

Architecture

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On Greener Architecture:



Prof. K. Jaisim
Jaisim Fountainhead

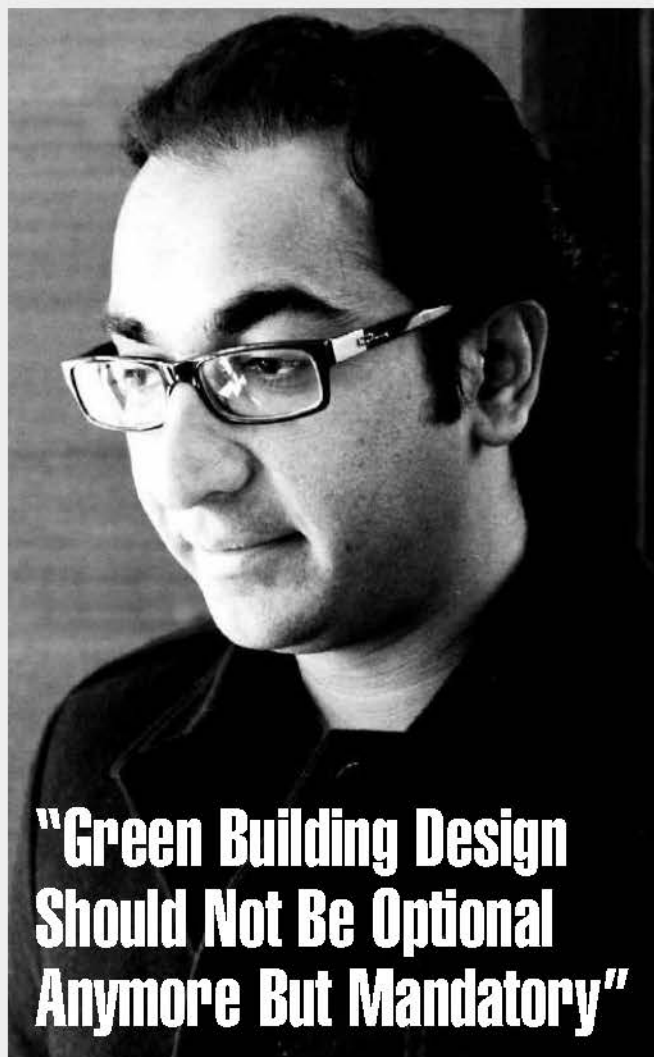


Ar. Dikshu C. Kukreja
CP Kukreja Architects



Ar. Manit Rastogi
Morphogenesis

Materials Matter



For **Ar. Manit Rastogi**, Founder Partner of **Morphogenesis**, sustainable architecture is no more a choice or a 'layer' that can be applied to the design of a building; for him it is inherent in the process of design, from concept to completion and during the full life cycle of the building. Manit talks about the importance of 'building Green' and the key factors that would generate consciousness in the mindset of people, which would drive them towards 'sustainability' thus, creating a real, substantive change in the built environment.



Q. As one of the largest architectural and design firms in India, how does Morphogenesis prioritize sustainability not only in their buildings but in the everyday operations of your offices. Why is sustainability important to you?

A. At Morphogenesis, we operate on the principles of SAIL (Sustainability, Affordability, Imageability, and Livability) which, in addition to design, include socio-economic aspects of sustainability as well. Every project is rigorously measured against these at various stages of design, embedding them thoroughly within our work and our psyche. Through passive design methods, we have ensured that our office energy consumption is well within GRIHA (Green Rating for Integrated Habitat Assessment) and BEE (Bureau of Energy Efficiency) stipulated standards for air-conditioned offices. Our office is centrally located and next to a major metro station which encourages employees to use public transport. Additionally, we pledge 5 per cent of our total man hours for CSR work as we believe we can make a more valuable contribution through our expertise in sustainability than through monetary means.

Q. How important is it, in your view, to 'build green'?

A. I don't see that we have a choice. With buildings consuming about 40 per cent of available resources and contributing to emissions in equal measure, and given our frenzied rate of development, we are staring at certain disaster. Sustainable architecture is no more a choice, or a 'layer' that can be applied to the design of a building; it must be inherent in the process of design, from concept to completion and during the full life cycle of the building. The goal while building green is to use energy and natural resources wisely and in a healthy manner. In simple words, we use the phrase "NO IS MORE" – begin any design process by saying NO: We have no energy, no water, no waste disposal etc. and then begin to evaluate from first principles how to passively provide the basic fundamentals of comfort, safety, livability and sustainability.

Q. Is the LEED or GRIHA rating are valid ways to encourage that type of design? Do you think the point system is useful?

A. LEED and GRIHA are valid to encourage green design and in their own ways, quantify sustainability, but that is a top-down approach hence incomplete in itself. It forms a very small component of establishing a wider green ideology. What is required is a bottom-up systemic change in the way we think; starting with the individual-through education (both architectural and mainstream) and action in our daily lives. Only then will we be able to contribute towards an organizational and cultural shift that truly values sustainability from within.

The point system of Green rating systems is useful but rating systems need to continuously evolve themselves to remain relevant in the fast changing socio-economic conditions of the country.

Q. What do you think the government's role should be in bringing in more Green Buildings?

A. I'm not sure how far an approach like incentivising green buildings will help. And sometimes it doesn't serve its purpose. For example allowing additional FAR for a project with Green credentials, when possibly depending on the infrastructure present, greater FAR would have been the greener thing to do in the first place.

Green building design should not be optional anymore but mandatory for all buildings above a certain size. The Indian government already follows such policy for their own buildings where green building rating is mandatory. In Dubai all buildings must be LEED Gold as a minimum-no incentives! That's where rating systems come in handy.

Q. What do you think it will take to make a real, substantive change?

A. Education! We need to revamp our mainstream and architectural



educational system. That is at the core of the problem today. Simple things- how aware is a child that a light switch is an energy saving device? People traditionally turn it off to save on their electricity costs, but how many consider its implication beyond their monthly bill? So what's important is creating consciousness from a very early age - a consciousness that we are all sharing resources, a consciousness that extends even beyond green. It means we wouldn't encroach on public areas like pavements, wouldn't build such that we block a neighbour's access to sunlight, wouldn't consume too much water so that the other person doesn't have any, and we wouldn't leave a light on so that someone else pays the price for it. It is the consciousness that seven billion people on this planet are sharing the same resource. In architectural education, we discourse very well, the passive methodologies employed in the past 5000 years of traditional Indian architecture. What we also need to embed is that sustainability through passive design means must be at the core of our modernity. That will also go a long way in building Brand India for Architecture.

Q. What can be done to encourage architects to build with materials which are greener like a building skin that's photovoltaic or a wind farm for energy?

A. Education again; Continuing Professional Development for practising architects to be able to keep up with rapidly evolving technological and material development. Indian architects should not be given a license to practice in perpetuity but have to recertify annually or biannually, which will ensure that they are up to speed with product awareness. After passive methods, that would be the next step in ensuring a greener building.

Q. What common misconceptions are there about green buildings and green architecture?

A. The biggest misconception is that a green building costs more to build. The thought may have gained credibility from an approach of

superimposing a green layer on an already conceived or built structure, which will of course come with added costs and yet, never be truly green. If one were to incorporate it right at the conceptual stage, starting with reducing energy and material requirement through passive means, one is likely to build leaner and more efficiently. Green architecture if approached correctly, should be cheaper to build and cheaper to run.

Q. What is the most challenging aspect of bringing together sustainability and architecture?

A. There is no challenge in bringing sustainability and architecture together if passive design approaches to design are followed right from the conceptual and planning stages. ▲

*Graduated from the School of Planning and Architecture (New Delhi) and the Architectural Association (London) with Honours (Diploma school) and Distinction (Graduate school) in Energy and Environmental Studies, **Manit Rastogi** is the Founder Partner of Morphogenesis, one of India's leading award-winning Architecture and Urban Design practices based out of New Delhi, India. Morphogenesis has been ranked for the third time running, among the Top 100 Architectural Design Firms worldwide. Manit is a Fellow of the IIA (Indian Institute of Architects) and the RSA (Royal Society of Arts, UK). He along with Sonali Rastogi (Founder Partner of Morphogenesis) have recently been awarded Laureate of the SIA Getz Award for Emergent Architecture in Asia, Singapore 2014. Manit has taught at various universities and been a director of the Sushant School of Art and Architecture as well as the Sushant School of Design. He is a founder member, Association for Development and Research of Sustainable Habitats (ADaRSH). As a member of the Technical Advisory Committee of GRIHA, India's own Green rating system, and as member, Resource Persons Group on Environment and Ecology- Lt. Governor's Secretariat, New Delhi, Manit works with urban policymakers to spearhead initiatives with an emphasis on environmental sensibility and social welfare.*



Pearl Academy of Fashion

JAIPUR, Rajasthan, India



The design for **The Pearl Academy of Fashion, Jaipur** by **Morphogenesis** is a very successful model for cost effective passive architecture in desert regions. The materials used for construction are a mix of local stone, steel, glass, and concrete - chosen keeping in mind the climatic needs of the region while retaining the progressive design intent.

The Pearl Academy of Fashion, Jaipur by Morphogenesis is a campus which by virtue of its design is geared towards creating an environmentally responsive passive habitat. The institute creates interactive spaces for a highly creative student body to work in multifunctional zones which blend the indoors with the outdoors seamlessly. The radical architecture of the institute emerges from a fusion of the rich traditional building knowledge bank and cutting edge contemporary architecture.

The institute is located in a typical hot, dry, desert type climate on the outskirts of Jaipur in the soulless Kukas industrial area, about 20 kilometers from the famous walled city. The design needed to represent the seriousness of its academic orientation through its formal geometry. Given the nature of an institution, budgetary constraints on the project necessitated the use of cost effective design solutions to keep within the price points set by the client and yet be able to achieve the desired