



... architect's take

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SUSTAINING *Sustainability*

Chennai-based architect Benny Kuriakose, who considers himself to be in the mould of Laurie Baker, shares with us his thoughts on sustainable architecture in the Indian context.

Sustainable architecture in India is a concept that remains largely debated, discussed and overhyped, with little attempt to understand its principles and nuances. But, this doesn't apply to Chennai-based **Benny Kuriakose**, for he is an architect who takes sustainability very, very seriously; for him, it has been the work gospel and a way of life for nearly three decades. Hardly surprising, considering that master designer Laurie Baker – the best known advocate and practitioner of sustainable architecture, was his first *guru*.

Kuriakose's career took off in 1984 when he joined Baker on site a nine-month stint that involved "learning as well as unlearning." Two years later, he completed his Masters in Conservation Studies in the UK and returned

to join the Integrated Rural Technology Centre, Palakkad, Kerala. Kuriakose then moved to Chennai in 1996 and has since built up a large and varied project portfolio that includes, amongst others, the Department of Engineering Design, IIT Madras; Institute of Palliative Medicine, Calicut; Backwater Ripples Resort, Kumarakom; and Club Mahindra Resort, Ooty. His conservation projects include Paliyam Palace, Kottappuram Fort and Kottappuram Market (all in Kerala) and Gables Bungalow in Coonoor.

He has also designed the Banegaon village, Latur, after the earthquake; some tsunami-affected villages in Nagapattinam district; and the layout of Chapredi village for the Kutch Earthquake Rehabilitation Project.

↑ Above

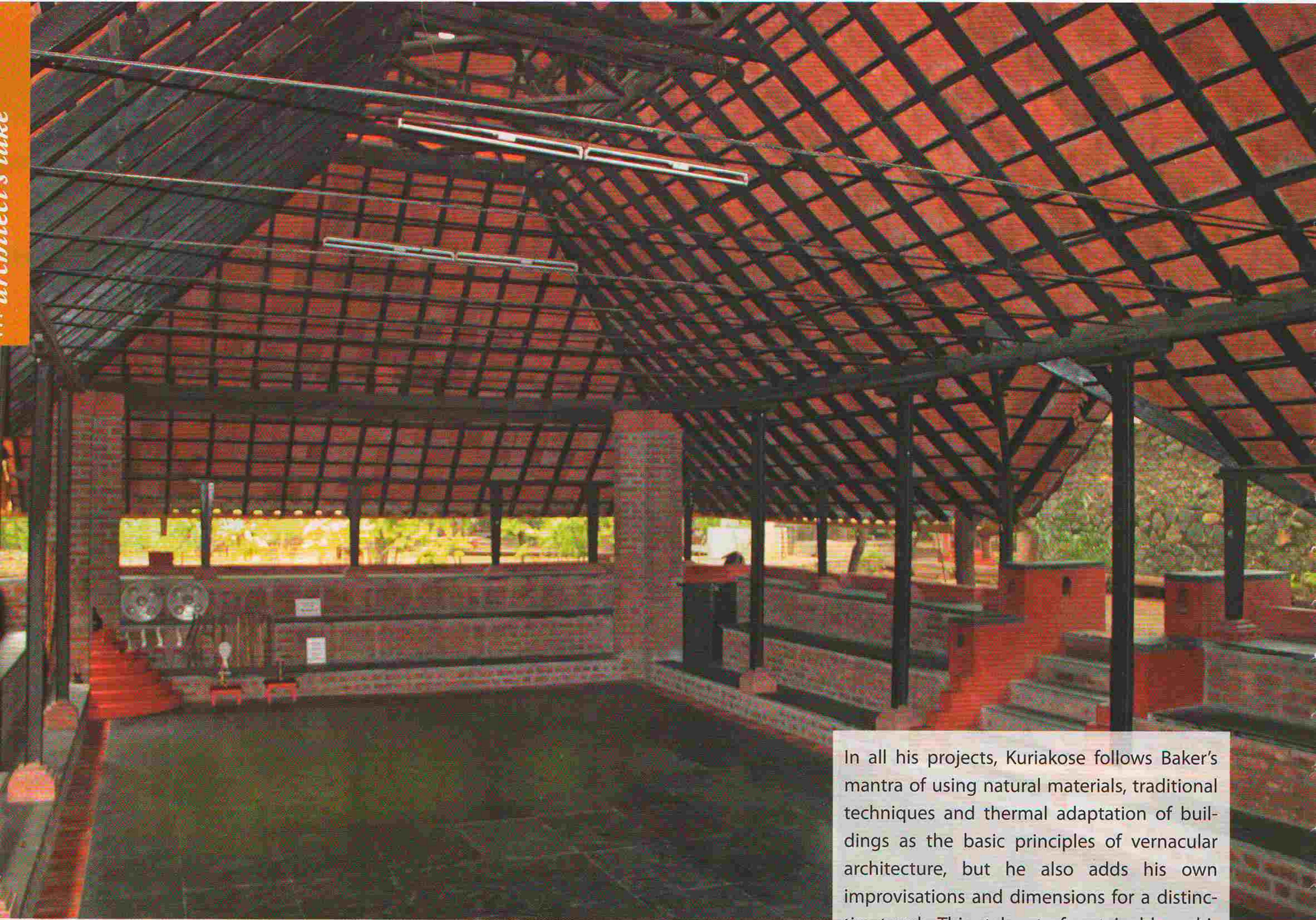
Part of Casa Roja House complex, Chennai, this office has a homely look with a backyard and large windows on three sides that provide sufficient ventilation and light.

↑ Above right

At Vishram by the Sea, a farm house in Kovalam village, this bathroom with a courtyard has been given an ethnic touch with traditional Tamil Nadu architectural colours and forms.

← Left

The dining hall, a newly added feature, retains the homely ambience at the Mangala Heritage Home.



↑ A training centre for Kerala's ancient martial art, this rectangular hall with seating galleries sans columns has been built three and half feet below ground level, reflecting the ancient pit where this art was practiced.

↓ A small courtyard furnished with a water body and traditional artefacts forms an interesting entrance to another courtyard and dining hall at the Mangala Heritage Home.

In all his projects, Kuriakose follows Baker's mantra of using natural materials, traditional techniques and thermal adaptation of buildings as the basic principles of vernacular architecture, but he also adds his own improvisations and dimensions for a distinctive touch. This stalwart of sustainable architecture shares his thoughts and experiences with **Janaki Krishnamoorthi...**

Q Sustainable architecture is becoming a commonly-used and misused term. What does it really mean?

Sustainability should be seen from a broad perspective to include environmental, social and economic sustainability. For many developing countries, energy conservation in buildings may not be as important as rainforest protection or water conservation. A greening of practice occurs when both local and global issues are balanced. Sustainable development is not against all development or urbanisation, but it is against uncontrolled development, which only serves short-term interests.

Q How would you define sustainable architecture in the Indian context?

The parameters of sustainable architecture will differ from place to place and time to time, as they depend on several factors like



climate, land availability, local building materials and socio-cultural factors. What is sustainable in Kerala may not be sustainable in Rajasthan, and what was sustainable 100 years ago may not be sustainable today.

What we need is not an internationally-defined benchmark of sustainable architecture but an architecture that takes its lessons from our traditional techniques and materials. For a developing country like India, minimising the use of high energy intensive building materials such as cement, steel, glass, aluminium, etc, is important.

One must concede, though, that today it is impossible to design a 100 per cent sustainable building. We will have to make some compromises. While we cannot totally avoid using materials like cement, we can definitely limit their usage and try using alternate, reusable and renewable materials like timber, earth, bamboo, fly ash, etc, where possible.

Q Are Indian developers open to the concept, and how widely is it being practiced in India?

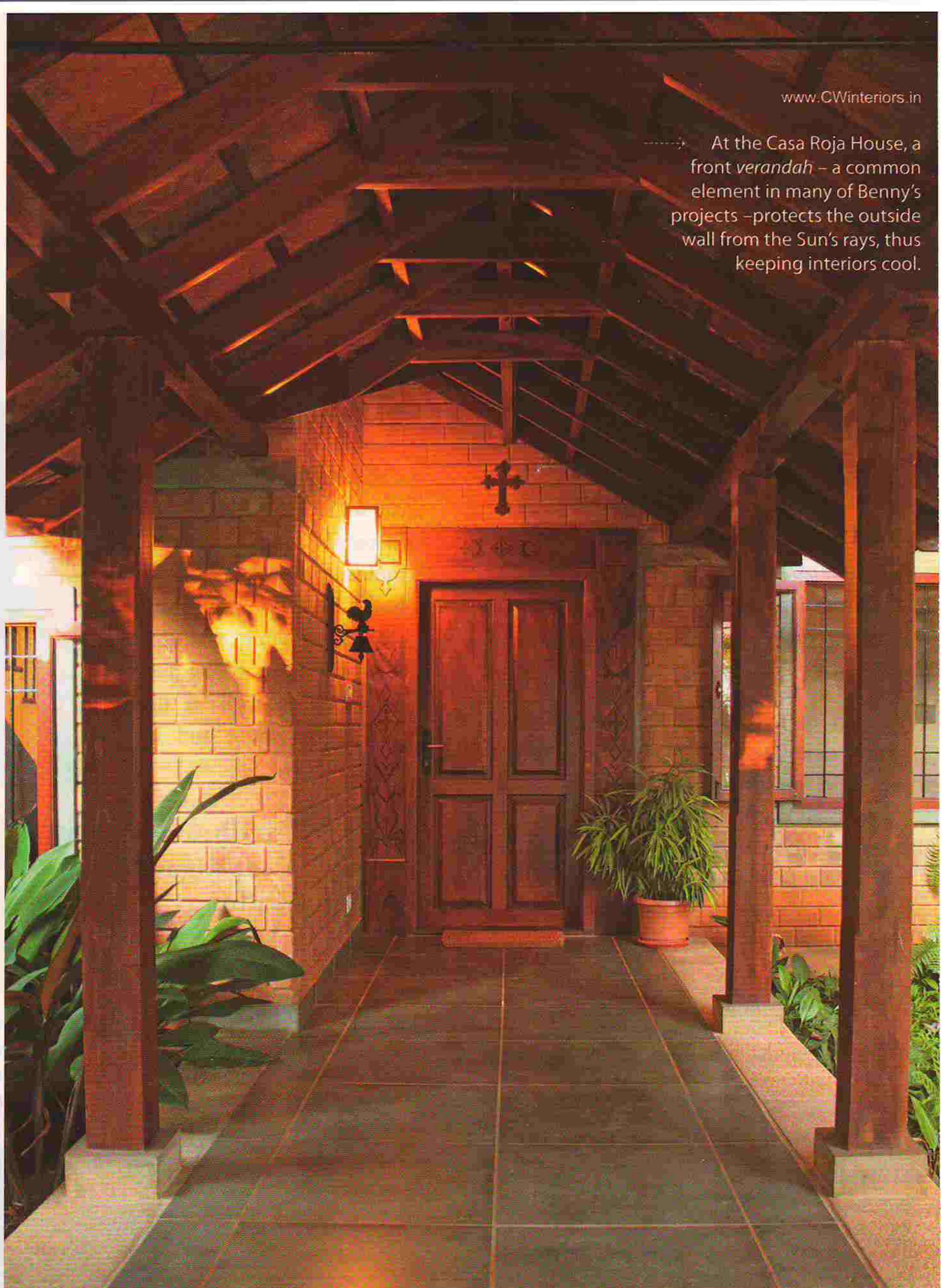
Indian developers are not open to the concept of sustainable architecture in the true sense. Our platinum or gold rated buildings are more a marketing gimmick than anything else. Government policies can help to some extent, but it is when the community becomes more conscious that the builders and contractors will follow sustainable practices in spirit.

Q What do you mean by vernacular architecture, and what is its role in sustainable architecture?

Vernacular architecture has evolved over centuries. It is shaped by the local climate, culture and materials. But, with the advancement of technology, many felt that there was no need to design buildings to suit the local conditions; instead, they advocated the creation of an artificially controlled environment using technology. Energy conservation was not a criterion in these structures.

Some architects and visionaries consider this 'modern architecture movement', with its housing layouts, tower blocks, shopping malls, etc, unsuitable from the social, cultural and environmental perspective. People are

At the Casa Roja House, a front verandah – a common element in many of Benny's projects – protects the outside wall from the Sun's rays, thus keeping interiors cool.



The roofs at different levels make the elevation attractive and provide an interesting character to the Casa Roja House.

now realising that there is something wrong with them and have begun to appreciate the beauty of vernacular architecture.

Q Vernacular architecture is often considered unrefined and primitive. Some famous architects have defined it as "a building designed by an amateur without any training in design" (Ronald Brunskill), or "folk building growing in response to actual needs, fitted into the environment by people who knew no better than to fit them with native feeling" (Frank Lloyd). What is your rejoinder?

I do not agree with the definitions, but I know that many consider vernacular architecture to be primitive, disorderly, unrefined, etc. This may be true in some cases where the architecture has not evolved. But, I think it would be foolish and unfair to call Indian built heritage as crude and primitive. It is possible that those who say this are unable to see the order or understand its logical evolution.

Buildings do not have to be constructed

the way the villagers used to build, but we can learn from vernacular architecture and adapt it to the modern context. We must develop new approaches and solutions, which means selecting appropriate technologies and methods of construction, employing life cycle assessment, seeking out local sources of energy and materials, employing local building skills and know-how. A major constraint that sustainable architecture will have to address in the future will be the disposal of waste and its consequences.

Q Tell us about your experience working with Laurie Baker.

As an architect, I am formed in the mould of Laurie Baker. When

Meet the designer

Benny Kuriakose



FIRM: Vedika, founded in 1991.

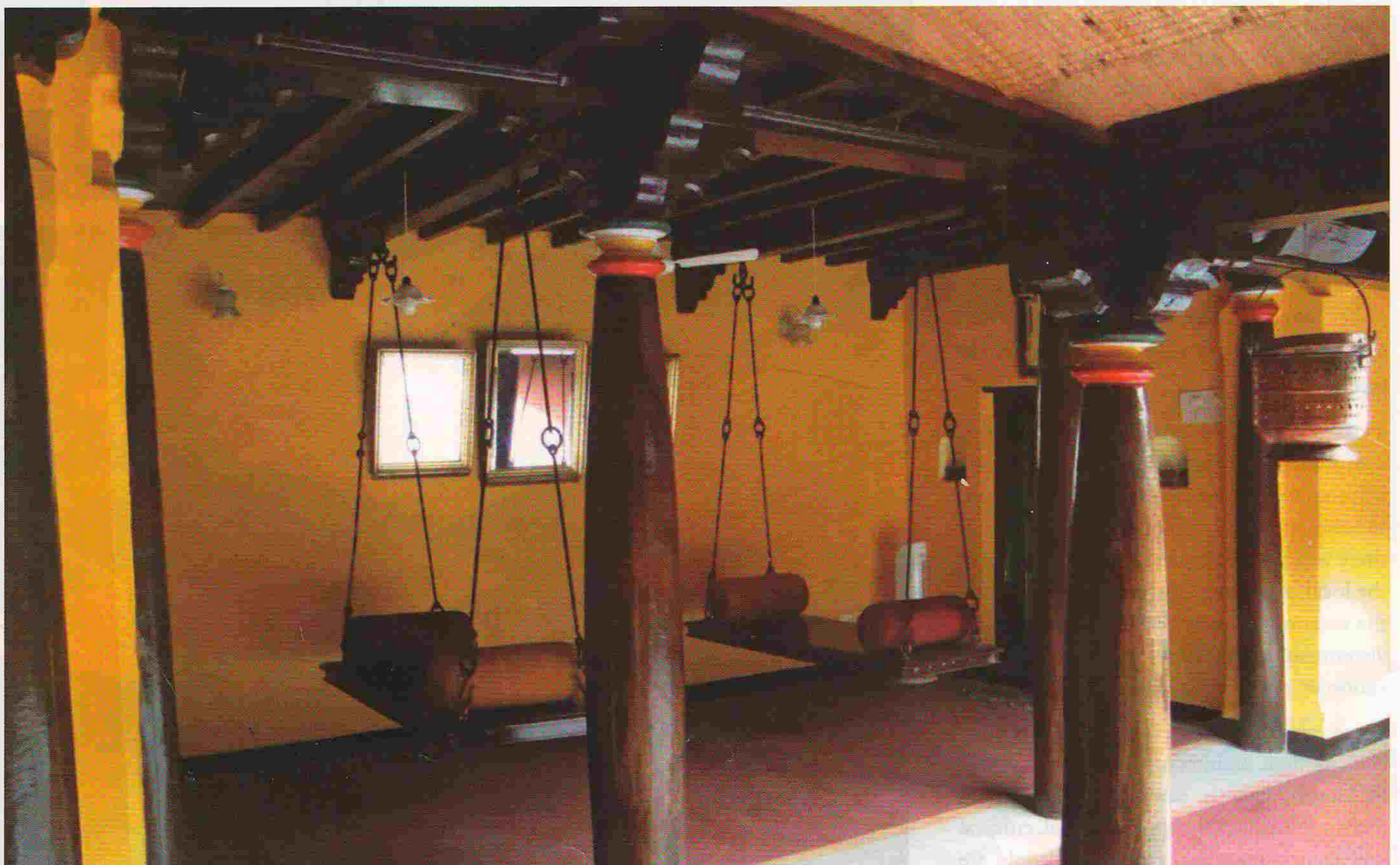
FIRM SPECIALISATION: Farmhouses, resorts and institutional buildings.

DESIGN PHILOSOPHY: Exploration of an architectural vocabulary that is appropriate to the environment, cost effective and incorporates the

principles of vernacular architecture in the modern context.

FAVOURITE ARCHITECT/DESIGNER: Laurie Baker, Le Corbusier, Frank Lloyd Wright and Geoffrey Bawa.

At the Mangala Heritage Home, swings replace regular furniture while ordinary mats on the ceiling soften the rough feel due to extensive timber use.





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Low windows in this dining space provide ventilation right up to the floor level at Vishram by the Sea at Kovalam Village.

Public housing programmes generally follow a single type design. The people who are going to live in the houses do not have a say in the design and construction. Consequently, these mass produced shelters barely meet the target population's requirements.

In the tsunami reconstruction project in Tamil Nadu, we tried to address the requirements of the community and to reduce vulnerability against future tsunamis and recurring cyclones. We tried to customise the 450 houses, taking into account the needs and aspirations of each house owner.

Q Can sustainable architecture be implemented in urban areas, and can it accommodate modern requirements?

Yes. Undeniably, society and technology have undergone irreversible changes; but, the present way of building and designing is not the right way. Unless we change them, it might become very expensive and moreover unpleasant to live in our cities. And more and more people may start migrating from the cities to the villages.

Sustainable architecture in India is split between two extremes – the technology-intensive 'green' architecture and the low cost 'alternative' architecture. A midway is what Kuriakose advocates – sustainable architecture based on vernacular principles adapted to meet the modern day needs and aspirations. Hopefully, more will follow in his footsteps and make Indian cities liveable, and lovable. **i**

PHOTOS: Casa Rojo House, Chandramandapa - Kevin Benny Kuriakose

Vishram by the Sea - Rajiv Menon

Mangala Heritage Home - Kevin Benny Kuriakose and Ganesan

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I worked for Baker, I never drafted or designed anything but just observed him working and listened to his ideas, many of which emerged at the site itself. He always answered questions and explained various structural principles in simple language.

Baker's buildings merged with the landscape. His architecture made use of local materials and minimised concrete and steel usage. He used materials according to availability and cost factors. Although Baker's buildings are synonymous with exposed brickwork, where stone was cheaper than bricks, he used stone.

Q Do LEED-certified buildings really reflect sustainable architecture?

The architecture I know is complex and

multi-dimensional, and judging whether a building is green by giving marks is very superficial. I think that the green ratings do not capture the sustainability or the richness, complexity and diversity of our architecture. Having said that, those who do not know what a green building is need guidelines to build. Fair enough.

Q What significant role can sustainable architecture play in low-cost housing?

Policy makers, engineers and architects have seen public housing as a technical problem and have proposed technical solutions. But, it is more of a social, cultural, economic and political problem, too. Sustainability lies in addressing all these factors in the design.



↑ Eco-friendly handmade Athangudi tiles have been used for flooring in this bedroom at Vishram by the Sea.