under the leadership of its Chairperson and Chief Executive, Mrs. Indira Malwatte with the guidance and directions of Hon. Malik Samarawickrama, Minister of Development Strategies and International Trade and Hon. Sujeewa Senasinghe, State Minister of International Trade.

The 21st Presidential Export Awards Ceremony was held on the 14th of September 2017 under the patronage of His Excellency Maithripala Sirisena, the President of the Democratic Socialist Republic of Sri Lanka at the Bandaranaike Memorial International Conference Hall (BMICH), Colombo

with the participation of several Cabinet Ministers & Deputy Ministers.

The selection of awards was made by an eminent panel of 7 members consisting of Senior Officials from Government Institutions (Ministry of Development Strategies & International Trade, Department of Commerce) and Trade Chambers (CCC, NCE, NCCSL and FCCISL) headed by a retired judge of the Supreme Court.

59 Awards consisting of 11 Overall (Special) Awards and 48 Sectoral Awards (14 Awards for Highest Foreign Exchange Earnings and 34 Awards for Highest Value Additions) were presented to exporters at this ceremony for their performance excellence in the year 2016 and it symbolized the national recognition for their efforts toward the development of exports of the country. The Award winners were presented a prestigious PEA Trophy and a Certificate. The winners have the privilege to use the "Award Logo" as a marketing tool for 3 years.

Selections were based on multiple criteria giving an opportunity for all export enterprises both large and small

to compete for an award.

The selections of Overall (Special) Awards were made on the basis of the contribution made under various aspects that are essential for the development of the export sector. These aspects included increase in net foreign exchange earnings, diversification of export markets, value of Sri Lankan registered export brands, employment opportunities created, excellence in sustainability and setting up of industrial/economic zones at regional levels for export led supply. Contribution of SMEs for the export development drive was also recognized by awarding the Best Emerging Exporter Award and the participation of women entrepreneurs in export business was recognized by presenting the Best Woman Exporter Award. In addition Best Packaging Service Provider for export sector was also recognized.

Chairman & Founder of Dilmah Group, Mr. Merrill Joseph Fernando delivered the keynote address elaborating the importance of the branding of value added products. H.E. the President of Sri Lanka and Hon. Malik Samarawickrama, Minister of

Development Strategies and International Trade and Hon. Sujeewa Senasinghe, State Minister of International Trade addressed the gathering comprising Diplomatic Corps, State Officials, Trade Chambers, Product Associations and private sector enterprises.



Best Sri Lankan Export Brand – Akbar Brothers (Pvt) Ltd

AWARD WINNERS

(1) OVERALL (SPECIAL) AWARDS

	Description of Award	Winner
1	Best Emerging Exporter	Wild Lanka Organics
2	Highest Contributor from the Regions to the Export Supply Chain	HJS Condiments Limited
3	Best Woman Exporter of the Year	Trendywear (Pvt) Ltd
4	Highest Employment Provider in the Export Industry	Brandix Apparel Limited
5	Excellence in Sustainable Development	Brandix Apparel Limited
6	Best Packaging Service Provider to the Export Sector	Star Packaging (Pvt) Ltd
7	Best Multinational Company (MNC) Engaged in Exports	Camso Loadstar (Pvt) Ltd
8	The Most Market Diversified Exporter	Camso Loadstar (Pvt) Ltd
9	Best Sri Lankan Export Brand	Akbar Brothers (Pvt) Ltd
10	Highest Net Foreign Exchange Earner	Brandix Apparel Limited
11	Sri Lankan Exporter of the Year	Brandix Apparel Limited

(2) SECTORAL AWARDS

(2.1) HIGHEST FOREIGN EXCHANGE EARNER

	Sector	Winner
1	Apparel	Brandix Apparel Limited
2	Computer & Related Services	Virtusa (Private) Ltd
3	Electrical & Electronic Products	CCS Lanka (Pvt) Ltd
4	Tea	Akbar Brothers (Pvt) Ltd
5	Food & Other Beverages	Prima Ceylon (Pvt) Ltd
6	Fish & Fisheries Products	John Seafoods (Pvt) Ltd
7	Base Metal Products	Camso Loadstar (Pvt) Ltd
8	Footwear & Leather Products	MAS Fabrics (Pvt) Ltd
9	Chemical & Plastic Products	Aqua Packaging (Pvt) Ltd
10	Gem	Ellawala Exports (Pvt) Ltd
11	Ceramic & Mineral Based Products	Noritake Lanka Porcelain (Pvt) Ltd
12	Rubber & Rubber Based Products	Camso Loadstar (Pvt) Ltd
13	Coconut Kernel Products	S A Silva & Sons Lanka (Pvt) Ltd
14	Coconut Non-Kernel Products	Haycarb PLC



The Most Market Diversified Exporter – Camso Loadstar (Pvt) Ltd

(2.2) HIGHEST VALUE ADDED EXPORTER

	Sector	Winner
1	Apparel	Omega Line Ltd
2	Tea	Quick Tea (Pvt) Ltd
3	Computer & Related Services	Virtusa (Pvt) Ltd
4	Rubber & Rubber Based Products	Trelleborg Lanka (Pvt) Ltd
5	Electrical & Electronic Products	Variosystems (Pvt) Ltd
6	Spices & Allied Products	Rathna Producers Cinnamon Exports (Pvt) Ltd
7	Coconut Kernel Products	Nestle Lanka PLC
8	Food & Other Beverages	Silvermill Natural Beverages (Pvt) Ltd
9	Coconut Non-Kernel Products	Haycarb PLC
10	Fish & Fisheries Products	Global Seafoods (Pvt) Ltd
11	Base Metal Products	Camso Loadstar (Pvt) Ltd
12	Footwear & Leather Products	D Samson Industries (Pvt) Ltd
13	Chemical & Plastic Products	Aqua Packaging (Pvt) Ltd
14	Gem	Ellawala Exports (Pvt) Ltd
15	Ceramic & Mineral Based Products	Piramal Glass Ceylon PLC
16	Printing & Stationery	Printcare Universal (Pvt) Ltd
17	Diamond	Diamond Cutters Ltd
18	Toys, Games & Sports	Paradise Toys (Pvt) Ltd
19	Fruits & Vegetables	Dole Lanka (Pvt) Ltd
20	Wooden Products	D.R. Exports (Pvt) Ltd
21	Boat Building	Solas Marine Lanka (Pvt) Ltd
22	Jewellery	Tropical Findings (Pvt) Ltd
23	Floriculture	The Leaf Company (Pvt) Ltd
24	Ornamental Fish	Aquamaries International (Pvt) Ltd
25	Giftware & Lifestyle Products	Rileys (Pvt) Ltd
26	Handloom Products	Barbara Sansoni Exports (Pvt) Ltd
27	Organic Products	Bio Foods (Pvt) Ltd
28	Motor & Motor Spare Parts	Lanka Harness Company (Pvt) Ltd
29	Herbal & Spa Products	Bio Extracts (Pvt) Ltd
30	Hi-tech/Innovative Products	Zone TwentyFourSeven (Pvt) Ltd
31	Health & Wellness Services	Barberyn Reef Ayurveda Resort Hospital (Pvt) Ltd
32	Construction Services	Sanken Overseas (Pvt) Ltd
33	Entrepot Trade	MAC Supply Chain Solutions (Pvt) Ltd
34	Professional Services – Other	Sri Lankan Catering Ltd



Best Emerging Exporter – Wild Lanka Organics



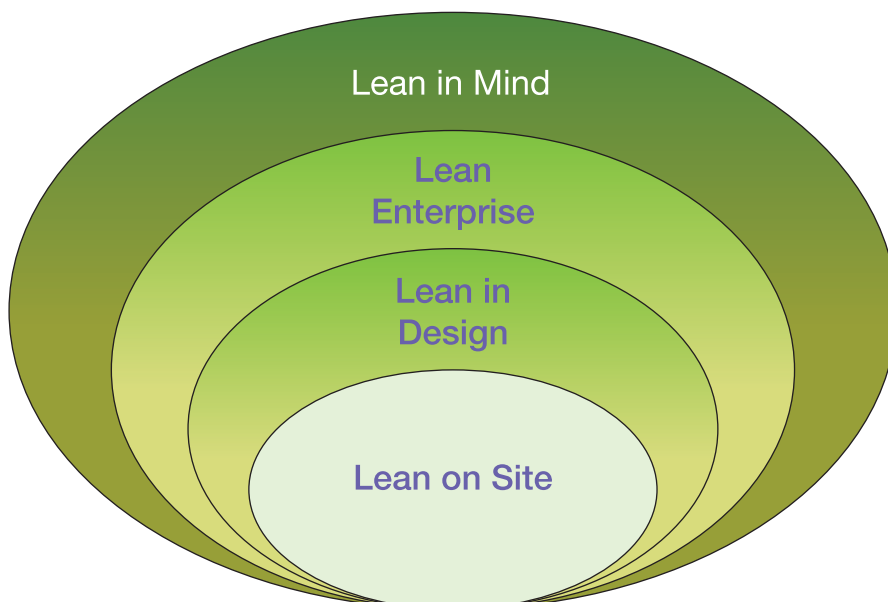
INCREASING PROFITABILITY WITH LEAN TECHNIQUES IN THE CONSTRUCTION SECTOR



IMPORTANCE OF CONSTRUCTION TO THE GDP

Since the construction industry plays a major role in the national economy and many sectors depend on this industry, increasing the productivity of this sector will lead to a great cost savings for the contractors industry as well as the society. GDP From Construction in Sri Lanka averaged LKR 133,568.86 Million from 2010 until 2017 (Dept. of Census and Statistics, Sri Lanka). Since construction currently contributes to about 6 - 7% of the Sri Lankan GDP, productivity improvements in this sector will have significant multiplier effects within the industry and related sectors.

Adding Value Through Lean



Today the construction industry is besieged by problems such as the late delivery of projects, cost escalations, and poor quality outcomes. This translates into millions of rupee in costs, that in fact need not be incurred. Indeed, these are problems faced in the construction industry across the world.

LEAN CONCEPTS

Lean concepts help to isolate and maximize the value added in all the activities undertaken by a construction company. Lean is one of the key tools in the Operational Excellence toolkit.

Lean in construction is involved in the designing and operating in continuous process flow or working with the right process and having it right the first time. Waste is seen as activities and processes that consume resources yet do not add value. Hence any non value added activity or process is considered as waste. The essential focus of lean is to provide a product that the client truly needs, through identification and removal of waste in process in a step by step approach.

Waste comes in many different forms:

- transport
- motion
- over production
- defects
- inventory
- waiting
- over processing
- skills

Once we understand what “Lean waste” means, we can look at “waste” and then also address “waste removal” and also variability reduction which is of great importance in the construction sector. Variability can be seen in late delivery of material and equipment, design errors, change orders, equipment breakdowns, tool malfunctions, improper crew utilization, labor strikes, environmental effects, poorly designed production systems, accidents, and physical demands of work.

BENEFITS TO THE CONSTRUCTION SECTOR IN USING LEAN

The benefits of using Lean techniques are as follows:

1. Lean presents opportunities for construction businesses to deal with current economic challenges.
2. Lean is more than a set of tools and measures; it develops a philosophy and a mindset.
3. It is a good way to do business because it's about eliminating waste and adding value.
4. It encourages collaboration, even with competitors, because the supply chain is shared and improvements are mutually beneficial.
5. It instills a commitment and understanding of Lean at a senior level.
6. It is a philosophy and approach that should be adopted throughout the organisation.
7. Clients can demand Lean operation in their supply chain, and contractors will be able to provide evidence of this.
8. The Lean approach resonates with the Government's and clients' demands of 'more for less'.
9. Lean commitment will translate into more buildings per dollar, better adherence to deadlines and a higher contribution to the GDP and productivity.

HISTORY OF LEAN

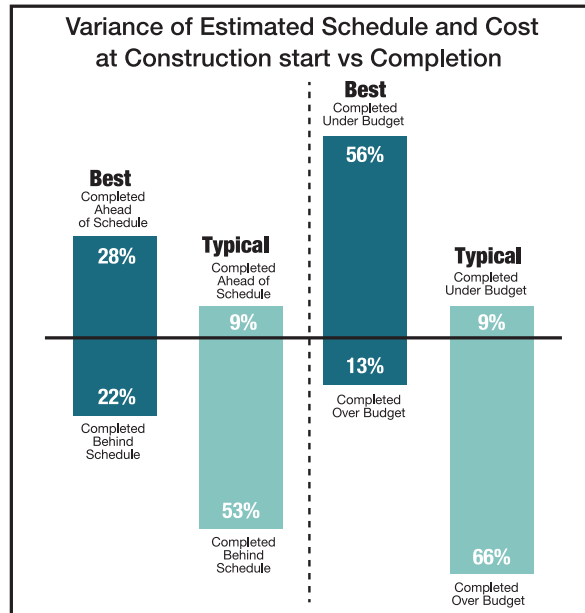
Lean is relatively new to South Asia, but this concept was popularized in the USA in 1990, when Womack, Jones and Roos published the book, “The Machine that Changed the World.” At the time, the construction industry was not interested in any of the concepts used by the manufacturing sector, but through the '90's the awareness and use of Lean spread. In 2001, the Egan Report on construction was published and Lean was being recommended to the construction industry in the UK. Since then, a number of Lean Construction Institutes have been set up in various countries including India.

Solid Benefits of Using Lean

The graphs show Lean projects (Best performing) compared to those that do not use Lean techniques. We can see the big difference that Lean makes to the budget and time schedules.

Performance: Cost / Schedule

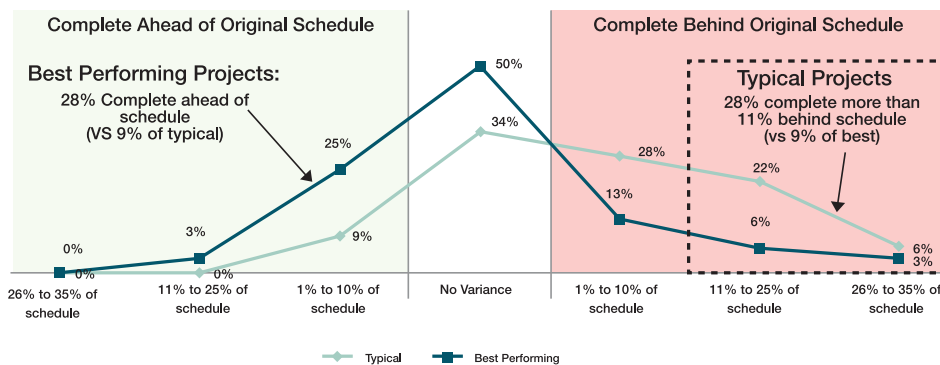
- Most Typical Projects complete behind schedule, over budget
- Cost is improved more than schedule on Best Performing Projects



Performance: Schedule

- 28% of Best Projects Finish early vs. only 9% of typical

Amount of Variance of 'Original Schedule When Budget Allocated' vs 'Final Schedule'



WAY FORWARD FOR THE SRI LANKAN CONSTRUCTION SECTOR

In order to address the issues shown above, The South Asian Lean Constructin Institute (SALCI) was set up through the Ceylon Institute of Builders in September 2017. The stage is set for a major transformation of the Sri Lankan construction industry through Lean and other operational excellence tools through SALCI. Whilst these tools cannot directly address issues such as labour shortages, high steel prices, delays in government approvals, etc. It can enable maximization of productivity of all scarce resources within the organisation, drive down costs, improve profitability and improve time lines.

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 Consultant, South Asia Lean Construction Institute, Ceylon Institute of Builders



THROUGH THE EYES OF **sierra**

In 1981, with the dawn of the open economy, six enterprising individuals teamed up to form what was to become one of Sri Lanka's best known enterprises. Sierra Construction Limited was incorporated to venture into the fields of Civil and Telecommunication Engineering, sectors that were hitherto solely dominated by foreign companies or by companies with foreign collaborations.

Within two decades, Sierra rose to become the market leader in Telecommunication Engineering. The boom in the construction industry opened up many opportunities for Sierra and the company has today evolved to great heights handling large construction projects relating to Water Supply & Sewerage, Power, Roads, Buildings, Irrigation and Pilling besides Civil & Telecommunication.

Acknowledged for its expertise, reliability and superior quality of work, both locally and internationally, Sierra today is a prominent player in General Engineering Construction in Sri Lanka. The company has also gained from opportunities offered in global markets, with businesses established in India, Maldives, Qatar, Saudi Arabia and Australia.

From modest beginnings with just six individuals, Sierra today employs over 4,000 direct and indirect employees both in Sri Lanka and abroad, including more than 300 engineers. The company takes pride in its highly motivated and talented workforce, the driving force behind its success.

Now in its third decade of operation, Sierra has picked up several awards and accolades along the way. It is an ISO accredited company. In furtherance of its corporate objectives Sierra is presently focused on implementing the best practices of corporate governance and risk management practices within the company.

Today Sierra stands tall as a truly Sri Lankan company and acclaimed as a national asset. The company remains totally focused on its vision of being the preferred infrastructure development partner in the region, identified by its customers and partners as integral to their success.

WATER SUPPLY, DRAINAGE AND SEWERAGE

The Water Supply, Drainage and Sewerage section of Sierra has executed large scale water supply and sewerage projects including water treatment plants, transmission mains and distribution mains in Sri Lanka and Overseas.

Main Categories of Services

- Structural design, construction & commissioning of water and sewerage treatment plants.
- Laying of HDPE, DI and UPVC pipes in water and sewerage transmission and distribution networks.
- Supply and installation of M & E equipment for water supply and sewerage projects.



TELECOM ENGINEERING AND CONSTRUCTION

Sierra Telecom Engineering and Construction is one of the leading comprehensive telecommunication solution providers in the region. The deft solutions, provided by Sierra for the client requirements, whether conventional or state-of-the-art have won recognition of global industry, where leaders have chosen Sierra as their Local partner.

Main Categories of Services

- Design and constructions of outside plant networks.
- Installation of wired and wireless subscriber networks.
- Maintenance and rehabilitation of telecommunication networks.
- Installation of optical fiber transmission networks.
- Supply and installation of switching systems.

TELECOMMUNICATION INFRASTRUCTURE DEVELOPMENT, MAINTENANCE & ELECTRICAL ENGINEERING SERVICES

SGN Offers all types of Telecommunication & Electrical Engineering services to our valued customers. Our aim is to provide fast and reliable services for a reasonable cost where necessary.

Main Categories of Services

- BTS / Microwave Installations & Rectifications
- Cx End Equipment Installations & Maintenance
- Civil Constructions & Rehabilitations
- Passive Maintenance
- Active Maintenance
- Network Optimization (RF) & Customer Complaining
- Electrical Material & Equipment Supply
- Electrical Equipment Testing



POWER (SUBSTATION, TRANSMISSION & DISTRIBUTION SYSTEMS)

Installation of high tension and low tension electrical power transmission systems and the construction of substations for the Ceylon Electricity Board (CEB) and the Lanka Electric Company Limited (LECO), are the activities carried out by the company in the field of Electrical Engineering.

Main Categories of Services

- Design, supply and installation of overhead and underground power transmission lines.
- Design, supply and installation of overhead and underground power distribution lines.
- Civil design, construction, testing and commissioning of M & E for substations.



ROADS & BRIDGES

Sierra has an exceptional portfolio of road construction projects which has contributed substantially to the national infrastructure network.

Our projects range from rural routes in environmentally sensitive landscapes, to large scale urban highways. Bridges are designed and constructed using industry leading techniques to meet with new demands.

Main Categories of Services

- New or re-construction of bridges.
- Construction of roads (new, widening, reconstruct).
- Construction of concrete paving (New, Overlay).



PILLING

Sierra, with the vision of being the most competitive construction firm in Sri Lanka serves the country with the service of its excellence. Sierra Pilling has imaged as one of the leading piling and foundation companies in Sri Lanka.

Main Categories of Services

- Construction of bored cast In situ piles – up to 1800 mm diameter.
- Secant pile walls.
- Sound rock penetration with continuous flight auger (CFA) technique.
- Precast pile driving.
- Soil mixing.
- Pile testing work.
- PDA testing.
- PIT/CSL testing.
- Static load testing.
- Ground investigation.
- Design and construction of shoring systems.

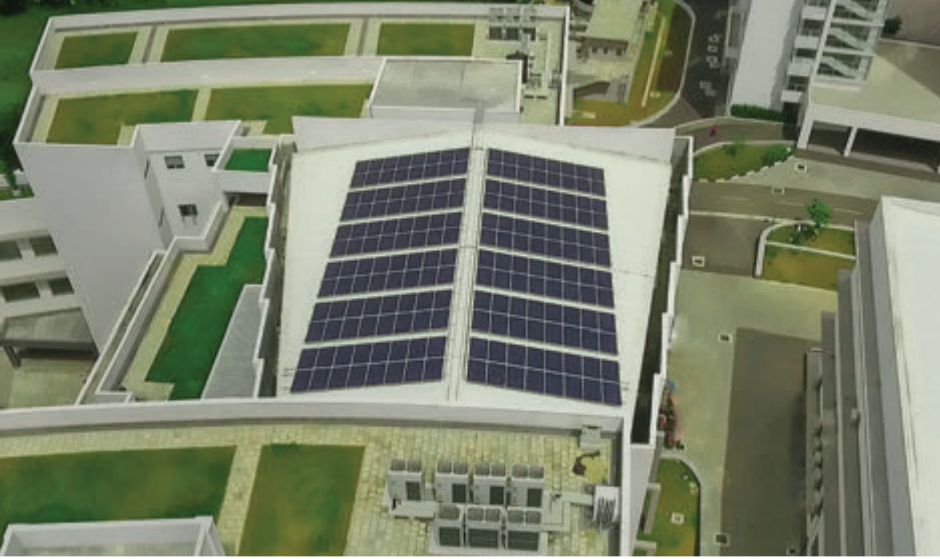


CIVIL

Sierra is a leading building and civil engineering contractor with a broad range of experience, gained across a variety of sectors over the past 30 years. Since the company's foundation in 1981, we have worked together with our clients to successfully deliver large scale building construction projects. Sierra has a proven track record of providing the right team with the skills, knowledge and experience to consistently deliver above and beyond expectations.

Main Categories of Services

- Design & build multistory commercial and residential buildings.
- Design & build factories and all kinds of industrial plants.
- Design & build hotels, convention centers and sports complexes.



NSBM GREEN UNIVERSITY

SOUTH ASIA'S FIRST GREEN UNIVERSITY IN SRI LANKA



The National School of Business Management (NSBM) Green university town spans 26 acres of land and is constructed under green principles such as, solar power facility, minimum usage of air condition by opening lecture halls into the paddy field side, minimum to no usage of paper by using a UMIS, water recycling, and much more. The NSBM Green University Town, is South Asia's first green university.

The NSBM Green University Town is a landmark project by the NSBM, nation's premier degree school. The University was constructed at Pitipana, Homagama at a total investment of LKR 10.2 billion. The University features state-of-the-art lecture hall facilities, laboratories, libraries, modern auditoriums and cutting-edge tech labs, proffering the highest standards of education at its three faculties of Computing, Management and Engineering.

The NSBM Green University Town complex offers not only classroom facilities but also hostels, independent study areas, auditoriums, expansive walking and lounge areas, a swimming pool, a modern gymnasium and a business unit to develop entrepreneurship making it a complete education and live-in facility bringing the university experience of the 21st century to our doorstep.

GO DEEPER WITH THE NEXT ISSUE...

BOAT BUILDING

With the dawn of peace in Sri Lanka, the boom in the tourism industry has opened up a new frontier of leisure and pleasure crafts. The increased interest of the local community in boating activities has created additional market opportunities. The country's leisure sector records growth where whale watching and other leisure activities contributed by the surge in the tourism industry have a positive impact on the boat building industry.

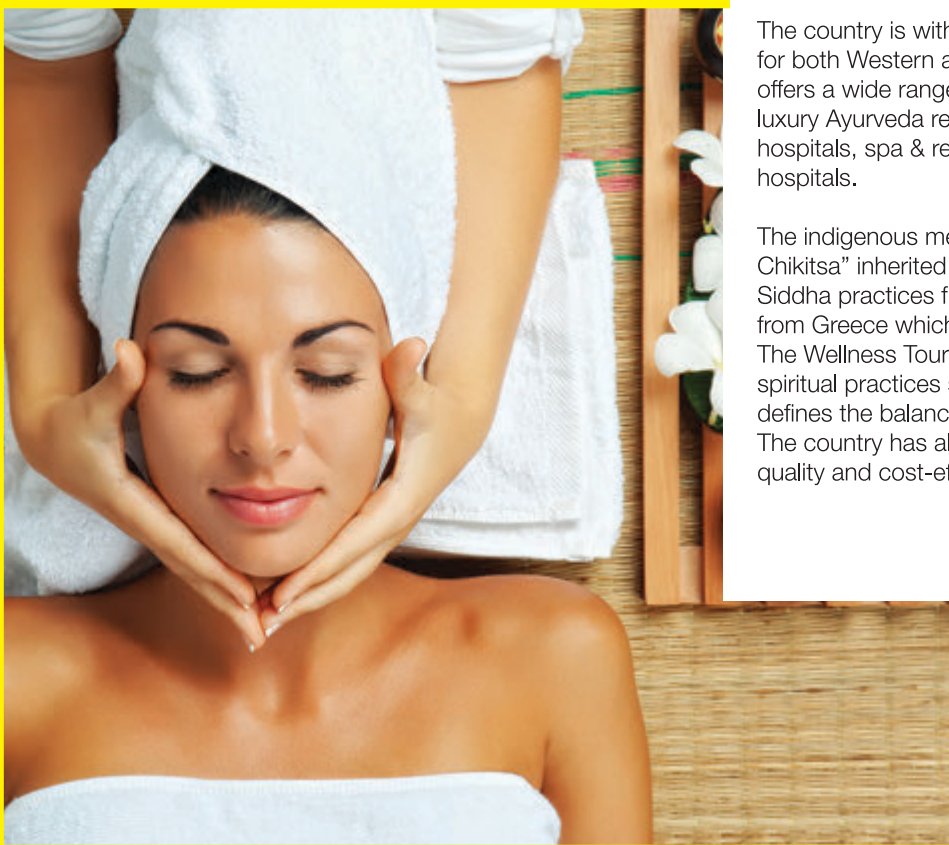
The industry has created a great opportunity to build, own and operate marinas in the country. The boat building industry has now transformed from traditional boat manufacturing into a high class boat manufacturing industry. There are around 20 to 25 active boat yards around the country producing various types of boats providing employment to around 2,000 direct and around another 10,000 indirect Personnel. Most of the units have an installed capacity to double the annual turnover which means only around 50% of the capacity utilization was recorded during the past two years.



WELLNESS TOURISM

The country is with two strong professional bodies for both Western and indigenous sectors. Sri Lanka offers a wide range of wellness services at the luxury Ayurveda resorts, indigenous medicine hospitals, spa & recreation centres and western hospitals.

The indigenous medical sector blends with "Deshiya Chikitsa" inherited in Sri Lanka, Ayurveda and Siddha practices from India and the Unani system from Greece which spread from the Arabian region. The Wellness Tourism also interconnects with other spiritual practices such as Yoga and Meditation as it defines the balance between body, mind and soul. The country has also become popular for high quality and cost-effective health services.





ELECTRICAL MACHINERY

The Electrical and Electronics industry in Sri Lanka has grown over the past 40 years into a key industrial manufacturing sector contributing towards the country's economic growth and more specifically export-led growth. The Industry contributes to over US dollar 340 million towards the country's value added export revenues and absorbs over 40,000 skilled workers in its multifaceted activities. The workforce is drawn from a pool of skilled young men and women with basic academic and technical knowledge.

The Industry, which started off as basic assembler of consumer electronics and products in the early 70s, migrated towards electronic components and assemblies in the post 1977 period covering a range of products such as printed circuit boards, magnetic heads, ferrite cores, coil assembly transformers, harness assemblies and energy saving lamps. Automobile safety components such as air bag impact sensors harnesses and seat belt switches which require a quality level of 1ppm (Only one defect would be tolerated for a million produce, which is the highest quality standard anywhere in the world).

PROCESSED FOOD

Processed food and beverage, a good alternative to the fresh option, provides a great way to add the required amounts of nutrition to one's daily intake of food. According to the British Heart Foundation a well-balanced diet should include at least 5 portions of fruits and vegetables a day of varying types. They can be fresh, frozen, dried or tinned including fruit juice, pulses and beans. Since the entire range of fresh fruit and vegetables are not accessible across the globe, processed products provide an option to consume varieties other than the indigenous types available in one's own country.

Prepared and preserved meat and fish products are also offered as cooked and instant meals. Sausages, sardines, mackerel, salmon and tuna are among the products exported in canned forms mainly for the tourist trade in nearby countries and for the ethnic communities overseas.

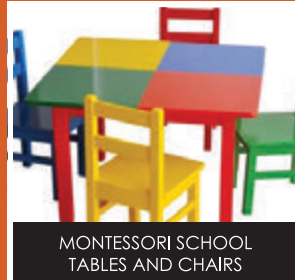


SPICES AND CONCENTRATES

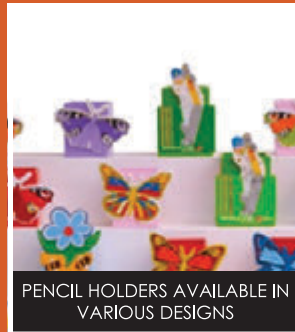
Sri Lanka has been famous for an exquisite range of spices for centuries. These include Cinnamon, Pepper, Cloves, Cardamoms, Nutmeg, Mace and Vanilla. Out of exports under other agricultural commodities, 56% comprise of spices & allied products & essential oil sector, and 55% of this is cinnamon and related products.

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