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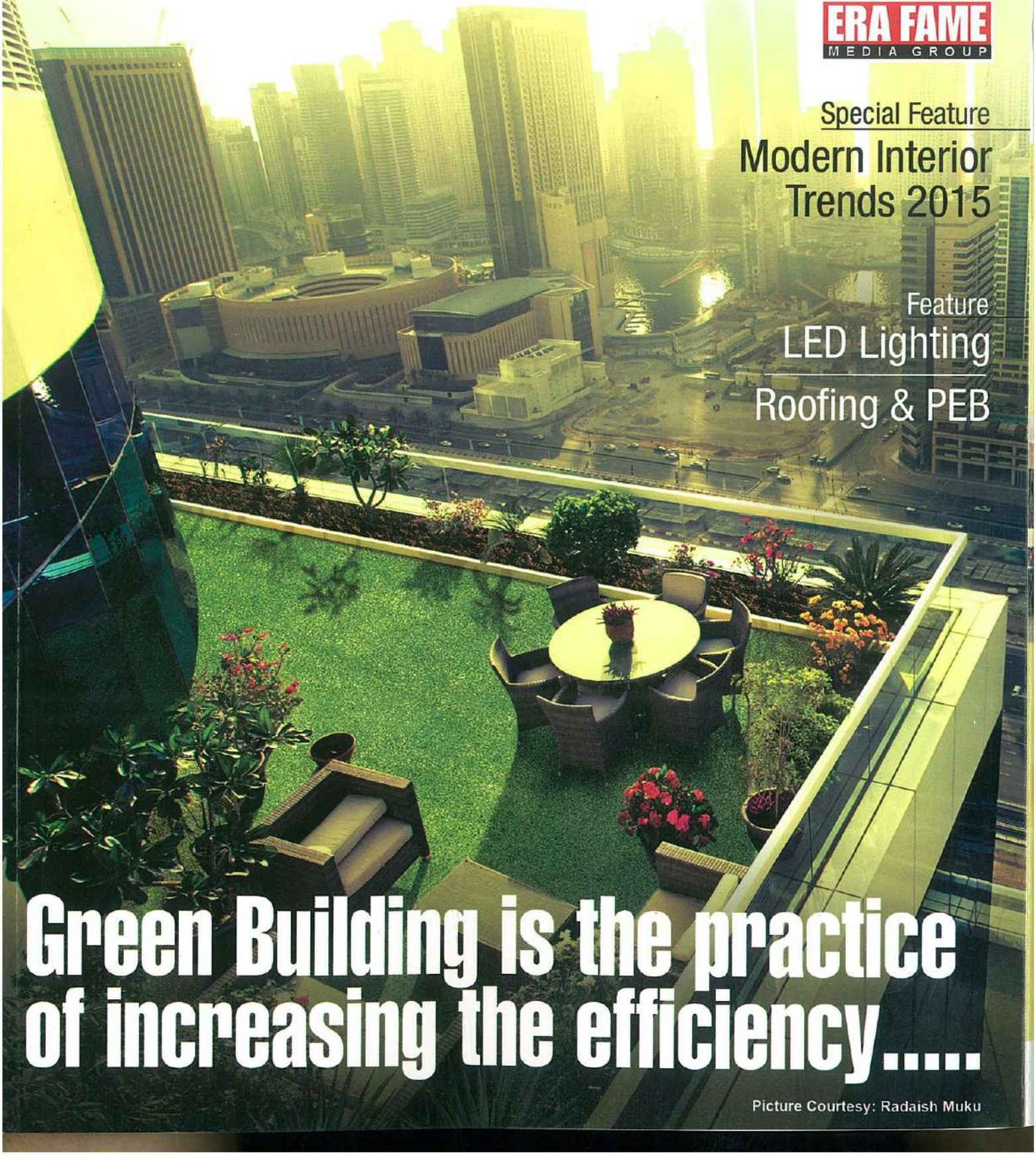

Green Building is the practice of increasing the efficiency.....

Picture Courtesy: Radaish Muku

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INTERVIEWS

Product Line

By Roshni Udyavar Yehuda

Green building materials are those which have low embodied energy, are non-toxic to users and occupants, do not pollute the environment during manufacture, are recyclable or made from recycled materials, and made from raw materials that are largely renewable.

this is known as **'land suitability analysis' – a technique** of analysing a site for the most appropriate location for construction with respect to slope, vegetation, hydro-geology and soil. In the construction of large townships, land suitability analysis is an indispensable tool. Present day GIS software such as Arcview and Gram ++ provide support in performing such analysis.

Indoor Air Quality: In cities, an emerging concern, especially in commerical buildings, is the quality of the indoor air. With HVAC systems that do not provide adequate air changes, and materials and equipments that emit harmful volatile organic compounds (VOCs), people working long hours indoors are susceptible to sick building syndrome (SBS) with effects ranging from headaches, skin rashes,vision problems, upper respiratory tract infections, to lung infections and cancer. Providing adequate air changes, fresh air, and use of low-VOC materials, is key to providing a good indoor air quality in offices. Tackling biological contaminants that can harbor in fabrics and carpets, and suspended particulate matter, is yet another major challenge, far more serious than VOCs, that may be encountered in residential buildings.

Green building materials: Alternatives to conventional building materials such as cement and bricks are needed. Green building materials are those which have low embodied energy, are non-toxic to users and occupants, do not pollute the environment during manufacture, are recyclable or made from recycled materials, and made from raw materials that are largely renewable. In India, natural materials such as coir pith and bamboo, agricultural waste such as bagasse and rice husk, and industial waste such as fly ash, steel slag, and such others have a huge potential to be used as building materials.

Energy performance index: The energy consumed per square feet of built area is termed as the Energy Performance Index or EPI. Increasingly, it is being used as a measure to evaluate the post-occupation energy efficiency of a building. In developed countries, the average EPI of commerical buildings has been found to be around 140 kwh/ sq.m/ year , while EPI of commerical buildings in India varies between 200 to 400 kwh/ sq. m./ year. As the number of residential buildings with split and / or window air conditioning is increasingly rapidly, checking the EPI will help reduce the overall energy consumption of these buildings. In Freiburg, a town in Germany, for example, the EPI of residential buildings is a mere 15 kwh/ sq. m/ year, as compared to 220 kwh for a conventional house in Germany. The Freiburg city council through a resolution in 1992, allowed construction only of "low-energy buildings" on municipal land, and all new buildings must comply with certain "low energy" specifications. These houses use solar power passively as well as actively. In addition to solar panels and collectors on the roof, providing electricity and hot water, many passive features use the sun's energy to regulate the temperature of the rooms.

Building construction certainly adds up to the damage that we have been inflicting on the environment especially since the industrial revolution. The challenge is to minimize this impact. Green buildings are a way forward.

(Roshni Udyavar Yehuda is Head, Rachana Sansad's Institute of Environmental Architecture)