PAQS CONGRESS 2024

SRI LANKAN QUANTITY SURVEYING & SUSTAINABILITY PRACTICE

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SRI LANKA-THE WONDER OF ASIA



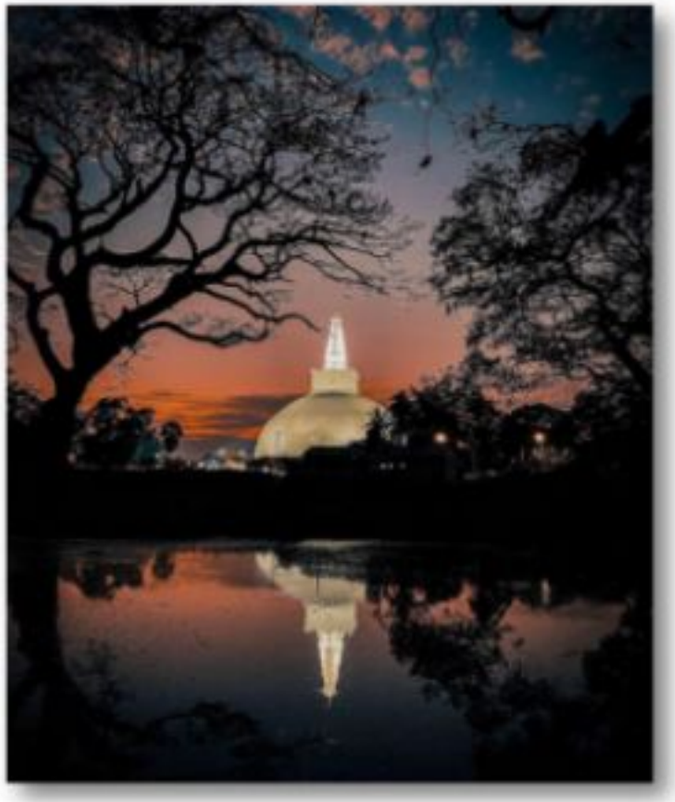
OUTLINE

SIGIRIYA – THE 8TH WORLD WONDER

- Sigiriya is among the world's oldest landscaped gardens
- Sigiriya has moats and formal water gardens with a sophisticated water supply system
- Water is fed from elevated tanks via underground and surface drainage during the rainy season
- The water gardens operate using gravity-fed clay conduits for smooth water flow

(Trevor Turpin, 2006)

ANCIENT SUSTAINABLE PRACTICES



Integrates the forest, temple, village tank, and homesteads in concentric circles, prioritizing sustainability and harmony with nature

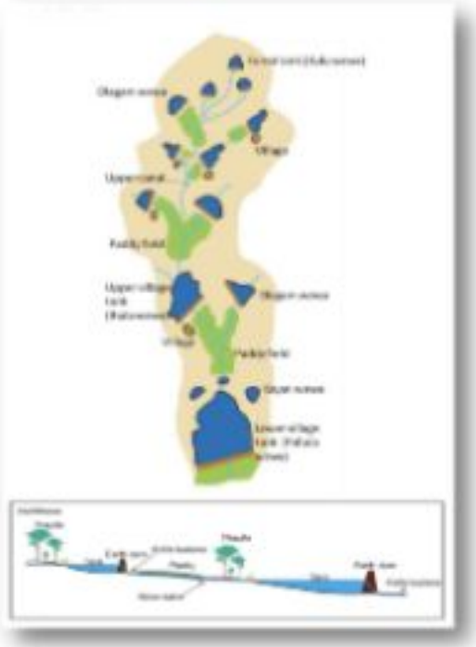
WHERE WE WERE

Jetavanaramaya Stupa-
273 BC

Clay Bricks with thin slurry as mortar

Lovamahapaya-161 BC

Architectural design that blended with nature



Tank Cascade System

Water used and re-used many times

(Ranaweera, 2010)

WHERE WE ARE

Mireka Tower and Havelock City Mall

High performance Building Automations System (BAS)

"The Round House"– Estate Bungalow at Ahangama

Architectural design that blended with nature

ITC One Colombo 1 Hotel Wing

Using recycled building materials

CONCEPT OF SUSTAINABILITY

Meeting the needs of the present without compromising the ability of future generations to meet their own needs

Brundtland Report published by the World Commission on Environment and Development 1987

Eight Millennium Development Goals (MDGs) to reduce extreme poverty by 2015

United Nations Millenium Summit 2000

Seventeen Sustainable Development Goals to end poverty and other deprivations with strategies to improve health and education, reduce inequality, and spur economic growth while tackling climate change and working to preserve our oceans and forests

The 2023 Agenda for Sustainable Development 2015 (United Nations)

SUSTAINABLE DEVELOPMENT GOALS

17 GOALS

↓

169 TARGETS

↓

400 + AGENCIES

Source : (The 2023 Agenda for Sustainable Development 2015-United Nations)

GOVERNMENT INCENTIVES FOR SUSTAINABILITY

GOVERNMENT ENTITIES

Sri Lanka has established 400+ government entities dedicated to achieving sustainability across various sectors. Some are;

- Ministry of Environment
- Central Environmental Authority (CEA)
- Sri Lanka Sustainable Energy Authority (SLSEA)
- National Building Research Organization (NBRO)
- Ministry of Urban Development and Housing
- Ministry of Agriculture
- Ministry of Water Supply and Drainage
- Ministry of Tourism & Ministry of Transport

GREEN AWARDING SYSTEMS

The government recognizes the selected green projects and green materials, for instance, awarding systems for the materials and processes

Implemented by,

- Sustainable Development Authority
- Sustainable Energy Authority
- Board of Investment (BOI)

GOVERNMENT INCENTIVES FOR SUSTAINABILITY CONT.

COMMUNITY-BASED POWER GENERATION PROJECT

- Promote the installation of small solar power plants by providing credit line of US $ 50 million established by the GoSL through a loan scheme from the ADB

MINISTRY OF POWER & RENEWABLE ENERGY

CEYLON ELECTRICITY BOARD

Sri Lanka
Sustainable Energy Authority

LECO

MOF
MINISTRY of FINANCE

AWARENESS PROGRAMS

Different kinds of conferences and workshops are conducted to increase the awareness of construction professionals

CONSTRUCTION INDUSTRY DEVELOPMENT AUTHORITY

SUSTAINABLE PRACTICES IN SRI LANKA

PRACTICE	USAGE	IMPACT
Hempcrete	Insulations, Non-Load Bearing Walls	Regulate indoor temperatures, Requires less energy compared to traditional concrete
Bamboo	Structural Elements due to high tensile strength	Renewable Energy, Low embodied energy
Durra panels	Walls, Ceiling and Roof	Biodegradability due to waster reduction
Wattle and Daub	Interior Walls &Partitions	Renewable and minimal energy is consumed in production
Upcycled Materials (Shipping Containers)	Modular Units	Reduction of Waste

SUSTAINABLE PRACTICES IN SRI LANKA CONT.

PRACTICE	USAGE	IMPACT
Green roofs	Provide insulation, reduce stormwater runoff, and improve air quality	Reduces the urban heat island effect
Double skin facade	Natural Ventilation, Thermal Protection	Improved indoor comfort
Waste segregation and recycling programs	Reduces landfill waste	Reduces environmental pollution and conserves natural resources
Passive cooling building design	Walls, Ceiling and Roof	Reduce operational Energy
Rainwater Harvesting, Greywater Recycling	Reduce Water Consumption	Conserves water resources

GBCSL'S CONTIBUTION

- The Green Building Council of Sri Lanka (GBCSL) is at the forefront of promoting sustainable building practices in Sri Lanka
- GBCSL fosters the development of environmentally responsible buildings and contributes to the broader goals of sustainability

GREEN BUILDING COUNCIL OF SRI LANKA

01

GREENSL® Rating System for Built Environment

02

GREENSL® Labelling System to green products

03

GREENSL® Rating System for Sustainable Cities

GREENSL® RATING SYSTEM

Version 2.1 – New Construction

Assesses the performance of new buildings and provides sustainable innovations to add to the designing and construction phases

Version 1.0 – Existing Buildings

Assesses the performance of existing buildings and guides through the process of converting the building to a greener building

Source : Green Building Council of Sri Lanka

GREENSL® LABELLING SYSTEM

ISO Type 1 Eco Labelling System

- Recognition in the Global Competitive Market
- Save on Energy consumption
- Reduces Environment Impact
- Improve Corporate Social Responsibility
- Possibility of achieving additional marks in green-rating projects.

Source : Green Building Council of Sri Lanka

OTHER RATING SYSTEMS ADOPTED IN SRI LANKA

United Stats Green Building Council (USGBC) Rating System

LEED Certification

First Green Certification in Sri Lanka

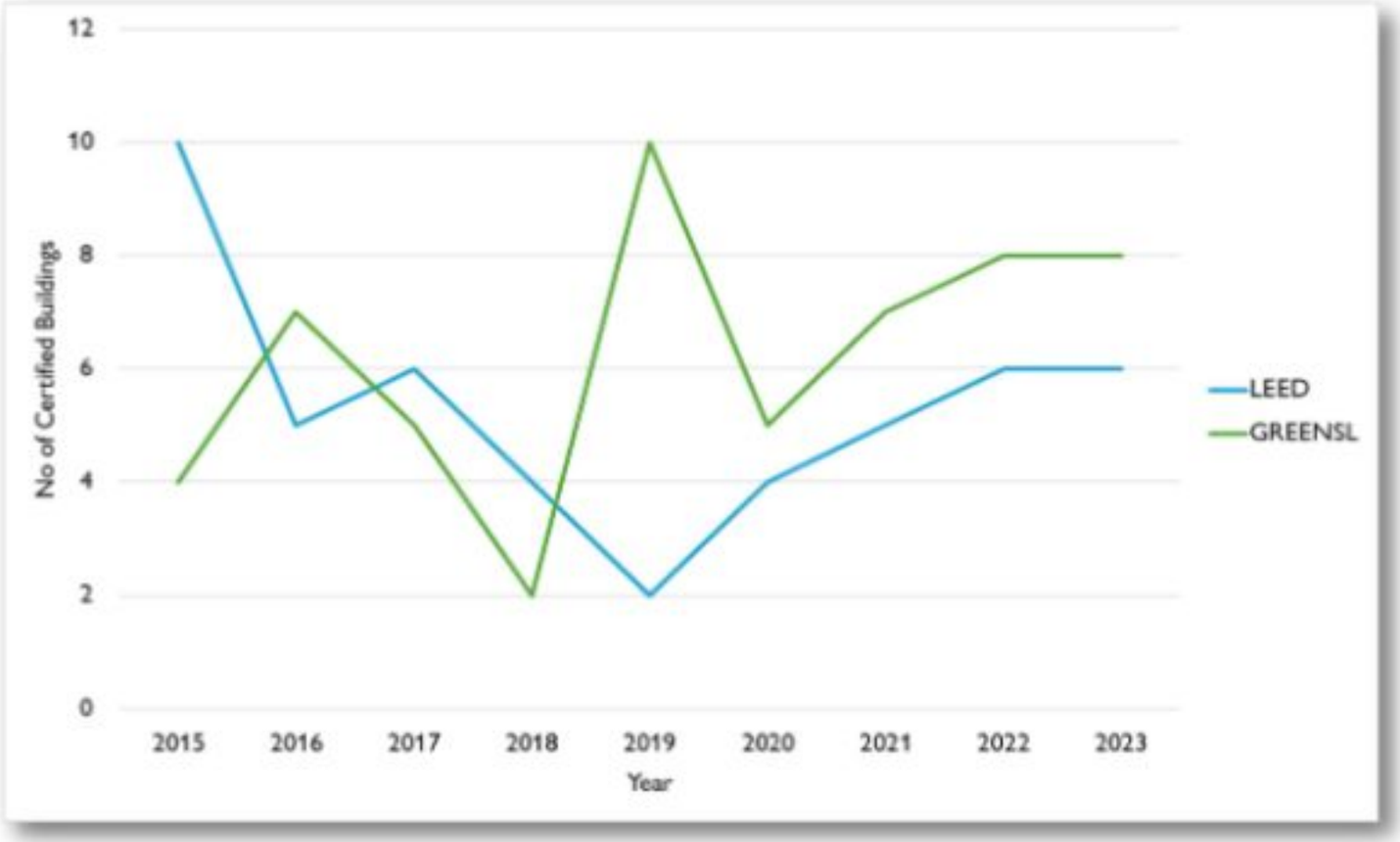
Urban Development Authority (UDA) Green Building Rating System

BLUE GREEN SRI LANKA

Green Building Rating System for Government Constructions (2017)

STATUS OF GREEN BUILDINGS

YEAR	NUMBER OF BUILDINGS CERTIFIED	
	LEED	GREENSL®
2015	10	4
2016	5	7
2017	6	5
2018	4	2
2019	2	10
2020	4	5
2021	5	7
2022	6	8
2023	6	8



Source : Green Building Council of Sri Lanka
U.S. Green Building Council

HIGHLIGHTS OF GREEN BUILDINGS SRI LANKA

Kandalama Heritance

First LEED-certified project outside of the United States

Dambulla, Sri Lanka

MAS Intimates Thurulie

The world's first purpose-built green factory for apparel manufacturing

Ulagalla Walawwa Resort

First Silver LEED certified leisure project outside of the United States, Anuradhapura, Sri Lanka

Clear Point Resident

Highest (Platinum) rated green building in Sri Lanka

HIGHLIGHTS OF GREEN BUILDINGS SRI LANKA CONT.

Logistics Park, Colombo

First fully conditioned warehouse in South Asia to achieve LEED Gold Certification

Cinnamon Bey, Beruwala

First hotel in Sri Lanka to achieve LEED Gold status

DYNASTY, Kandy

First Multi-Family Residential Building in Sri Lanka to achieve LEED

Ninewells Hospitals

First Private Healthcare provider to achieve GREENSL certificate

QS PRACTICES TOWARDS SUSTAINABILITY

COST MANAGEMENT

Lifecycle Cost Analysis

Evaluates long-term costs of sustainable building materials and technologies

Value Engineering

Incorporates cost-effective, eco-friendly alternatives

SUSTAINABLE DESIGN INTEGRATION

Green Certification

Assists in achieving certifications like LEED or BREEAM

Energy Efficiency

Supports designs that minimise energy consumption

QS PRACTICES TOWARDS SUSTAINABILITY CONT.

ECO-FRIENDLY PROCUREMENT

Sustainable Material

Promotes the use of responsibly sourced, environment friendly materials

Waste Reduction

Implement strategies to minimise waste and increase recycling

PROFESSIONAL DEVELOPMENT

Training and Education

Engages in continuous learning about sustainable practices and emerging green technologies

Research Contribution

Contributes to research and innovation in sustainable construction techniques

IQSSL CONTRIBUTION TOWARDS SUSTAINABILITY

INTEGRATING SUSTAINABILITY PRACTICES FOR TRADITIONAL COST MANAGEMENT

- Regulates and sets standards for Quantity Surveyors
- Advise the government on sustainable construction policies
- Accredits QS courses and promotes continuous professional development
- Conducts research and participates in government committees

THANK YOU!