



## 10 Architects & Firms Building The Natural Sustainable Homes The Climate Needs!

Everything we build must be eco-sensitive, energy-efficient and cost-efficient. Otherwise, our own survival comes under question.

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ARCHITECTURE ENVIRONMENT

One of the lesser known culprits of accelerated climate change today are architects. How, you ask? They are largely responsible for the built-up environment around us today.

“With 36 per cent of global energy devoted to buildings and 8 per cent of global emissions caused by cement alone, the architectural community is deeply entwined with the flows of materials, energy, and ideas that relate to climate change, both causes and solutions,” says [this report](#).

In the past three decades, many have spoken of sustainability, but it is time to act. Everything we build from now onwards must be eco-sensitive, energy efficient, cost efficient, people-centered and value based. Otherwise our survival comes under question.

Here are 10 architectural firms/architects who have led the way forward in sustainable and eco-friendly architecture:

### 1. Trupti Doshi—Creating a Sustainable Environment

This Mumbai native first came into the limelight working on the Sharanam Rural Development Centre along with architect Jateen Lad located on the outskirts of Pondicherry. According to [The Better India \(TBI\)](#), the entire structure is made of unfired earth. In essence, the primary building material is the very soil upon which the building stands.

When she co-founded the Auroma Group with her brother Viral Doshi in 2013, she brought along other interesting facets of that project to her other work like employing local craftsmen, rainwater harvesting and waste composting.



Trupti Doshi

This is an architecture company that works on residential and office space construction with an eco-friendly model. “Auroma is about how we can build places for communities that share an ideological connect and are willing to participate in the creation of a sustainable environment together. So we work on everything – the master planning, sustainability engineering, design, furniture, etc. The A-Z of design.”

## **2. Biju and Sindhu Bhaskar—Building in Harmony with Nature**

Founded by architect Biju Bhaskar and his wife Sindhu, the Tirvannamalai-based Thannal Hand Sculpted Homes base all their structures on eco-friendly indigenous knowledge systems.

“Houses are material extension of the way the people in it live. The components used in building a house are entangled in the day to day lives of the inhabitants. So, the materials which we use, the way it is used have a dominant effect on the way the house functions. Using natural materials without altering can minimise the effect on nature and thus can make us live in harmony with nature, just like a bird nesting on a tree,” [they claim](#).

One such material is mud.

“Mud buildings are very much similar to the human body. Mud walls, being porous, can breathe, like our skin. This helps in maintaining comfortable indoor temperature, irrespective of extreme weather conditions outside,” said Biju, in a conversation with [TBI](#).

The proportion of how much lime, clay, cow dung, among others, you use in the mud to construct the house may vary. But as the raw materials are local, they naturally complement the climate, weather conditions of the area and the needs of the residents.

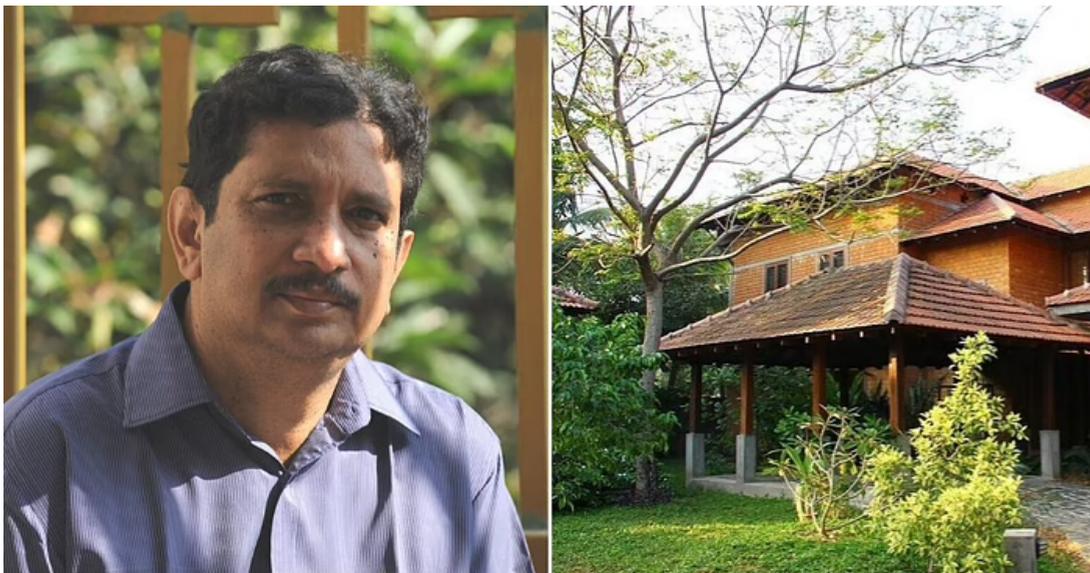


Singing Dervish Studio, Tiruvannamalai. Courtesy: Thannal.

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### **3. Benny Kuriakose—Using Indigenous Knowledge to Build Structures**

For three decades, this celebrated Chennai-based architect has built everything from residential homes to resorts using locally-sourced and eco-friendly materials like earthen, stone and timber.



Benny Kuriakose (Left)

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Besides building structures from scratch, he also works on disaster rehabilitation, restoration and conservation work. Another fundamental aspect of his work is the use of indigenous

Take the example of popular South Indian actor Mammooty, who employed him to build his home in 1992. He went back to old Kerala style architecture to make the terracotta flooring of his home.

For his exemplary sustainable work, Benny has several awards and accolades to his name like the Charles Wallace (India) Trust Award (1986), Designer of the Year Award by Inside Outside Magazine (2002), and the latest being Editor's Choice for Exemplary Body of Work, Trends Excellence Award (2017).

"In addition to constructing building with eco-friendly materials, architects need to focus on recycling or conserving the existing buildings. We can reduce carbon footprint by recycling waste materials like timber, debris and so on," [said Benny](#).

#### **4. Eugene Pandala—Learning from Traditional Building Techniques**

For the graduate of Delhi School of Planning and Architecture, it was a meeting with the legendary architect Hassan Fathy, which turned his attention to mud construction.



Eugene Pandala (Source: [Wikimedia Commons](#))

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“Exposure to traditional building techniques, an interest in sustainable ways of living, love for nature and a general passion for natural building materials, has amalgamated to form his architectural thinking and has led him to explore traditional technologies using natural materials. His works are highly contexture and distinctive to the environment they are situated in. He was involved with many government funded urban design and heritage projects including Trivandrum East Fort conservation, and Fort Cochin Renewal and Beautification project,” says [this British Council](#) description.

“Providing affordable sustainable solutions for the built environment is the challenge he has taken up so that the economically weaker section of the population, who account for more than two thirds can also construct and live in sustainable houses,” it adds.

## **5. Gopal Shankar—Building Quality Homes with Meagre Resources**

Padma Shri awardee Gopal Shankar has stood at the forefront of sustainable architecture in India for the past three decades. With his Habitat Technology Group, he is committed to sustainable building solutions, cost-efficient, community-driven and eco-friendly architecture.

Shankar has been at the forefront of constructing nearly 1 million mass housing units (and over 100,000 green buildings) in more than five countries.



Architect Gopal Shankar

Shankar has religiously taken on the cause of sustainable architecture with his blood, sweat and tears, battling hostile contractors, the establishment and naysayers. His work also includes constructing the first township built with green building technology in India, which contains 600 houses, a community centre and temple, in Sirumugai, Coimbatore in 1995 and the largest earth building in the world measuring over 600,000 square feet in Bangladesh in 2006, among others.

More importantly, however, from his office in Thiruvananthapuram, Kerala, he has empowered those living on the margins to build quality homes with their meagre resources.

Today, vegetable vendors and traditional fishermen in the city come to his office to design their homes. The masses of this country have an architect they can approach.

## **6. Hunnarshala Foundation—Collaborating with Local Communities**

The Bhuj-based organisation changed what the definition of disaster relief when they rebuilt homes following the devastating 2001 earthquake in Bhuj. Instead of the standard prefab homes, they collaborated with local communities to build eco-friendly and earthquake-resistant homes steeped in indigenous knowledge systems.

For example, for the pastoral communities living in the Banni grassland area near the Rann of Kutch, they chose to rebuild their homes constructing their traditional 'bhungas' made of mud bricks or an interior matrix of tree branches packed with mud instead of pucca cement houses.



Sustainable home (Source: Hunnarshala Foundation)

Similarly, they rebuilt one entire village in Bihar following the 2008 Kosi floods using just bamboo. They essentially do community housing where decisions are taken by the community from day one, from design, community mobilisation, supervision of the house to even construction.

## **7. Dhruvang Hingmire and Priyanka Gunjkar—Merging Architecture with the Surroundings**

Have you met architects who build homes with their own hands? If not, meet this Pune-based couple Dhruvang Hingmire and Priyanka Gunjkar, whose work emphasises the use of locally-sourced natural materials and employment of local labour.

“We don’t believe that a design needs to stand out and speak of the architect who built it. The more the building merges with its surroundings, the ground and landscape around it, the better it is. I think that’s where the architect does a better job. Our motto is learning from the vernacular and giving back to the vernacular,” said Dhruvang.



Priyanka and Dhruvang

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Even using natural materials doesn’t make sense if they come from a place far off. Then, the building isn’t local anymore. While it is natural, the structure is not necessarily eco-friendly. Secondly, it has to be natural with minimal processing.

### **8. Malaksingh Gill—Going the Traditional Way with Lime, Bamboo, Wood**

A mentor to both Dhruvang and Priyanka, Malaksingh has stemmed the flow of carbon emissions into the atmosphere for the past 17 years by using natural and traditional construction material like bamboo, wood, lime and mud to construct structures across India. He has built everything from simple homes, independent bungalows to even farmhouses.

“I have studied century-old village buildings of various sizes, to validate my argument about their durability, longevity, thermal comfort, bio-sensitivity and cost-effectiveness. Pick any old structure when cement was not available and notice how they still stand the test of time with little or no degradation,” Gill told TBI earlier this week.



Malaksingh Gill

Like his fellow sustainable architects, Gill collaborates with local masons and builders, utilizing their skill sets and enhancing them where he can.

### **9. Green Evolution—Design and Retrofitting to make Homes Nature-friendly**



A home in Chennai designed and executed by Green Evolution.

For Anupama Mohanram and Jaideep Vivekanand, the concept of sustainable architecture isn't merely limited to how a structure is built or its design.

It's also about how occupants minimise their use of water and energy, but ultimately live in an environment that is both healthy, comfortable and not to mention resource-saving. In living simply, occupants can play their part to save the planet. So, instead, these Chennai-based architects design and retrofit homes to make them nature-friendly. They believe it is possible to build sustainable feature into existing structures.

"As part of our efforts, we conduct an initial study of existing buildings to review current standing and check the feasibility of bringing in sustainable features. While some of these will incur low upfront costs, it would be of high impact such as fitting aerators on taps to minimise water use, changing water closet cisterns to minimal dual flush volumes, retrofitting lights and fans to energy conserving ones now available," said [Anupama](#).

## 10. Made in Earth—Using Natural Materials with a Taste for Experimentation

This is a Bengaluru-based collective of architects, engineers and artisans who are determined to promote a form of architecture that lessens the load on our environment.

"We work with local, natural building materials and techniques, with a taste for experimentation. We especially use earth to create distinctly contemporary expressions and strongly promote minimal environmental impact of the entire building process. We believe in an architecture that is simple and sensible; created with an understanding of the soil on which it exists; with an exploration of the materials from its place; and in collaboration with the skills and the imagination of its people," says their website.



(Source: [Made in Earth](#))

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In their construction process, they employ materials like rammed earth, Wattle and Daub, Tadelakt, lime, natural plaster and paints.