

## Cover Story

# Down To Earth

Biju Bhaskar revives indigenous wisdom while promoting the Indian way of learning architecture. BY NEERJA KAPADIA

India is in the throes of a planning frenzy and several smart cities are on the anvil. The country's property boom besides being hungry for sand, iron, cement and water is quickly obliterating any nuances that existed in traditional design to address a region's climate, environment and culture.

Fortunately, there is a breed of Indian architects who are going against the grain and espousing sustainability as a defining feature of their work. Choosing to turn their backs on green rating systems and sustainability certifications, these visionary architects look instead towards honouring time-tested building techniques to create structures that interfere as little as possible with nature, both in design and materials used.

One such architect is Biju Bhaskar, who builds to suit the local socio-environmental contexts, embraces the use of reusable and renewable materials, harnesses traditional building wisdom and shows that eco-friendly does not mean shabby, dull and boring.



'Thannal' literally translates to the word 'shade', and spreads awareness about sustainable living with use of minimal resource consumption

An eco-loving architect, he has contributed to the environment by using ancient art and traditional techniques of natural architecture to create homes with a soul. He has founded 'Thannal – Hand Sculpted Homes', along with his wife, Sindhu Bhaskar in 2011 and has created opportunity for many people to follow through with their desires in this field, whether it's availing the advantages of it or contributing towards it.

Thannal is a natural awareness building group, and as the name suggests, makes hand sculpted homes. He believes that using natural derivatives from plant and animals are very effective in construction.

'Thannal', which literally translates to the word 'shade', aims to spread awareness about sustainable living with use of minimal resource consumption and creating such shelters by and for anyone who desires.

It also believes in a silent self-practice in architecture and creates less noise by being vocal about sustainability but follows as well as leads others to a path of living in harmony with nature.

Biju Bhaskar strives to maintain the continuity of the indigenous knowledge in Indian 'vedic' traditions. Anyone can join the natural building movement in India and create such living shelters at Thannal.

Earlier, houses were made from mud and other locally found materials with zero cement usage and many villages to this date, live comfortably in that milieu.

Mud is the key ingredient, and at Thannal, no material depleting hybridization is encouraged. In addition to mud, Thannal also uses various other unacquired materials like bamboo, surkhi (baked mud), lime and various admixtures from plant and animal derivatives.

Techniques favored are cob, wattle & daub, earth-bags with locally available soil and earthen plasters. Indigenous fading craftships in Lime like Thappi, Araish and Lohi from Rajasthan, have been revived to bring back contemporary house construction than remaining with forbidden Heritage Conservation Architecture. With each passing day, it proves to us that building natural homes are simple and economical if people work towards it as a unit.

Sustainable buildings need to be economically viable also, but lately alternative building solutions given by architects demand premium investment which limits the society to a selected few. Mud was a poor man's building material and Thannal works to return this material to everyone by learning from native and cost effective techniques.

"We believe architecture can expand in more dimensions other than just concrete jungles but also in something which is more close to our body and soul," they say. Thannal aims at a universal solution, applicable to both urban and rural contexts, with natural living being the crux. *The Inside Track* decided to have a little tête-à-tête with this awe inspiring practice which is penetrating itself all over India.

**Why do you feel natural buildings are the need of the hour today?**

If we take a pause and inspect what is happening in the 'sustainable architecture' front of India, you can evidently see manipulation of mud with cement, portraying it as the most sustainable option.

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But if we look into the properties of mud after mixing with cement you will be horrified to find how a fertile, soft, porous material is changed into stiff, rigid and impermeable 'cemented' material, like any other in the industry. Mud has a 'breathing quality' when used in pure form or mixed with lime, which adjusts itself to the temperature outside.

As India is waking into a realization of the need for pure organic farming & food, free from chemicals, buildings also need to suit the local climate and be flexible. Going local and building with available materials, especially mud is the right solution.

How does this reflect in own home?

We built our home two years back using a different technique with mud using earth-bags. Earth bag is a technique used by armed forces in making outposts comparatively fast and strong. It is also used in creating bunds and terraces to reduce soil erosion. This can also demonstrate to the locals a new technique, as cob and wattle & daub were already familiar to them.

Earth is filled in jute bags and used as building blocks. It was done in forty-five days, involving six farmers and two shepherds. Natural materials like mud, lime, different plant and animal derivatives were used as admixtures. It is an example of top to bottom use of natural materials.

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# THE INSIDE TRACK

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**Owner, Publisher & Printer** Mr. Anish R. Bajaj for Marvel Infomedia Pvt. Ltd. **Printed at** Marvel Infomedia Pvt. Ltd., B 62, 1<sup>st</sup> Floor, Cotton Exchange Building, Cotton Green Road, Cotton Green, Mumbai 400 033. **Published at** B 62, 1<sup>st</sup> Floor, Cotton Exchange Building, Cotton Green Road, Mumbai 400 033 **Tel** (022) 23736133/1, 23743069 **Editor** Mr. Anish R. Bajaj **THE INSIDE TRACK** Volume 12. Issue 06. June 2018. English - Monthly. This issue contains 24 pages including both covers.

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### What was the idea behind starting Thannal?

India has a very diverse history in indigenous natural building techniques, but today, very few organizations are practicing it in its pure form. So Thannal exists to create a platform where interested people can have opportunities to learn such different languages in natural building.

### In your experience, is the concept of hand-sculpted homes becoming popular among urban population?

Yes, very much. It is popular among many urbanists who are looking forward to a reverse migration eventually from the cities to the villages. Many from Bangalore and Chennai, where low rise development is still happening, find natural building suitable for homes in cities itself. We truly believe wattle & daub, a technique of weaving walls and applying mud over it will be most suitable in urban scenarios. It uses less material and can deliver thin walls, which are supported by columns. More than 60% of our participants are from cities.

Due to the use of freely available mud and lime, which is the binding material, we do not require sand or cement in our constructions.

### Can you share a few methods how metropolitans can adapt to this form of building and living?

We have built a project in Nelamangala Bangalore, where low-rise development is still seen. Many have started with their own owner's build after attending our workshops.

We are yet to do a multi-storey home but one of our workshop attendees have started with one. It is possible practically to have multiple storey homes with the wattle & daub technique.

We have few architects who have worked in the field of sustainable architecture with masters like Laurie Baker, completely shifting into natural buildings. We believe growing more villages that are self-sufficient rather than overcrowding the cities increase the demand for resources.

Yet we are happy to find our workshop participants happily trying to put some of these ideas in big cities like Bangalore and Chennai, and finding the difference of shifting into natural homes.



Studio made out of leaf

People can start small by using natural plasters on their surfaces or use mud as an in-fill material below floorings in buildings instead of cement.

Thannal is not a construction group, but an awareness group which focuses on research and documentation and is steadily creating a platform that will help people learn about natural buildings.

They only accept two projects a year, mainly in rural areas and also facilitate volunteering opportunities for the same.

Such an initiative can help in creating more workers as well as making people aware about beautiful techniques in natural building and bringing them back to the present scenario of house building. Biju Bhaskar is not only creating a community but also raising awareness in this field.

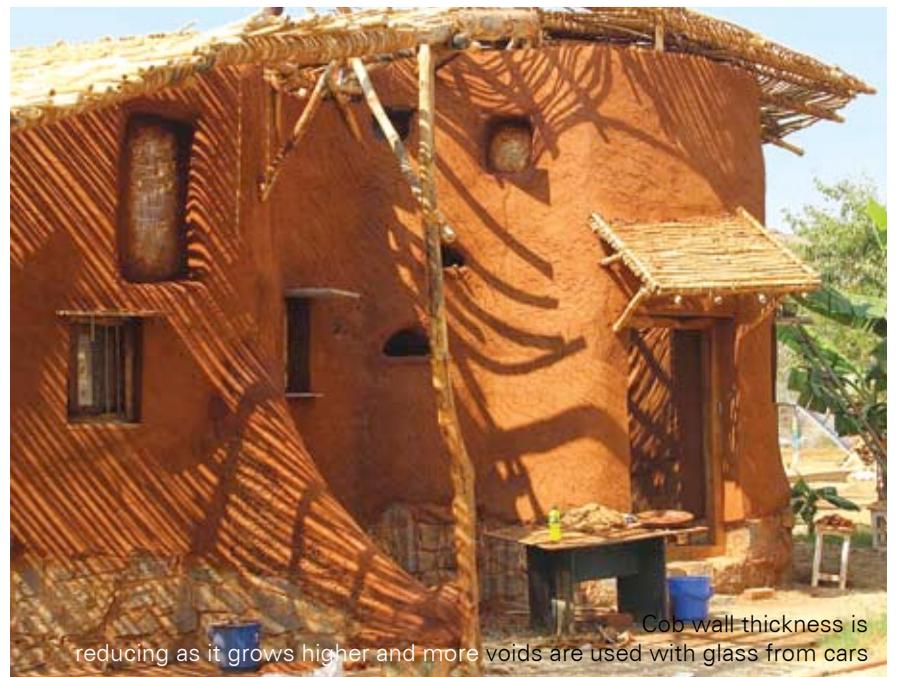
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Detailing a hanging sunshade using white rope on split bamboo to avoid harsh sunlight and rain



Cob wall thickness is reducing as it grows higher and more voids are used with glass from cars

### What is the time-frame to build these homes? What are the typical materials used and the average cost for the same?

It usually takes about 2-5 months for a 500sq.ft home. The process is similar to farming so the actual procurement of materials as well as treatment in the correct way takes longer than the construction. We generally use five materials, namely mud, terracotta, lime, stone, plant and animal derivatives.

An approximate cost we have derived is Rs. 800 - Rs. 1000 per sq.ft depending on the availability of materials. It is extremely affordable as compared to conventional building costs.



The different effects of plaster made from natural materials used to give the final finishing