

BUILDOTECH

BUILDING TECHNOLOGY & MAINTENANCE

JUNE 2009
Volume 3 - Issue 6



**Sri Lankan
approach to
sustainability**



**Design:
A structure
in the air**



**Green
Business
Environment**

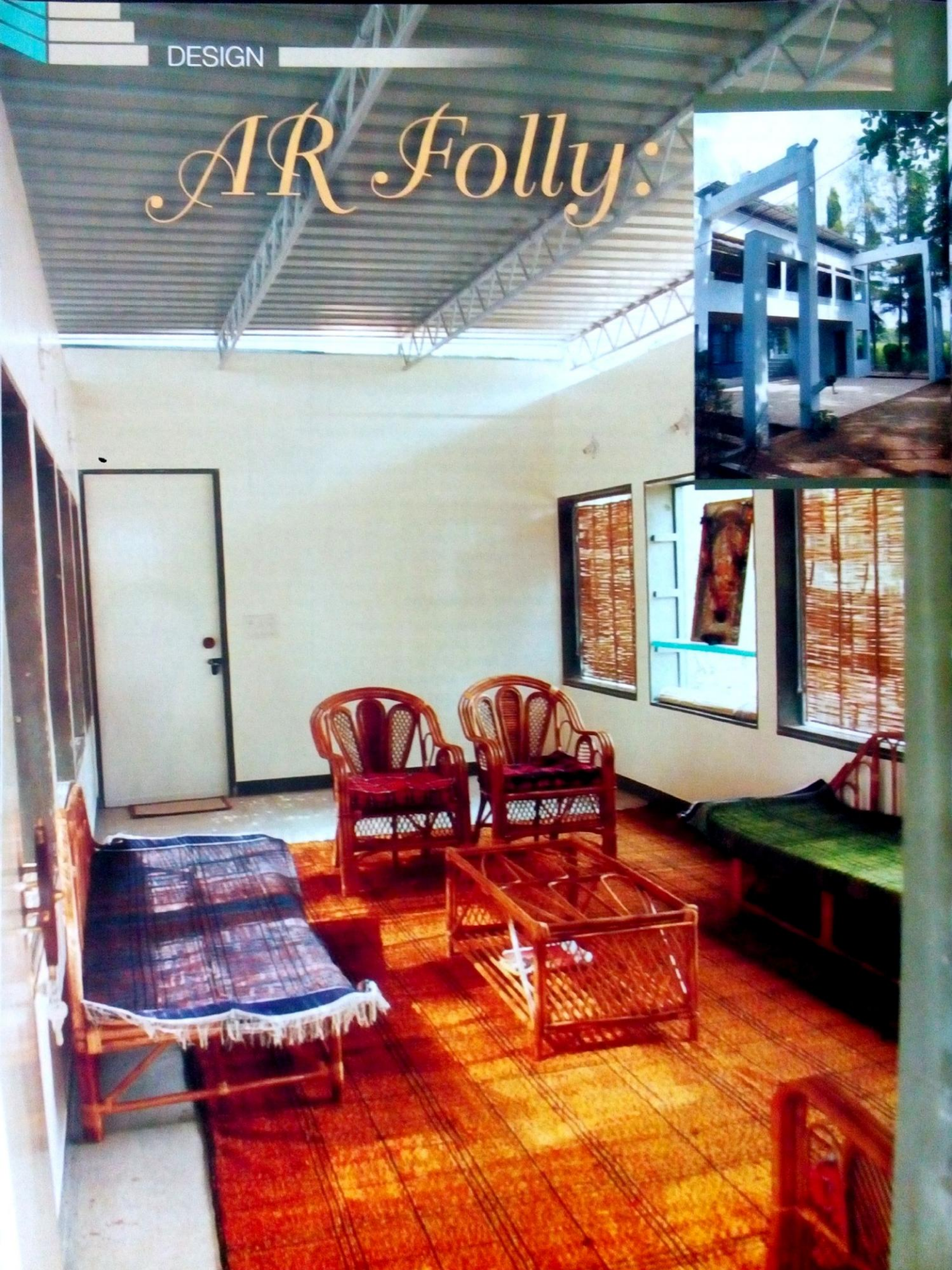


Kokilaben Dhirubhai Ambani Hospital

**Building Technologies
in a world class hospital**

DESIGN

AR Folly:



A Structure in the Air

Architects **Saurabh Pradeep Malpani** and **Ashka Naik**, Principals of Artha Studio, Pune, believe in bringing constructive transformation in social and environmental realities through the practice of sustainable design. "Being architects and designers, our job is to apply the resources and materials our planet offers us and make them into products, buildings and cities, altering the fabric of the world. As we all know that unless done through sustainable processes these alterations cause environmental and social cataclysms, it becomes imperative for us to function as the most conscientious stewards of our planet." Project Folly has all the features of sustainability.



The project is situated in the rural context of western India, near Kasarwadi, close to the small town of Sangamner in the state of Maharashtra. The climate of this region is hot and dry, with seasonal monsoon. The Folly is designed for a family of a pediatrician. The site is located in the family farm, next to an existing pitched roof structure.

The initial concept of this project was to design a tree house fulfilling the basic functions outlined by the client. The emphasis on the space for relaxation, a space attributed with peace and reverence for nature and away from the stresses of the city-life, became the keystone for the development of this project. Stemming from this idea, the concept evolved into a Folly, accommodating polyvalence of functions and ardent respect for the environment.

The primary space of the Folly, surrounded by trees, is elevated from the ground at 2.4 metres. The decision to raise the structure above ground helped create a



permeable pavement on the ground level. This exposed pavement on the ground level constructed with clay-bricks helps reduce storm-water runoffs, assisting in the absorption of rainwater in the aquifers. The elevated structure also offers a sense of privacy from the circumventing jogging track and the adjacent pitched roof structure.

This core space is equipped with a sliding roof that mechanically slides on the tracks created on the beams protruding from the structure. Opening the roof serves two purposes: the enclosed space transforms into an open-to-sky space and simultaneously a complementary double volume space is created at the ground level. The interior space with sliding roof on the first floor is designed to optimally harvest

natural light and ventilation. Meanwhile, the consequential semi-covered double volume space at the ground level can be used for social gatherings and events. On the south and the north facade of the structure, horizontally pivoted steel frame windows are knitted with cane and bamboo. This design allows cross



ventilation and filtration of natural light inside the core space even when the roof-assembly is enclosed. Because of the design, these windows can also be fitted with humid khus panels in the summertime for effective passive cooling. The two fixed windows in the north facade accommodate book shelves, and are also a source for natural north light. The glass of toilet window is sandwiched with flower petals to create a sense of translucency.

The design team strictly adhered to the principles of sustainability throughout the design and construction process of this project. Incorporating natural, local and renewable materials such as bamboo, cane and clay-bricks, as well as choosing mechanical roofing system over an electrical one, are just a few of the many sustainable decisions taken by the design team. Conscious effort was made at every stage to evaluate and examine available materials and technologies for their environmental performances. Such thorough inquiry is our key to effectively integrate sustainability in all our projects.

Project: AR Folly
 Client: Dr. Omprakash Sikchi
 Architect: Saurabh Malpani, Ashika Naik
 Collaborators: Archana Kumar, Nisarg Mehta
 Structural Engineer: Satish Marathe (SMCE)
 Contractor: Anand S Gokhale
 Year: 2007-2008