

Breaking new ground Ahead of World Environment Day, FE gets the who's who of India Inc to put their green foot forward

Building lessons Green construction is getting popular, but myths around that need to be shattered

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An organic scarf for you? A generation of designers is aiming to make you dress sharp in eco-friendly garments



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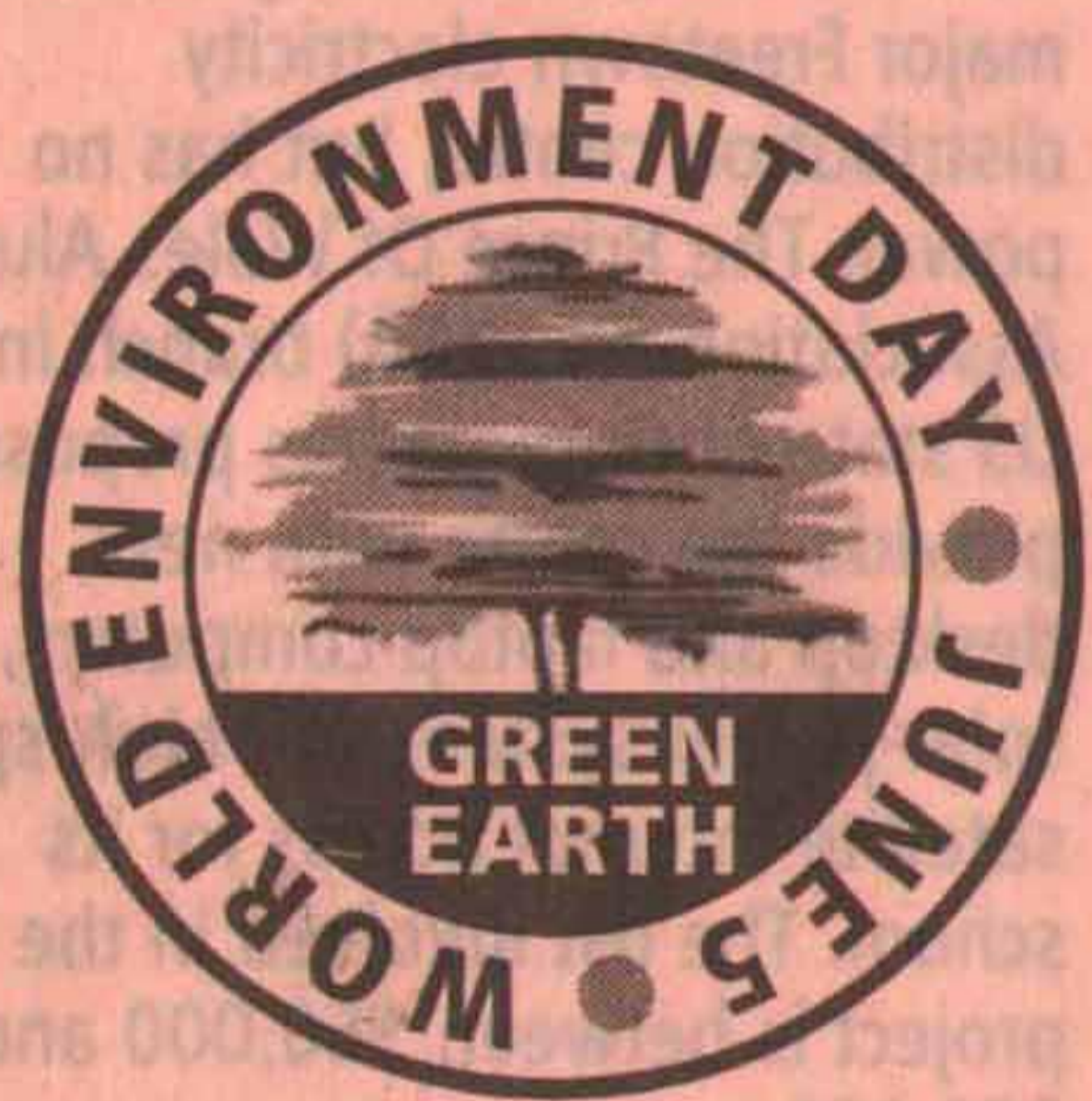
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Building lessons

Green construction is getting popular, but myths around that need to be shattered



Garima Pant

IN the time of global warming, it's the need of the hour. We are talking about living spaces which are healthier, energy-efficient and generally don't pollute air, water and land — or green buildings. Slowly, but surely, green or sustainable architecture is gaining popularity in India too. It employs concepts of energy efficiency, water conservation, minimal disturbance to surroundings and use of eco-friendly materials.

"Construction in traditional India was extremely eco-friendly due to the nature of the economy; but increasingly new construction is becoming brick-and-concrete, steel-and-metal, and very little of this can be called eco-friendly as far as material use is concerned. So it creates a huge blip (some estimate up to 40%) in India's energy chart," says architect Sanjay Prakash. However, the concept of eco-friendly or green construction is finding its feet back in the Indian market.

Architects and developers feel that this green concept is working beautifully. "Almost 35 million sq ft of eco-friendly construction is already being designed in the national capital region (NCR) alone," says Vidur Bharadwaj, chairman of the Indian Green Building Council.

Green buildings have emerged in response to rapid urbanisation and environmental pollution. "These buildings are the solution of the urban housing problem. The construction industry should use eco-friendly material and technology so that the high-rise building could accommodate more people and provide better living conditions for human being without harming the environment," says Pradeep Jain, president, CREDAI NCR.

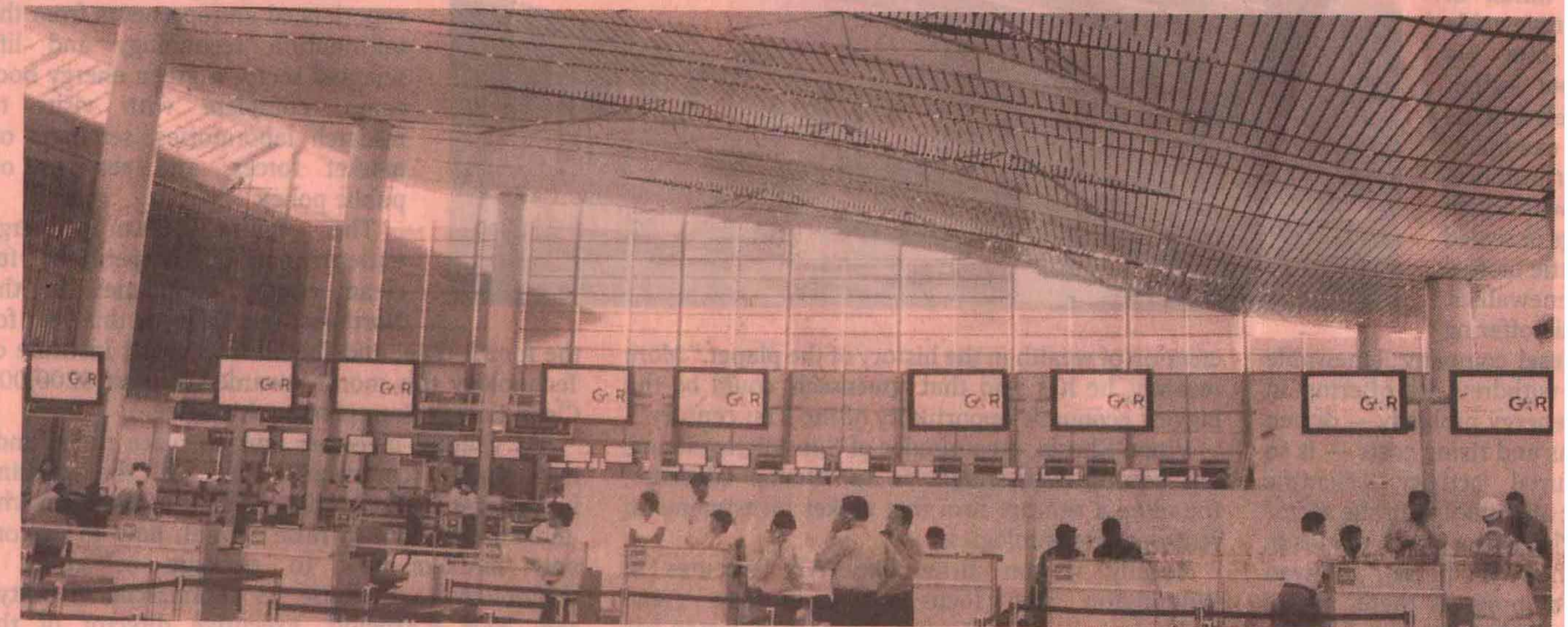
According to industry experts, the number of green buildings in India is expected to go up from the current 164 to over 2000 by 2012, keeping in line with the global trend movement of going green. "The demand for green building materials and equipment is on the upswing, from occupying a space of only 6,000 sqmtr in 2003, green buildings are expected to cover 3,04,800 sq mtr of space by the end of 2008. In value terms, it is expected to touch \$4 billion by 2010," says Emmanuel Cantegrel, GM, Somfy India

But even though eco-friendly housing is catching up, there are still a number of myths surrounding this type of construction. Some facts about some myths follow:

MYTH Eco-friendly building materials are expensive

FACT It is wrong to say that using eco-friendly building materials is expensive. "The construction cost goes up by about 3-4% or to a maximum by 10% initially. But lower day-to-day maintenance is a great advantage in the long run. It is a free ride after the construction is complete," says Bharadwaj. The payback time for the incremental investment is five to seven years. After you recover the costs, it translates into savings, especially because it induces healthy living.

The expense of these materials also depends to a large extent on the purpose of use. "Terracotta tiles if used in its most



natural form are the cheapest. Thatched roofs, their production and their usage are also not very expensive," says Gautam Bhatia, an architect. However, even with all these advantages, doubts about costs persist.

MYTH Bamboo is used largely in a rural setting

FACT Bamboo is called the poor man's timber, but now it's turned chic. Earlier, synonymous with temporary constructions like *shamiana* or barricades, bamboo today is high fashion material. Though bamboo has had a rather unglamorous image, being largely associated with rural settings, this myth is being slowly shattered and it is proving to be an asset to a smart, urban lifestyle. The Centre for Bamboo Initiatives at NID is trying to develop sleek, attractive and high-end products with bamboo.

"With bamboo being a rapidly renewable material, this reality has become a myth now. It is now being extensively used for flooring or panelling," says Bharadwaj. Besides being aesthetically pleasing, bamboo makes for safe building material and is appropriate for an earthquake-prone region. Houses in Japan make extensive use of bamboo in construction to reduce fatalities in an earthquake. Bamboo being strong and flexible, protects the house from falling down even in the most violent

(Top) Eco-friendly building of Wipro; (above) an inside look at the eco-friendly Hyderabad airport

earthquakes and storms. Further, bamboo is eco-friendly. Cutting wood for furniture is now frowned upon. Bamboo can easily replace wood in many areas. Multi-ply bamboo boards provide a sustainable substitute for timber-based natural wood and plywood products. To add to this, they are economically priced.

MYTH CFL lamps are expensive and don't save much energy

FACT If one replaces incandescent light by CFL lamps, one can save a lot of energy. Light Emitting Diode (LED) lamps are even more energy-efficient. While an incandescent bulb costs Rs 12, a CFL costs Rs 120. However, it works out cheaper because it saves energy and lasts longer. LED lamps, too, are expensive initially. Six LED lamps plus a solar panel cost Rs 5,000. "The amount of electricity these CFL lamps use is quite less. In fact in Canada, all forms of bulbs or lamps apart from CFL lamps are banned," says Bharadwaj. One can save power by designing the house in such a way that it receives enough light and does not require artificial lights during the day.

MYTH Green buildings are green and ugly

FACT "Not all eco-friendly paints/coatings are green" says Bharat Gothoskar, head-marketing for Construction Chemicals division, Pidilite Industries Ltd. Eco-friendly means that they have minimal impact on the environment, he adds. "Also, green products help in conserving energy. A case in point is the Dr Fixit Heatshield coating that prevents the sun's heat from entering the house through the roof and wall and hence one gets a saving of 38% on the energy used for air conditioning the house," he adds. This coating is white in colour. "A green building certainly doesn't have grass growing all over it, a misconception that still clouds people's minds," says Bhatia.

MYTH Rain water harvesting can be done in all surroundings

FACT Rain water harvesting and ground water recharge is also essential for eco-friendly development. The harvesting of rainwater basically involves the collection of water from surfaces on which rain falls and storing this water for later use. But it can only be done at places where the sub-soil water is at an extremely deep level. "For instance in Noida, the sub-soil water can be found at just four metres. So rain water harvesting is not possible there. And even if it is forcibly carried out, the quality of water will not be good," says Bharadwaj.