PAQS Congress 2025

Country Report - Sri Lanka

Sustainability in the Sri Lankan Construction Industry

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The Tank and the Stupa - The Village and the Temple

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1. Introduction

Sustainability has emerged as a defining priority for the global construction industry, driven by rising environmental concerns, resource scarcity, social inequality, and the urgent need for climate resilience. In the context of Sri Lanka, where rapid urbanisation, infrastructure development, and economic recovery efforts are intensifying, the importance of embedding sustainable practices into construction has never been more critical. This calls for a shift from conventional construction practices to environmentally responsible and socially inclusive development.

The construction industry in Sri Lanka makes a significant contribution to the national GDP and employment. However, it is also a major consumer of energy and raw materials, and a substantial source of waste and emissions. This duality places a heavy responsibility on the sector to transition towards sustainability, reducing its ecological footprint and enhancing its long-term economic and social value. Sustainable construction, in this context, refers to a comprehensive approach that integrates environmentally friendly materials and technologies, promotes energy and water efficiency, prioritises health and well-being, and supports inclusive, resilient communities.

Based on these, this report takes a culturally rooted approach to exploring sustainability in Sri Lanka's construction sector. Rather than viewing sustainability solely through the lens of modern engineering or imported green frameworks, it revisits an indigenous concept that has long embodied the principles of environmental stewardship, community welfare, and spiritual harmony; *"Wewai, Daagebai, Gamai, Pansalai" (The Tank and the Stupa - The Village and the Temple)*. This traditional planning model offers more than historical interest; it presents a valuable philosophical foundation for reimagining the future of sustainable construction in Sri Lanka.

The objective of this report is to explore the intersection of ancient wisdom and modern sustainable construction practices, assess the evolving dynamics of tourism and environmental consciousness, evaluate the real impact of sustainability efforts across economic, social, and ecological dimensions, and identify actionable pathways for a more sustainable construction future. Through this integrative lens, the report highlights the potential for Sri Lanka to create a culturally grounded and globally relevant sustainability model; one that preserves its heritage and safeguards its future.

2. Theme Introduction

"වැවයි, දාගැබයි, ගමයි, පන්සලයි - Wewai, Daagebai, Gamai, Pansalai"
- Reimagining Traditional Wisdom for a Sustainable Construction Future in Sri Lanka -
(*The Tank and the Stupa - The Village and the Temple*)

Sri Lanka's ancient socio-environmental design philosophy was driven by a profound understanding of harmony between people, nature, and spiritual purpose. Among the most revered and foundational concepts that shaped the island's civilisational identity is the model of *"Wewai, Daagebai, Gamai, Pansalai",* translated as *"The Tank and the Stupa - The Village and the Temple."* This timeless framework represents a holistic structure where water management (*Wewa*), spiritual and cultural identity and the storage of wealth for emergency use (*Daageba*), community living (*Gama*), and moral guidance (*Pansala*) coexisted symbiotically. It was more than just physical infrastructure; it was a blueprint for sustainable living. Water bodies nourished agriculture and ecosystems, stupas inspired unity and reflection, villages fostered community resilience, and temples anchored values and learning.

In today's era, where the Sri Lankan construction industry faces mounting challenges related to environmental degradation, climate vulnerability, and social disparities, this ancient paradigm offers inspiration and direction. The wisdom embedded in *"Wewai, Daagebai, Gamai, Pansalai"* invites to rethink the built environment, not as isolated structures, but as interconnected systems designed for coexistence, resilience, and legacy. This theme is not a nostalgic glance backwards. It is a forward-thinking call to action: to embed sustainability at the heart of construction by restoring balance between development and ecology, economy and community, innovation and tradition. By revisiting and adapting this model, Sri Lanka can pioneer a uniquely local path to sustainable construction; one that respects heritage while responding to the urgencies of the present and future.

3. Ancient Practices and Their Embedded Sustainability

Sri Lanka's ancient civilisations developed a remarkable array of sustainable practices that were deeply embedded in daily life, demonstrating an early understanding of ecological balance and resource conservation. These traditions, which seamlessly integrated water management, agriculture, architecture, and community living, offer valuable lessons for modern sustainability challenges. At the heart of this system was the concept of "*Wewai, Dagabai, Gamai, Pansalai*" - "*The Tank and the Stupa - The Village and the Temple"*, which functioned as interconnected pillars of a self-sufficient society.

One of the most impressive achievements of ancient Sri Lanka was its advanced hydraulic engineering. The 5th-century rock fortress of Sigiriya stands as a testament to this ingenuity, featuring one of the world's oldest surviving pressurised water systems. The palace complex included sophisticated water gardens with a network of underground conduits, fountains that operated through gravity-fed hydraulic pressure, and a series of moats and pools that served both aesthetic and practical cooling purposes. This engineering marvel was complemented by the island-wide irrigation systems, including massive reservoirs, like Parakrama Samudraya and intricate networks of village tanks, which ensured water security even during dry seasons. These systems were designed with remarkable precision, featuring innovations such as the *bisokotuwa*, an ancient sluice gate that regulated water flow without causing erosion. Together with Sigiriya's hydraulic wonders, these water management techniques supported thriving agricultural communities and allowed ancient kingdoms to flourish.

Parakrama Samudraya, built by King Parakramabahu in the 12th century in Polonnaruwa, is another remarkable feat of ancient sustainable hydraulic engineering in Sri Lanka. Designed as a massive reservoir, it showcases the sustainable wisdom of harvesting rainwater to support agriculture across vast areas. The interconnected system of canals and tanks emphasised conservation, water equity, and resilience against drought, guided by the famous quote by the king: "*Not even a drop of water should flow into the ocean without serving mankind."*

On the other hand, Jetavanarama Stupa, constructed in the 3rd century AD by King Mahasena in Anuradhapura, stands as one of the tallest brick structures of the ancient world. Built using locally sourced materials like burnt clay bricks and lime mortar, it reflects sustainable practices in construction, including passive thermal regulation and durability. Its continued presence after over 1,700 years is a testament to the strength and environmental harmony of ancient Sri Lankan engineering. Sacred sites, including Buddhist temples and stupas, were often surrounded by protected forests known as *pitawana*, which preserved biodiversity and provided herbal medicines.

The Yodah Ala (Giant Canal), constructed during King Dhatusena's reign in the 5th century, also stands as a timeless example of sustainability in Sri Lanka's built environment. Stretching over 80 kilometres to connect Kala Wewa and Tissa Wewa, it functioned entirely on gravity flow, showcasing advanced ecological wisdom that minimised energy use, water loss, and environmental disruption. Beyond engineering brilliance, it sustained vast agricultural lands,

secured food supply, and strengthened community resilience against droughts, reflecting a holistic balance between people and nature. Revering water as sacred, Yodah Ala embodied the philosophy of resource stewardship and collective well-being. Today, it remains a powerful reminder that sustainability is deeply rooted in Sri Lanka's heritage, offering valuable lessons for embedding ecological balance, efficiency, and cultural harmony.

Agriculture in ancient Sri Lanka was equally sustainable, with practices that prioritised long-term fertility over short-term gains. Farmers practised *chena* cultivation, a form of shifting agriculture that allowed the land to regenerate naturally. Traditional paddy farming relied on heirloom rice varieties that were naturally resistant to pests and droughts, while the *bethma* system ensured fair access to water during dry periods by redistributing land among villagers. Surrounding homes were *ketha*, or fields, where families grew fruits, vegetables, and medicinal plants, reducing dependence on large-scale farming.

Community and spirituality played a central role in maintaining these sustainable practices. Temples served not only as places of worship but also as centres of knowledge, where monks cultivated medicinal gardens and promoted principles of conservation. Villagers participated in *shramadana*, or collective labour, to maintain shared resources like tanks and roads, fostering a strong sense of responsibility toward the environment. Waste was minimised through practices such as using banana leaves for meals and repurposing agricultural byproducts for fuel and construction.

In today's world, where climate change and resource depletion pose urgent challenges, Sri Lanka's ancient practices offer a blueprint for sustainable living. The integration of water management, as demonstrated by Sigiriya's hydraulic systems, organic farming, eco-friendly architecture, and community cooperation, demonstrates how societies can thrive in harmony with nature. By revisiting these time-tested traditions, innovative solutions to modern environmental crises can be discovered while preserving the cultural heritage that has sustained Sri Lanka for centuries.

4. Sri Lanka's Contribution to Sustainable Construction

Modern sustainable construction in Sri Lanka is evolving in response to rising environmental threats, economic demands, and social disparities. While rooted in traditional low-impact building methods, the sector is increasingly embracing innovative materials, green technologies, and policy reforms aimed at reducing its ecological footprint and enhancing social and economic outcomes. This shift is aligned with global sustainability targets and is critical for the country's resilience, particularly amid climate change, urbanisation, and economic recovery efforts.

The contemporary approach to sustainability in the Sri Lankan construction industry can be effectively understood through the lens of the three pillars of sustainability: environmental, economic, and social.

- **Environmental Pillar: Building Responsibly with Nature**

The environmental dimension focuses on minimising harm to ecosystems and natural resources throughout the lifecycle of buildings, from design and material selection to construction, operation, and refurbishment. Given that the built environment contributes to approximately 40% of global annual CO_2 emissions (IEA, 2022), Sri Lanka's sustainable construction strategies are gradually aligning with greener alternatives. Sri Lankan builders are beginning to adopt eco-conscious materials that reduce environmental degradation:

- Hempcrete, a bio-composite made of hemp hurds and lime or sand, is increasingly used for insulation and non-load-bearing walls due to its low embodied energy and high thermal performance.
- Bamboo, renowned for its rapid renewability and biodegradability, is a viable substitute for traditional timber in framing and structural elements.
- Wattle and Daub, a traditional technique involving mud, straw, and wooden lattices, offers natural insulation, low carbon impact, and cost-efficiency.
- Durra Panels, produced from paddy straw, are light, sound-absorbent, and ideal for partitions and ceilings, supporting both interior comfort and material efficiency.
- Glaze Concrete utilises recycled post-consumer and industrial waste, reducing landfill burden and conserving virgin materials.

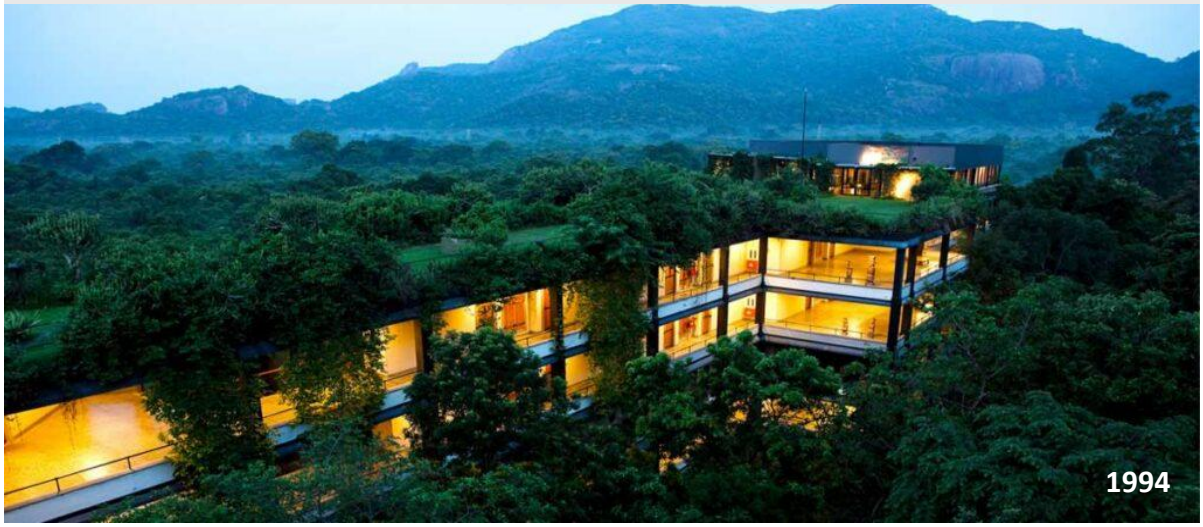
Furthermore, rooftop vegetation and vertical greenery systems (VGS) are gaining traction in urban Sri Lanka, serving as passive climate control strategies. These installations reduce surface temperatures, extend roof life, improve air quality, and mitigate urban heat island effects. Additionally, rooftop solar panels and micro-concrete roofing tiles are being used to reduce reliance on fossil fuels and promote decentralised renewable energy use.

Retrofitting existing buildings is a cost-effective and environmentally sound approach to reducing embodied carbon. Sustainable refurbishment projects in Sri Lanka involve enhancing insulation, installing solar thermal and photovoltaic systems, reducing water consumption,

and using eco-certified materials, all while preserving heritage architecture and reducing construction waste.

Clearpoint Residencies - “World’s Tallest Vertical Garden”

Hotel - Kandalama Heritance



- **Economic Pillar: Driving Efficiency and Long-Term Value**

From an economic standpoint, sustainable construction is seen as an investment in efficiency, resilience, and long-term returns. The Sri Lankan construction sector contributes nearly 9% of national GDP and employs over 600,000 people, making it a significant economic driver. The use of innovative green materials reduces environmental costs and lowers operational expenses through improved insulation and energy savings. Bamboo and Durra panels, for example, offer reduced lifecycle costs, given their affordability and durability. Moreover, the rise of green construction opens up new job markets in energy auditing, green product manufacturing, and sustainable design, offering economic diversification. Furthermore, sustainable refurbishment projects help extend the usable life of buildings, reducing the need for frequent reconstruction and optimising investment in urban infrastructure. Sri Lanka's gradual move towards green building rating systems (e.g., LEED, and GREENSL® frameworks) is also economically significant. Such certifications attract environmentally conscious investors and donors. As many large-scale infrastructure projects are funded by foreign aid or multilateral donors, integrating sustainability can enhance funding opportunities and align with global development standards.

The Headquarters of Sri Lanka Centre for Development Facilitation

- One of the 12 GBCSL Platinum Certified Buildings in Sri Lanka -

- **Social Pillar: Inclusivity, Heritage, and Community Well-being**

The social dimension of sustainable construction focuses on improving human well-being, social equity, and cultural continuity. In Sri Lanka, this often involves the integration of community participation and creating infrastructure that promotes health, safety, and inclusiveness. Projects like Crow Island Beach Park have demonstrated the power of involving local communities in design and decision-making, resulting in inclusive and context-sensitive outcomes. Another example is the Lunawa Lake Project, which took a visionary approach to infrastructure that transformed environmental remediation into a catalyst for social uplift. Similarly, the Gemidiriya project employed community labour and input in road construction, generating local employment and a sense of ownership.

Furthermore, with Sri Lanka's unemployment rate at 4.70% in 2023, sustainable construction projects that adopt Social Procurement practices can generate broader social value. It encourages contractors to hire from marginalised groups, use local supply chains, and provide skills training, thus enhancing livelihoods and aligning public spending with social development goals. Research is being conducted to integrate social procurement into the Sri Lankan context.

Crow Island Beach Park

5. Tourism and Sustainable Construction: The Evolving Relationship

Tourism and construction are closely interlinked, as the growth of tourism drives demand for sustainable infrastructure, while construction practices directly influence the environmental and cultural appeal that attracts tourists. Tourism in Sri Lanka has long been a cornerstone of national development, contributing significantly to foreign exchange earnings, employment generation, and regional upliftment. In recent years, there has been a growing awareness of the need to align tourism with sustainable construction practices, particularly as environmental and cultural preservation have become central to global development discourses. The evolving relationship between tourism and sustainable construction in Sri Lanka reflects a paradigm shift from conventional mass tourism to experience-driven, eco-conscious models that prioritise sustainability in both design and operation. This transformation is visible across a range of tourism ventures, where sustainable construction serves as a catalyst for conserving natural resources, promoting cultural authenticity, and fostering community engagement.

One of the most iconic examples of this relationship is '*Heritance Kandalama*', located near the ancient city of Dambulla. Designed by the legendary Sri Lankan architect Geoffrey Bawa, the hotel is seamlessly integrated into the rock face and surrounding jungle, demonstrating how architecture can coexist harmoniously with nature. Constructed with minimal disruption to its ecological context, the building incorporates passive cooling, natural ventilation, greywater recycling, and rainwater harvesting systems. Its design philosophy is rooted in biophilic principles, where the built environment merges with its surroundings, setting a benchmark in sustainable hospitality that has earned international accolades, including Green Globe certification.

Nearby, '*Jetwing Vil Uyana*' in Sigiriya offers another exemplary case of sustainability-led tourism. Situated near the world-renowned Sigiriya Rock Fortress, the resort was developed on a previously degraded paddy field that was transformed into a thriving wetland ecosystem. Built using traditional materials such as bamboo, timber, and thatch, the resort integrates renewable energy systems, on-site organic farming, and conservation-driven landscaping. Its

innovative design reduced its environmental footprint and created a sanctuary for biodiversity, with rare species such as slender loris.

Further exemplifying Sri Lanka's commitment to sustainable tourism are more rustic, off-grid retreats such as the '*Mudhouse'* in Anamaduwa. This eco-lodge is constructed entirely using traditional wattle-and-daub techniques, with thatched roofing and earth-based floors, all sourced locally. The Mudhouse is completely solar-powered, and water is drawn sustainably from wells, while waste is managed through composting and natural filtration. Beyond its architectural features, what sets The Mudhouse apart is its emphasis on community inclusion, with local residents involved in every aspect of the operation from construction to cuisine.

In the southern region, '*Tri Lanka'* near Koggala Lake offers a more modern yet equally sustainable interpretation of eco-tourism. The resort is built using reclaimed wood and recycled materials and features green roofs, solar technology, and vertical gardens. It combines minimalistic design with high ecological sensitivity, creating a tranquil, wellness-oriented space that blends luxury with responsibility.

In the central hills of Kandy, '*Santani Wellness Resort'* redefines wellness tourism through its minimalist architecture, which is designed to maximise natural light and airflow while reducing energy usage. Built on a rehabilitated former tea estate, Santani employs sustainable materials, efficient waste and water management systems, and a low-impact landscape design. In the eastern region, Gal Oya Lodge near Gal Oya National Park demonstrates how

construction can support conservation. Constructed with locally sourced clay, timber, and iluk grass, the lodge maintains a low carbon footprint while supporting nearby indigenous communities. It also plays a critical role in biodiversity education and research, thereby aligning hospitality with environmental stewardship.

Furthermore, village tours, such as the '*Hiriwadunna Village Tour*', offer an immersive, eco-friendly experience that deeply connects visitors with traditional, sustainable life. Guests embark on a bullock-cart ride through lush paddy fields, glide across Hiriwadunna Lake in a catamaran, stroll through vegetable gardens, and participate in a traditional Sri Lankan cooking demonstration using locally sourced ingredients, all while engaging directly with village residents. The journey culminates in a wholesome village lunch and fosters mutual cultural appreciation, sustainable livelihoods, and environmental awareness in a serene, natural setting.

This evolving relationship holds immense promise for Sri Lanka's future. As climate concerns intensify and the global demand for sustainable travel rises, Sri Lanka's ability to balance development with conservation becomes a strategic advantage. These exemplary projects provide a roadmap for how sustainable construction can enhance tourism experience while safeguarding the island's ecological and cultural richness. Moving forward, the continued collaboration among stakeholders; government, private sector, and communities will be essential to scale these practices and ensure that tourism remains a force for sustainability, resilience, and inclusive development.

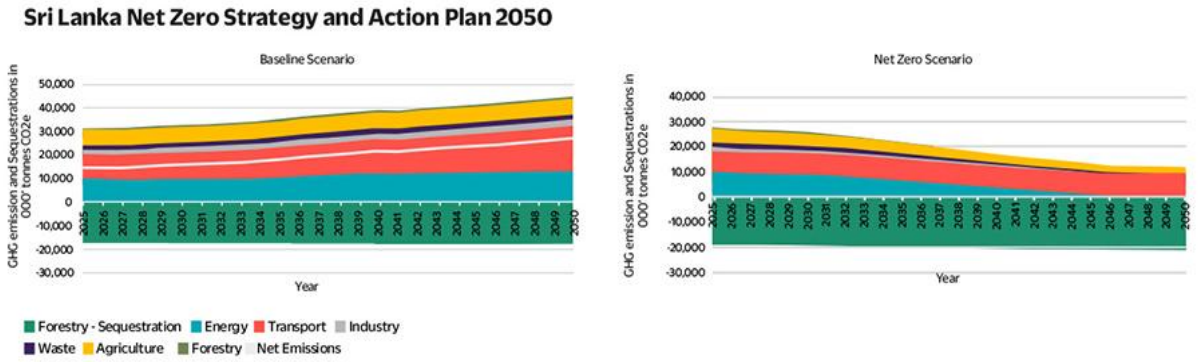
6. The Real Impact: Measuring Sustainability in the Construction Sector

Sri Lanka has made notable progress in institutionalising sustainability through recognised certification systems. The two main rating systems used in the country are the GREENSL® Rating System developed by the Green Building Council of Sri Lanka (GBCSL), and the internationally recognised LEED (Leadership in Energy and Environmental Design) certification issued by the U.S. Green Building Council. As of now, there are 81 LEED-certified buildings in Sri Lanka, with 18 Platinum, 50 Gold, 11 Silver and 2 other certified buildings. Considering the GREENSL® certification, there are 12 Platinum-rated, 13 Gold-rated and 4 Silver-rated buildings. These highlight that the Sri Lankan construction industry is moving towards sustainable construction.

In response to the global and local demand for environmentally responsible construction, Sri Lanka established the GREENSL® Labelling System in 2012 through the Green Building Council of Sri Lanka (GBCSL). This ISO Type I eco-label is a voluntary, third-party certification designed specifically for Sri Lankan conditions, while maintaining alignment with international standards. Supported by the Global Eco-Labelling Network (GEN), the system certifies products based on comprehensive life-cycle criteria, ensuring minimal environmental impact and maximum consumer satisfaction. A wide range of products, including cement, concrete, bricks, tiles, paints, glass, and roofing materials, have achieved GREENSL® certification, contributing significantly to greener buildings in the country. These products are not only widely adopted in Sri Lanka's construction sector but also enhance corporate environmental credibility and international competitiveness

Considering the quantifiable environmental outcomes of sustainable construction in Sri Lanka, projects like Clearpoint Residencies, the world's tallest vertical garden located in Rajagiriya, claim to reduce ambient temperature by 2–3°C while lowering air-conditioning loads by approximately 30%. Similarly, the Heritance Kandalama Hotel, a pioneering green tourism project, was one of the first ISO 14001 certified hotels in Asia, and it continues to lead with energy-saving practices and natural ventilation, saving approximately 20% in energy consumption compared to conventional hotels. Among its many other accreditations are Heritance Kandalama being the first Green Globe 21 certified hotel in Asia, the first LEED certified hotel in the world, and the first hotel chain in the World to have a certified energy management system (ISO 50001:2011).

Furthermore, Sri Lanka's commitment to sustainability is evident in government efforts such as the Carbon Net Zero 2050 Roadmap launched by the Sri Lanka Sustainable Energy Authority. According to the Authority, as of now, the energy-efficient buildings in Sri Lanka have collectively contributed to an estimated annual reduction of 4,000–5,000 tonnes of CO_2 emissions. Further, the Sustainable Energy Authority's Energy Efficiency Awards have driven a 15–20% improvement in energy performance in large commercial buildings. Likewise, Sri Lanka has laid the foundation for sustainable construction through structured certification systems, pilot projects with measurable outcomes, and government incentives.



7. Policy, Regulation, and Incentives

Over the past decades, Sri Lanka has steadily strengthened its legal and regulatory framework to promote environmental responsibility and sustainable practices in the construction sector. The cornerstone of these efforts is the National Environmental Act No. 47 of 1980, which established the Central Environmental Authority (CEA). Empowered by this Act, the CEA sets environmental quality standards, oversees Environmental Impact Assessments (EIAs) for major developments, and enforces regulations to control pollution and safeguard ecosystems. Furthermore, under the Sri Lanka Sustainable Energy Authority Act No. 35 of 2007, the Sri Lanka Sustainable Energy Authority (SLSEA) was created, authorising it to promote energy efficiency across all sectors, including buildings. Section 36(g) empowers SLSEA to enact and oversee the Energy Efficient Building Code (EEBC), which includes guidelines for insulation, lighting, HVAC systems, appliance standards, and integration of renewable energy in buildings.

In 2017, the Sustainable Development Act No. 19 came into force, establishing the Sustainable Development Council. Its objectives include formulating a national sustainability policy aligned with the UN SDGs, mainstreaming sustainability into government planning and construction, and monitoring compliance across all levels of administration. Moreover, urban planning and development regulations have incorporated sustainability through amendments to the Town & Country Planning Ordinance and the adoption of the National Physical Plan 2050 in 2019. More significantly, Urban Development Authority (UDA) regulations by 2020 have made Green Building Certification mandatory for all buildings exceeding 400 m^2, as per CIDA guidelines. These regulations require site suitability evaluation, sustainable material use, thermal comfort design, and stormwater management.

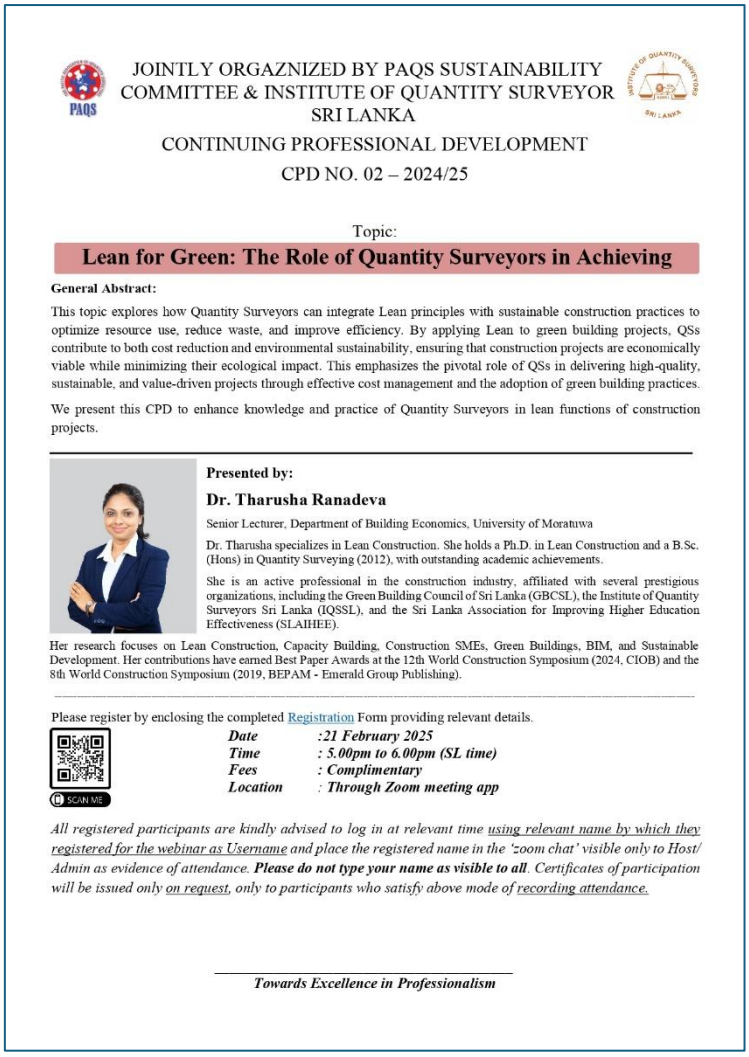
Fiscal incentives are gradually aligning with legal mandates, with tax deductions (e.g., up to LKR 600,000 per year for solar energy investments) and initiatives like Green Construction Loans, Green Mortgages, and plans for Green Bonds being developed by the Central Bank in collaboration with green-certification bodies. Additionally, duty concessions are offered for importing materials used in certified green buildings. Environmental review and certification, for systems such as, LEED, GREENSL®, and UDA Green Certification, are increasingly integrated into approval processes, where projects must meet criteria related to indoor environmental quality, sustainable sourcing, innovation, and community sensitivity to secure planning and permit clearances.

8. The Evolving Role of Quantity Surveyors in Promoting Sustainable Construction

The construction industry is increasingly focused on sustainable practices to mitigate environmental impact. Quantity Surveyors (QS) are pivotal in this shift, expanding their traditional cost management role to integrate sustainability throughout project lifecycles. Their evolving competencies include integrated cost management, incorporating environmental costs and benefits; Life Cycle Costing (LCC) and Life Cycle Assessment (LCA) for comprehensive financial and environmental analysis; expertise in sustainable procurement, guiding the selection of eco-friendly materials; carbon footprint analysis to quantify and reduce emissions; and strategies for resource efficiency and waste minimisation. QS professionals also possess knowledge of green building certifications and apply value engineering to enhance both project value and environmental performance. Beyond technical skills, ethical conduct, leadership, and quality assurance are crucial for championing sustainable practices.

Strategically, Quantity Surveyors utilise LCC and LCA to provide holistic insights, balancing immediate costs with long-term economic and environmental benefits. They are instrumental in sustainable procurement, advising on environmentally friendly materials and technologies, and in waste management, implementing strategies to minimise waste and promote reuse. The professional body of QSs in Sri Lanka, the Institute of Quantity Surveyors, Sri Lanka (IQSSL), plays a vital role in advancing sustainability. IQSSL regulates the profession, advises government bodies, accredits QS courses, and ensures continuous professional development through initiatives like Assessment of Professional Competence (APCs) and Accredited Technical Competencies (ATCs). They also conduct research and participate in governmental committees to foster innovation and advocate for sustainable practices.

Further demonstrating this commitment to professional development and sustainability, a Continuing Professional Development (CPD) session titled "Lean for Green: The Role of Quantity Surveyors in Achieving Value in Construction Projects" was held on 21st February 2025. This complimentary online session, organised by IQSSL in collaboration with PAQS, aimed to enhance Quantity Surveyors' expertise in integrating Lean principles with sustainable construction practices to optimise resource use, reduce waste, improve efficiency, and contribute to cost reduction and environmental sustainability. Presented by Ch. QS. Dr. (Mrs.) Tharusha Ranadewa, a Senior Lecturer of University of Moratuwa, the event underscored the critical role of QS professionals in delivering value-driven, sustainable projects. Such professional development initiatives are essential for keeping QSs at the forefront of driving a greener built environment.



JOINTLY ORGAZNIZED BY PAQS SUSTAINABILITY COMMITTEE & INSTITUTE OF QUANTITY SURVEYOR SRI LANKA

CONTINUING PROFESSIONAL DEVELOPMENT

CPD NO. 02 – 2024/25

Topic:

Lean for Green: The Role of Quantity Surveyors in Achieving

General Abstract:

This topic explores how Quantity Surveyors can integrate Lean principles with sustainable construction practices to optimize resource use, reduce waste, and improve efficiency. By applying Lean to green building projects, QSs contribute to both cost reduction and environmental sustainability, ensuring that construction projects are economically viable while minimizing their ecological impact. This emphasizes the pivotal role of QSs in delivering high-quality, sustainable, and value-driven projects through effective cost management and the adoption of green building practices.

We present this CPD to enhance knowledge and practice of Quantity Surveyors in lean functions of construction projects.

Presented by:

Dr. Tharusha Ranadeva

Senior Lecturer, Department of Building Economics, University of Moratuwa

Dr. Tharusha specializes in Lean Construction. She holds a Ph.D. in Lean Construction and a B.Sc. (Hons) in Quantity Surveying (2012), with outstanding academic achievements.

She is an active professional in the construction industry, affiliated with several prestigious organizations, including the Green Building Council of Sri Lanka (GBCSL), the Institute of Quantity Surveyors Sri Lanka (IQSSL), and the Sri Lanka Association for Improving Higher Education Effectiveness (SLAIHEE).

Her research focuses on Lean Construction, Capacity Building, Construction SMEs, Green Buildings, BIM, and Sustainable Development. Her contributions have earned Best Paper Awards at the 12th World Construction Symposium (2024, CIOB) and the 8th World Construction Symposium (2019, BEPAM - Emerald Group Publishing).

Please register by enclosing the completed Registration Form providing relevant details.

SCAN ME

Date	*:21 February 2025*
Time	*: 5.00pm to 6.00pm (SL time)*
Fees	*: Complimentary*
Location	*: Through Zoom meeting app*

All registered participants are kindly advised to log in at relevant time using relevant name by which they registered for the webinar as Username and place the registered name in the 'zoom chat' visible only to Host/ Admin as evidence of attendance. ***Please do not type your name as visible to all****. Certificates of participation will be issued only on request, only to participants who satisfy above mode of recording attendance.*

Towards Excellence in Professionalism

In addition to this session, the following CPD sessions were also conducted, promoting the integration of sustainability, technology, and socio-economic awareness in shaping future-ready built environments in Sri Lanka.

Date	Topic	Resource Person
3rd April 2025	Sustainable Smart Cities: Bridging technology and behaviour for urban decarbonisation	Associate Professor Niraj Thurairajah
6th June 2025	Carbon financing and carbon accounting in global construction industry – concepts and trends	Dr. Chethana Illankoon
27th June 2025	Urban & building morphology: Hidden socio-economic and construction costs in creating Built Environments	Ch.QS Lalith Ratnayake

CONTINUING PROFESSIONAL DEVELOPMENT

CPD NO. 03 – 2024/25

Topic:

Sustainable Smart Cities: Bridging technology and behaviour for urban decarbonisation

General Abstract:

Many cities are actively seeking smart solutions to address urban challenges including reduction of excessive carbon emissions. Concept of 'smart' cities is based on the premise that as cities become more instrumented, interconnected, and intelligent, they can make more efficient, equitable and liveable decisions in managing natural resources and related infrastructure. As a result, idea of Smart Cities is increasingly championed as a key strategy to support the sustainability agenda, leading to development of Sustainable Smart Cities (SSCs).

However, there is limited evidence to determine whether these technological innovations can truly decarbonise cities and pave way for a zero-carbon future. Critics argue that technology alone cannot ensure decarbonisation; achieving this goal also requires significant human engagement in both creation and adoption of these technologies. In other words, the success of SSCs transition depends not only on active citizen participation and interaction with smart technologies but also on substantial behavioural change to enable an effective socio-technical transition towards sustainability.

IQSSL presents this CPD to enhance knowledge of Quantity Surveyors in understanding SSC technologies and their role in decarbonisation.

Presented by:

Associate Professor Niraj Thurairajah

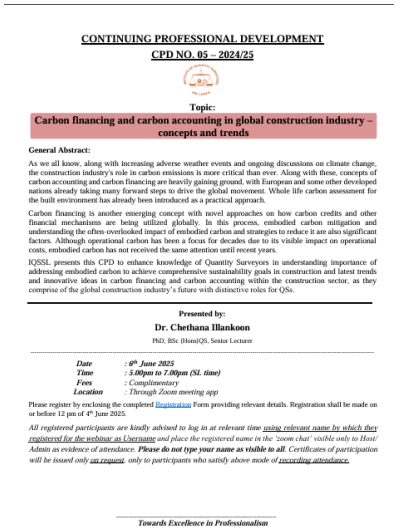
PhD, BSc (Hons)QS, FHEA

Date : *3rd April 2025*
Time : *6.00pm to 8.00pm (SL time)*
Fees : *Complimentary*
Location : *Through Zoom meeting app*

Please register by enclosing the completed Registration Form providing relevant details. Registration shall be made on or before 12 pm of 1st April 2025.

All registered participants are kindly advised to log in at relevant time using relevant name by which they registered for the webinar as Username and place the registered name in the 'zoom chat' visible only to Host/ Admin as evidence of attendance. ***Please do not type your name as visible to all****. Certificates of participation will be issued only on request, only to participants who satisfy above mode of recording attendance.*

Towards Excellence in Professionalism



CONTINUING PROFESSIONAL DEVELOPMENT

CPD NO. 05 – 2024/25

Topic:

Carbon financing and carbon accounting in global construction industry – concepts and trends

General Abstract:

As we all know, along with increasing adverse weather events and ongoing discussions on climate change, the construction industry's role in carbon emissions is more critical than ever. Along with these, concepts of carbon accounting and carbon financing are heavily gaining ground, with European and some other developed nations already taking many forward steps to drive the global movement. Whole life carbon assessment for the built environment has already been introduced as a practical approach.

Carbon financing is another emerging concept with novel approaches on how carbon credits and other financial mechanisms are being utilized globally. In this process, embodied carbon mitigation and understanding the often-overlooked impact of embodied carbon and strategies to reduce it are also significant factors. Although operational carbon has been a focus for decades due to its visible impact on operational costs, embodied carbon has not received the same attention until recent years.

IQSSL presents this CPD to enhance knowledge of Quantity Surveyors in understanding importance of addressing embodied carbon to achieve comprehensive sustainability goals in construction and latest trends and innovative ideas in carbon financing and carbon accounting within the construction sector, as they comprise of the global construction industry's future with distinctive roles for QSs.

Presented by:

Dr. Chethana Illankoon

PhD, BSc (Hons)QS, Senior Lecturer

Date : *6th June 2025*
Time : *5.00pm to 7.00pm (SL time)*
Fees : *Complimentary*
Location : *Through Zoom meeting app*

Please register by enclosing the completed Registration Form providing relevant details. Registration shall be made on or before 12 pm of 4th June 2025.

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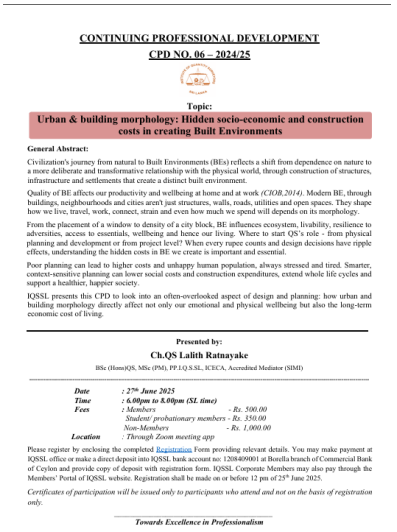
Towards Excellence in Professionalism



CONTINUING PROFESSIONAL DEVELOPMENT

CPD NO. 06 – 2024/25

Topic:

Urban & building morphology: Hidden socio-economic and construction costs in creating Built Environments

General Abstract:

Civilization's journey from natural to Built Environments (BEs) reflects a shift from dependence on nature to a more deliberate and transformative relationship with the physical world, through construction of structures, infrastructure and settlements that create a distinct built environment.

Quality of BE affects our productivity and wellbeing at home and at work *(CIOB,2014)*. Modern BE, through buildings, neighbourhoods and cities aren't just structures, walls, roads, utilities and open spaces. They shape how we live, travel, work, connect, strain and even how much we spend will depends on its morphology.

From the placement of a window to density of a city block, BE influences ecosystem, livability, resilience to adversities, access to essentials, wellbeing and hence our living. Where to start QS's role - from physical planning and development or from project level? When every rupee counts and design decisions have ripple effects, understanding the hidden costs in BE we create is important and essential.

Poor planning can lead to higher costs and unhappy human population, always stressed and tired. Smarter, context-sensitive planning can lower social costs and construction expenditures, extend whole life cycles and support a healthier, happier society.

IQSSL presents this CPD to look into an often-overlooked aspect of design and planning: how urban and building morphology directly affect not only our emotional and physical wellbeing but also the long-term economic cost of living.

Presented by:

Ch.QS Lalith Ratnayake

BSc (Hons)QS, MSc (PM), PP1,Q.S.SL, ICECA, Accredited Mediator (SIMI)

Date : *27th June 2025*
Time : *6.00pm to 8.00pm (SL time)*
Fees : *Members - Rs. 500.00*
Student/ probationary members - Rs. 350.00
Non-Members - Rs. 1,000.00
Location : *Through Zoom meeting app*

Please register by enclosing the completed Registration Form providing relevant details. You may make payment at IQSSL office or make a direct deposit into IQSSL bank account no: 1208409001 at Borella branch of Commercial Bank of Ceylon and provide copy of deposit with registration form. IQSSL Corporate Members may also pay through the Members' Portal of IQSSL website. Registration shall be made on or before 12 pm of 25th June 2025.

Certificates of participation will be issued only to participants who attend and not on the basis of registration only.

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Likewise, Quantity Surveyors have transformed into indispensable forces in sustainable development, uniquely positioned to reconcile economic viability with ecological stewardship. Their expanded competencies and strategic approaches, supported by IQSSL and continuous professional development events, empower them to make optimal financial and environmental decisions. By integrating sustainability principles into every project phase, Quantity Surveyors ensure that environmental objectives are practically achievable, playing an irreplaceable role in shaping a future where the built environment thrives in harmony with ecological well-being.

Building on this momentum, Green Accredited Quantity Surveyors in Sri Lanka are emerging as key drivers of sustainable development within the built environment. With their expertise in cost management and procurement, they are uniquely positioned to influence the financial feasibility of green initiatives from the earliest stages of a project. As Green Accredited Professionals (GAPs), these Quantity Surveyors combine traditional cost planning skills with a deep understanding of sustainable materials, energy-efficient systems, and life cycle costing. They play a vital role in evaluating the economic impacts of green design decisions, ensuring that sustainability goals are not only environmentally sound but also financially viable. Through their involvement, green building certification processes such as GreenSL, LEED, and EDGE are supported with accurate, sustainability-aligned cost strategies making them indispensable contributors to climate-conscious construction in Sri Lanka.

9. Towards a Culturally Aligned Sustainability Framework

Sri Lanka's journey towards sustainable construction is not solely on standards such as LEED or GREENSL®. While these offer measurable environmental benchmarks, they often lack contextual sensitivity to local heritage, climate, and social dynamics. Therefore, a culturally aligned sustainability framework is essential, one that fuses global principles with the nation's traditional ethos. Historically, Sri Lankan settlement patterns followed the model of *Wewai, Daagebai, Gamai, Pansalai*, which integrated water conservation (wewa), spiritual consciousness and the storage of wealth for emergency use/ a structure to store community wealth, built with trust by the community in the village (daageba), community living (gama), and ethical guidance (pansala). These elements collectively promoted environmental harmony, social cohesion, and spiritual grounding. A modern sustainability framework can build upon these ideas by translating them into principles for planning, construction, and governance.

This approach would encourage context-sensitive design, the use of local materials, protection of cultural identity, and greater community participation. For instance, sustainability should reflect carbon footprints and social equity and cultural continuity. Embedding such values into policy and practice allows Sri Lanka to create a construction culture that is environmentally responsible, socially inclusive, and spiritually rooted. Rather than viewing sustainability as a technical checklist, this culturally aligned model frames it as a way of life, deeply connected to the country's identity. This direction enables Sri Lanka to offer an authentic, place-based contribution to the global sustainability discourse.

10.Conclusions

This report highlights the importance of grounding Sri Lanka's sustainable construction future in its indigenous wisdom, embodied by the ancient concept of "Wewai, Daagebai, Gamai, Pansalai", the harmonious integration of water management, spiritual heritage, community life, and moral values. In a time when global pressures demand urgent environmental responsibility and social equity, Sri Lanka's construction sector stands at a crossroads. Rather than simply adopting imported green standards, the country has a unique opportunity to reimagine sustainability through a culturally resonant framework that balances ecological stewardship, economic vitality, and social cohesion.

The ancient paradigm reminds the country that sustainability is not merely about individual buildings or technologies but about creating interconnected systems that nurture life, culture, and wellbeing. Contemporary practices ranging from green certification schemes to energy-efficient codes must therefore be enriched by this holistic perspective, ensuring that development respects natural resources like water, reinforces community resilience, and preserves spiritual and cultural identity. By bridging the past and present, Sri Lanka can forge a sustainable construction model that is both globally informed and locally authentic. Such a model promises not only to reduce environmental impacts and carbon footprints but also to deepen social inclusion and cultural continuity. Ultimately, embracing the wisdom of "Wewai, Daagebai, Gamai, Pansalai" can guide Sri Lanka toward a future where construction fosters thriving ecosystems, vibrant communities, and enduring heritage, ensuring that progress truly honours its roots while securing the well-being of generations to come.

11.Useful References

- Ministry of Environment, Sri Lanka: https://env.gov.lk/web/index.php/en/
- Ministry of Urban Development and Housing: https://houseconmin.gov.lk/
- Central Environmental Authority: https://www.cea.lk/web/si
- Condominium Management Authority: https://www.condominium.lk/
- Construction Industry Development Authority: https://www.cida.gov.lk/index_e.php
- Urban Development Authority: https://www.uda.gov.lk/urban-regenerationprogramme.html
- Sri Lanka Sustainable Development Authority: https://www.energy.gov.lk/index.php/en/
- Green Building Council Sri Lanka: https://www.srilankagbc.org/
- Sri Lanka Climatic Fund: https://www.climatefund.lk/slcf_index.html
- Convention on Biological Diversity: https://www.cbd.int/countries/?country=lk
- List of LEEDS Certified Sri Lankan Buildings: usgbc.org/projects?Country=%5B"Sri+Lanka"%5D
- Sustainable Development Council of Sri Lanka: https://sdc.gov.lk/
- Competencies of the quantity surveyor in performing for sustainable construction: https://doi.org/10.1080/15623599.2018.1484848
- GREENSL® certified products: https://www.srilankagbc.org/certified-products/
- GREENSL® certified buildings: https://www.srilankagbc.org/green-rating-system-for-built-environment/

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