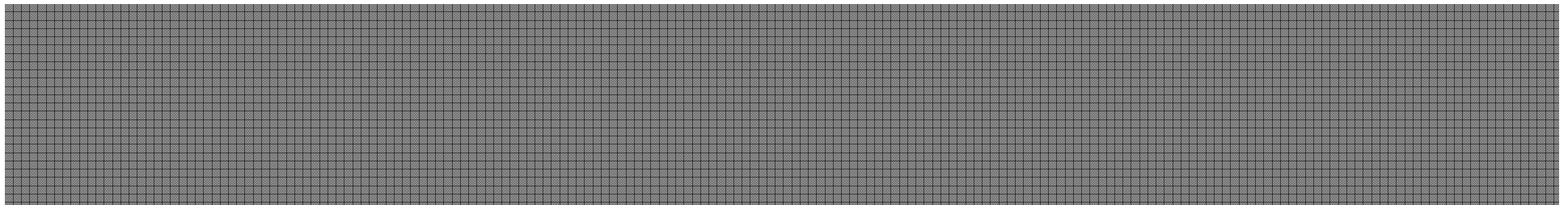




“PRACTICE VS PRACTISE: Sustainability at Crossroads”

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*“We have not inherited the world from our forefathers –
we have borrowed it from our children.”
- Native American Indian Proverb*

A FACT

- Developed Countries
- Emerging Countries
- Developing Countries

THE VISION

To develop and promote a SUSTAINABLE FRAMEWORK

THE MISSION

Incorporate sustainability in OUR WORK/PROFESSION



WHAT IS SUSTAINABILITY? IS IT JUST ABOUT GOING GREEN?

... It is more than GOING GREEN!

- Heritage Sustainability
- Social Sustainability
- Cultural Sustainability
- Resources Sustainability
- Urban Sustainability
- Environmental Sustainability
- Socio-economic Sustainability
- Population Sustainability
- Technological Sustainability
- Wealth / Income Sustainability

WHY IS SUSTAINABILITY SO IMPORTANT?

To **balance** our **natural resources** and **bio-diversity** in the face of unprecedented growth with an exploding human population ...

Otherwise we chart our eventual path to DEGRADATION!



OBJECTIVE: To systematically/progressively **influence** areas of **Statutory Policies** and **legislations/ regulations** and public sector / commercial market **consumption patterns** and approaches that have an impact towards:

- (1) embracing a sustainable approach resulting in an overall **better quality of life**
- (2) positive **enrichment** and **enhancement** of developments

THE FACT: Buildings account for more than 42% of the primary energy used during its shelf life from planning to construction to occupancy/maintenance. An un-sustainable and non-contextual approach in developments/built environment has negative impact on both climate change and mother earth's bio diversity and natural resources in all respects and aspects

THE CHALLENGE: To **choose** a more **pragmatic/practical sustainable path** in tandem with the local needs domain knowledge/expertise, technology know-how and the supporting infra-structure and set-ups.

Improper & non-sustainable approaches coupled with inequitable allocation and use of resources and unchecked consumption patterns have detrimental effects. The challenges are as follows:

- Addressing Climate Change
- Energy and Water Efficiency
- Resource Conservation
- Protection/Enhancement of Mother Earth's bio diversity
- Preservation of the Natural Environment
- Adopting Appropriate Land Use Patterns

- Improving Quality of Life and the Built Environment
- Addressing Building Life Cycle Performance / Reducing Costs
- Aligning Different Baselines / Business Cost Models into Common Denominations
- Adopting the Relevant Green Rating / Criteria with respect to Primary Focus/Objective e.g. LEED, GREEN MARK Incentive Scheme, GREEN BUILDING INDEX, GREEN STAR, CASBEE vis a vis Zero Energy, Carbon Neutral, Life Cycle, Resources Efficiency
- Best Practices Approach

CURRENT SCENARIO : The typical approach appears to be more **regulatory** and **technical biased** resulting in:

- deregulation of the architectural profession (out of context of locale)
- proliferation of minimum standards and technical know-how
- promoting use / incorporation of products /green systems and technologies
- promoting solutions in adopting zero energy / carbon neutral approaches
- creation of different baselines to address life-cycle performance, operating costs, etc

THE WAY FORWARD :

- Having a greater emphasis on contextual understanding
- Adopting passive design approaches/solutions in line with available local expertise and set-ups
- Creating and promoting awareness about sustainable development approaches through outreach programmes and education
- Adopting sensible approaches which are:
 - Resource biased
 - Vernacular biased
 - Technology biased
 - Climatic biased
 - Heritage biased
 - Economic biased
- Better understanding of Rating biased technical approaches (LEED, GREEN STAR, CASBEE, GREEN MARK, Incentive Scheme, GREEN BUILDING INDEX, BREEAM, etc)

11 Attributes of a Sustainable Built Environment

A green initiative shared by SIA Sustainability Committee



'The 11 Attributes of a Sustainable Built Environment' describes a sustainable built environment, **framed as a set of attributes** relating to the **design, construction, operation** and **disassembly of buildings**, neighbourhoods and cities. Implicit in these attributes is a **multi-disciplinary, multi-stakeholder, whole-life perspective**, reflecting the complexities of how the built environment is **managed from concept to end-of-life**.

Introduction to the 11 Attributes of a Sustainable Built Environment



11 Attributes of a Sustainable Built Environment

Attribute 1: Conserves Natural Capital

Attribute 2: Resilient to Climate Change

Attribute 3: Reliant on Renewable Resources

Attribute 4: Mindful of Resource Management

Attribute 5: Designed for Longevity, Adaptability and Reuse

Attribute 6: Adopts 'Sustainable Urbanism'

Attribute 7: Harmonises with Place

Attribute 8: Promotes Wellness of Inhabitants

Attribute 9: Adopts 'Integrated Landscape'

Attribute 10: Adopts 'Integrated Design Process'

Attribute 11: Promotes Ecological Literacy

11 Attributes of a Sustainable Built Environment



1 Conserves Natural Capital

A sustainable built environment seeks to conserve its natural capital which encompasses natural resources and ecosystem services that sustain life.



'Mihila' Green Factory, Agalawatte Sri Lanka

Architect: Tilak Samarawickrema





The Hong Kong Wetland Park Phase II

Architect: Architectural Services Department, HKSAR
Government

Image Courtesy of: Hong Kong Institute of Architects





Kandalama Hotel, Dambulla Sri Lanka

Architect: Geoffrey Bawa



2 Resilience to Climate Change

A sustainable built environment seeks to minimise its contribution to the underlying causes of climate change. In addition, it is designed to adapt to the predicted local consequences of this global phenomenon.



Marina Barrage

Architect: Architects Team 3 Pte Ltd
Image Courtesy of: Public Utilities Board (PUB)



An aerial photograph of the ZEB@BCA Academy building. The building's roof is covered with a large array of solar panels. A prominent red sculpture, resembling a stylized 'X' or a bridge, stands on a raised platform in the center of the building. The building is surrounded by lush green trees, and a city skyline is visible in the background under a clear sky.

ZEB@BCA Academy

Architect: DP Architects Pte Ltd
Image Courtesy of: DP Architects Pte Ltd





Veterinary Laboratory at Tai Lung Farm

Architect: Architectural Services Department, HKSAR

