

ENVIRONMENT-FRIENDLY TECH IS THE NEW RAGA

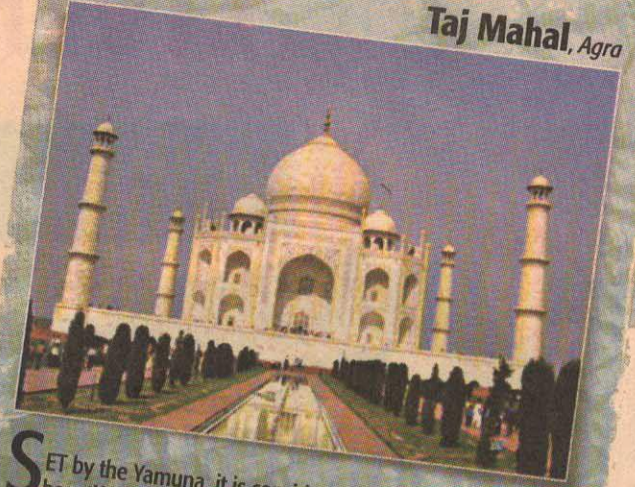
ECONOMIES OF SPACE

Resource efficiency of green technology is the next big thing. Ignore it, and you will risk the future.

Shantanu Nandan Sharma & Shreya Biswas report

MONUMENTAL WONDER

Taj Mahal, Agra



SET by the Yamuna, it is considered one of the most beautiful buildings in the world and the finest example of the late style of Indian Islamic architecture. The building, which was completed between 1632 and 1638, was designed by the local Muslim architect Ustad Ahmad Lahori; set in its carefully laid out grounds. The white marble exterior is inlaid with semiprecious stones arranged in Arabic inscriptions, floral designs, and arabesques, and the salient features of the interior are accented with coloured marbles. The tomb chamber is an octagonal room in the center of the edifice (the royal couple, however, are buried in an underground vault).

LOOKS like green's going to be the predominant colour of Indian building designs in future. Not literally, of course. We're talking resource efficiency features which may turn out to be the next big trend in the Indian housing industry. Already, it's being estimated that the annual potential for green buildings in India may go up to Rs 730 cr by 2007 with corporate giants such as Wipro and ITC deciding that's the way to go. OIGC too may soon go for a green policy as far as buildings are concerned.

So what's this greener movement all about? It's about ensuring that there's virtually no disturbance of the landscape and site conditions, besides energy optimisation, water conservation, effective waste management and implementation of recycling techniques.

Says Colorado-based architect Gregory Franta, "Green buildings are generating lots of enthusiasm in India, but the momentum will pick up if the government works hand in hand with the private sector. There's a huge potential in India which needs to be nurtured."

But there aren't many who are ready to wait for government involvement. Parasuraman R, vice-chairman, World Green Building Council, feels India Inc just can't wait for government sops in this area. "We are not looking at any government support at this stage. Let the market move on its own. At present, 52,00,000 sq ft of green buildings are under construction and all this has been happening in just the last 18 months," he explains.

The government nevertheless is keen and may come forward with a few concessions in power and water tariffs for green building technologies. Delhi chief minister Sheila Dik-

shit recently indicated at a CII meet that her government would give a few incentives to eco-friendly building technologies and change the requirements for a no-objection certificate (NOC) from the municipal authorities. However, that will require amendments to several archaic Acts governing the construction industry, some which do not even cover the use of fly-ash bricks and other eco-friendly technologies. This means that many builders, contractors and individuals won't use these technologies due to the fear that the local authorities may not approve their projects. Besides amending various Acts, it's felt that there's also a need to take on board construction engineers, builders and architects.

The potential's huge, points out Abhay Desai, marketing head of JohnsonDiversey India Pvt Ltd, which supplies green sealed certified products to clients in India and abroad. With the Indian construction sector growing at 9.2% as against the world average of 5.5%, environmental management may be just the tool companies in the sector could use to enhance competitiveness. "Even if 5% of the investment of urban buildings could be diverted to green projects, the potential is huge and opens up new opportunities for architects, material and equipment manufacturers, and other stakeholders in the sector."

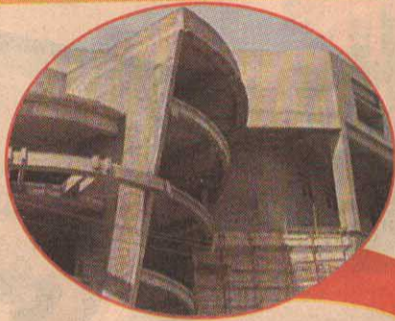
And considering that operation costs could be brought down by 30 to 40% less, the concept, experts feel, has got to become popular. Other spinoff benefits would include a green corporate image, enhanced occupant comfort, and improved productivity. What's more, the concept can be used in simple commercial spaces or large development projects. But as of now, it's more suitable for commercial rather than residential complexes.

Says Parasuraman R, "The green building concept is suitable more for large commercial complexes rather than for residential projects. So, we are now concentrating on commercial buildings, and many top corporate houses are indeed willing to go for green techniques."

Terrace gardens at different levels



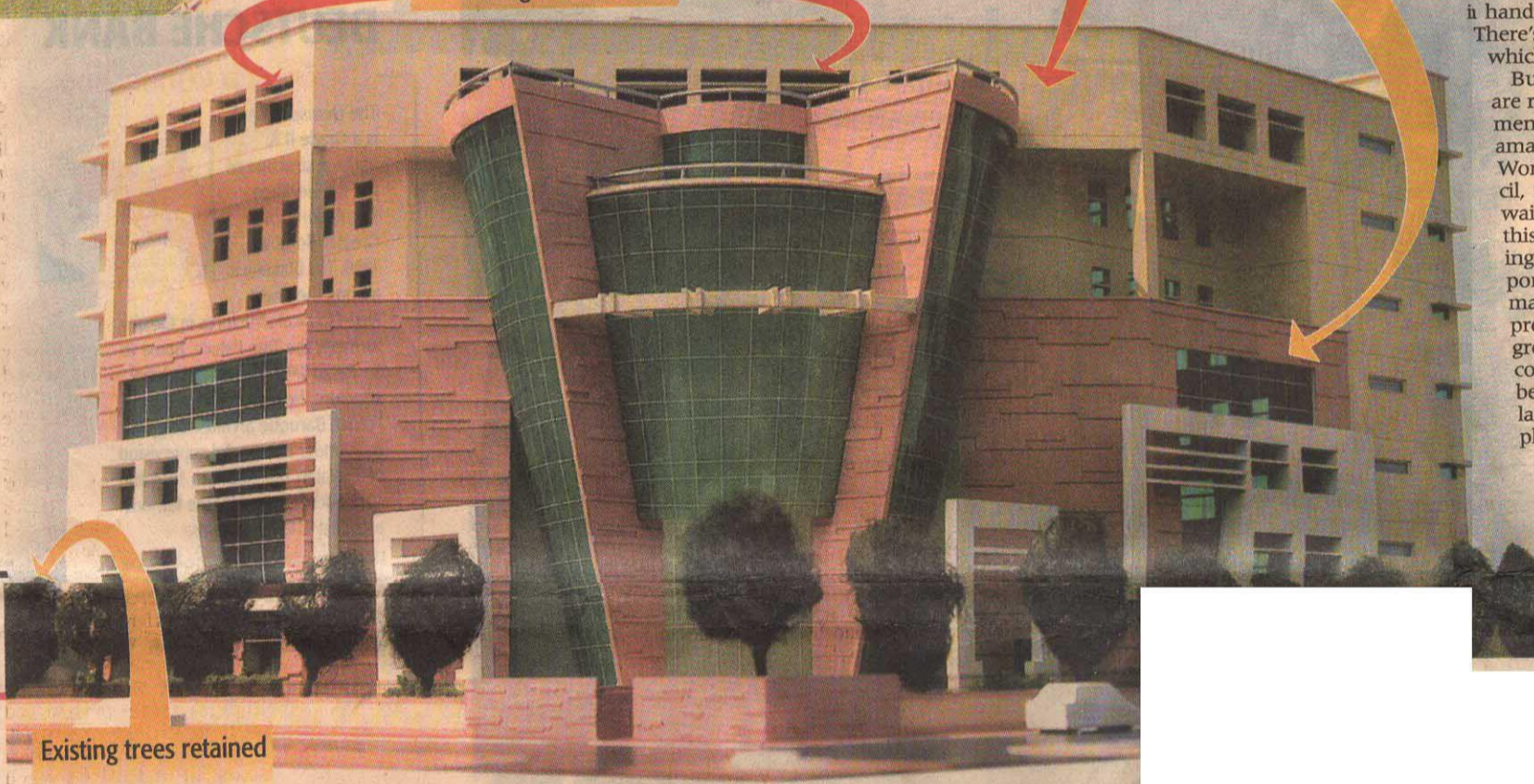
AAC blocks: 50% post industrial content with rat trap bonding procured from Palwal



Courtyard as a source of light well

Recessed windows with light shelves

Dholpur stone cladding which is a locally available material



Existing trees retained

LEEDING LIGHT

Several Indian buildings have won the globally coveted platinum rating

WHEN architect Vidur Bharadwaj of Design and Development Consultants working on Wipro's Gurgaon development centre told Premji that the facility would be eco-friendly enough to meet global green building standards, the Wipro chairman said he wouldn't settle for anything less than a Platinum rating! Surely enough, in keeping with the IT bellwether's standards, not only did the Gurgaon centre win the prestigious Platinum rating in the 'Leadership in Energy and Environmental Design (LEED)' category from the US Green Building Council (USGBC), it also scored the maximum points in India and the second highest in the world.

The USGBC is the foremost coalition of leaders from the construction industry working to promote buildings that are environmentally responsible and are healthy to live and work from. Of the 278 USGBC certified buildings worldwide, only 10 have the coveted Platinum rating.

S S Ramesh, general manager (Civil Infrastructure), Wipro, says the LEED system provided the company with a structured and focused format to deliver innovative, value-for-money solutions by excelling in the areas of energy efficiency, water conservation and environment protection. Wipro's Gurgaon facility also aims at encouraging cycling and vehicle pooling by the employees to minimise pollution. Provision of preferential parking, shower and changing facilities for the cyclists, reserved parking for those car pooling, provision of battery charg-

What Is It?

The appearance of a Green building is similar to any other building. However, the difference is in the approach, which revolves around a concern for extending the life science of natural resources. It provides human comfort, safety and productivity

Features

- Minimal disturbance to landscape
- Use of recycled building materials
- Efficient use of water and water recycling
- Use of energy efficient and eco-friendly equipment in the building
- Use of renewable energy

Benefits

- 30% to 40% reduction in operation cost
- Imbibe best operational practices from day one

FACT FILE

ing facility for electric cars are some of the measures adopted. Water usage efficiency is maintained by providing for rain water harvesting and by efficient landscaping.

Globally, GE's Jeffrey Immelt was quick to eye the hot market for green technologies like wind turbines. With "ecomagination" as the new slogan, Immelt announced

Not just skin deep

Surface treatment is fundamental to the beauty of buildings.
Vidur Bharadwaj looks at the changes in processes

ARCHITECTURAL skin – like the skin of human body, the facade's finish -- is a fundamental element with regard to a building's health. The correct realisation and maintenance of facades is the pedestal of architecture, accentuating also the beauty of the building.

Atmospheric actions such as rain, temperature changes, humidity, abrasion from dust and wind, chemical reactions, pollution, the drying and fading effects of sunrays, and internal humidity of the wall account for the deterioration of the facades.

Over the years, we have seen a drastic change in the surface treatment of building façade from the traditional stone cladding, grit finish, snowcem paint & brick cladding to the new generation surface finishing such as aluminium composite panel, glass facades, new generation paints in various colours & textures and various kinds of reflective coatings.

We find that large parts of buildings are getting cladded with aluminium composite panel which have PVdF coating, which protects from UV radiations and pollution. These panels in comparison to paints are far more expensive, but are totally maintenance-free as they are easy to clean and come with over a 10-year guarantee. Their smooth reflective surfaces and air gap between the wall and cladding reduces the heat absorption of the building. These panels, with their clean and clear appearance, available in a wide range of metallic and non-metallic colours, can be used to create colourful, vibrant and playful effect. Glass, a traditional material that has been used from centuries conservatively, has found



its freedom in large curtain walls, structural glazing. Such large glazed areas increases solar gains unsuitable for our climate and should be judiciously and optimally used.

Reflective coatings, low E coatings and increasing colour spectrum, combinations can be used in double or triple glazing with air insulation for achieving the balance between the daylight, views required for peoples comfort and energy intake of the building. Argon is also used in the double-glazing units for better insulation. Some combination of these reflective and low e-coated in double-glazing unit can give U value same as brick wall.

The old way of painting home, building etc. is giving way of totally new generation of paints, which with new techniques and wider colour spectrum available can create a variety of textures and effects. Paint products are composed from binders or resins, solvents, pigments and solids (to colour and cover) plus various additives (anti-foam, thickeners, etc). Binders are the foundation of the products; they can be organic (many types of polymers) or inorganic (lime and silicates).

Latest generation polymers are pollution-resistant and waterproof. Based on various resins (acrylic, vinyl, styro-acrylic etc.), the performance of each varies according to the formula and the type of resin. A lot of designers are now experimenting and cross using paints finishes like using metallic paints in inside walls to give it a smooth, modern finish. In some cases, we have also used such effects on natural materials such as stones & slates which retain the original texture of the

material, by giving it a very futuristic look. Paints act as sound barriers where required giving aesthetic appeal to the wall or partition. The move is towards environment conscious green buildings and indoor air quality. As even in the paints industry people are getting aware and have begun to market low priced paints.

The writer is managing partner, Design & Dev

HOT LIST

REDEFINING LUXURY

Most Expensive Luxury Apartments In India

(CAPITAL VALUES: RS. 20,000 - 30,000 PER SQ. FT)

- Nishika Terraces Worli Sea Face, Mumbai
- Ncpa Nariman Point, Mumbai
- Buckley Court - Colaba, Mumbai
- Sunita & Il Plazzo Malabar Hill, Mumbai
- Hill Park Malabar Hill, Mumbai
- Kamal Mahal- Carmichael Road, Mumbai
- Benreeza- Worli Sea Face, Mumbai
- Samudra Mahal, Worli Mumbai
- Kubilisque- Pali Hill, Bandra Mumbai



Source: Cushman & Wakefield