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'Green buildings: Current & future scenario in India'

Sheila Sriprakash, Thursday, October 13, 2011, 11:47 Hrs [IST]



Sheila Sriprakash writes about rampant degradation of the environment through indiscriminate focus only on economic growth and GDP increase - thereby having turned the focus sharply on mitigation, conservation and recycle.

Indian Architecture has historically emphasized the relevance of the built environment to its location. Local materials were generously used in construction. Regional expertise and crafts influenced the architectural embellishments. Buildings were oriented expertly to maximize the natural daylight within while shading devices cut the heat and glare. Fenestrations and openings articulated the envelope in response to the seasons and weather. Today buildings condition the air qualities indoors artificially using large amounts of electricity. Glass and steel are relevant to cooler and temperate climates; but India is predominantly "hot and dry" in the North and "hot and humid" in the peninsular South.

World over, buildings consume 40 per cent of total energy generated and they are a major contributor to carbon emissions. The rampant degradation of the environment through indiscriminate focus only on economic growth and GDP increase have turned the focus sharply on mitigation, conservation and recycle. Green architecture sensitizes us into using resources optimally. Ratings provide building owners, architects, consultants, developers, facility managers, project and purchase managers the tools they need to design, construct and operate green buildings. Benefits of Green Buildings include:

1. 30-40 % energy savings
2. 20-30 % potable water savings
3. Enhanced indoor air quality
4. Enhanced daylight and ventilation
5. Higher productivity of occupants

Many standards and rating systems are now available. The Indian Green Building Council (IGBC) has facilitated 887 Million sq.ft of green footprint with 1,264 green building projects registered across the country. Rating systems available, include those for Green Factory Buildings, Green SEZ, Townships, New Construction (NC) & Core & Shell (CS) and Green Homes. Home ratings include:

1. Individual homes
2. High rise residential apartments,
3. Gated communities
4. Row houses
5. Existing residential buildings which retrofit and redesigned in accordance with the LEED standards.

IGBC plans to launch rating systems to cover other types of buildings, viz., Schools, Existing Buildings, Landscapes. The Leadership in Energy and Environmental Design (LEED-INDIA) Green Building Rating System adopted by the IGBC is a nationally and internationally accepted benchmark for the design, construction and operation of green buildings through its lifecycle in the following five key areas:

- Sustainable site development
- Water savings



Cethar Vessels, Trichy

- Energy efficiency
- Materials selection and
- Indoor environmental quality

Tata Energy Research Institute (TERI) is an Indian non government organization (NGO), conducting research and analysis in energy and environment. GRIHA has been developed and operationalized by TERI and is an acronym for Green Rating for Integrated Habitat Assessment. It was conceived by TERI and developed jointly with the Ministry of New and Renewable Energy to the Indian Government. It is a green building design evaluation system and has facilitated 2600 buildings in different climatic zones of the country.



Iris Court, Mahindra Integrated Township Ltd,
Maraimalai Nagar, Chennai

An alternate international rating system devised by Green Globe is based on Agenda 21 principles for Sustainable Development endorsed by 182 Heads of State at the United Nations, Rio De Janeiro Earth Summit (1992). Green Globe Certification delivers the certification process to the travel & tourism as well as hospitality industry and relevant supply chain. The Green Globe Certification Standard consists of 41 criteria and 337 indicators (www.greenglobe.com/standard). The main areas are:

- Sustainable Management
- Social / Economic
- Cultural Heritage
- Environmental

Awareness and spread of green sensibilities is expected to grow in the future. There are several challenges to be overcome. The rush to the city is more evident than ever before. Just half a century ago, only one-third of people lived in urban areas; now it is over half, and by 2050, the United Nations (UN) expects worldwide urbanisation to reach 70%. People seek improvements to their quality of life-most notably through better economic opportunities. Cities generate around 80% of world gross domestic product (GDP), and attract the bulk of investments and create new jobs.

The population shifts enrich the urban pool of human capital and one of the principal enablers of the shift to a knowledge economy. India's urban centres will generate almost 70% of the country's GDP by 2030. As cities in developing economies become engines of growth for those economies, they must perform better to become more competitive to ensure national growth. Sustainable urbanisation has the potential to unlock significant long-term economic growth.

(The author is the Chief Architect & Founder of Shilpa Architects Planners Designers (P) Ltd. She is also internationally acknowledged as the first woman architect in India to establish a practice.)

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