



LOCKING SOLUTIONS
AND SYSTEMS

click!

June 2017

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Empowering Planet Earth

Dear Readers,

In this edition of Click!, we've put our Greenest foot forward to bring you stories of professionals who are doing their bit to conserve and protect Mother Nature.

We owe a green and clean tomorrow to posterity. At Godrej, it has been our legacy to respect the environment while enabling life to be enriched along with it, rather than by destroying it. Godrej has initiated the Good and Green initiative, which aims to create a more employable workforce, build a Greener India, and innovate for Green products by 2020. The conservation of our mangroves in Vikhroli, Mumbai, is another example of our sentiment towards preserving the environment.

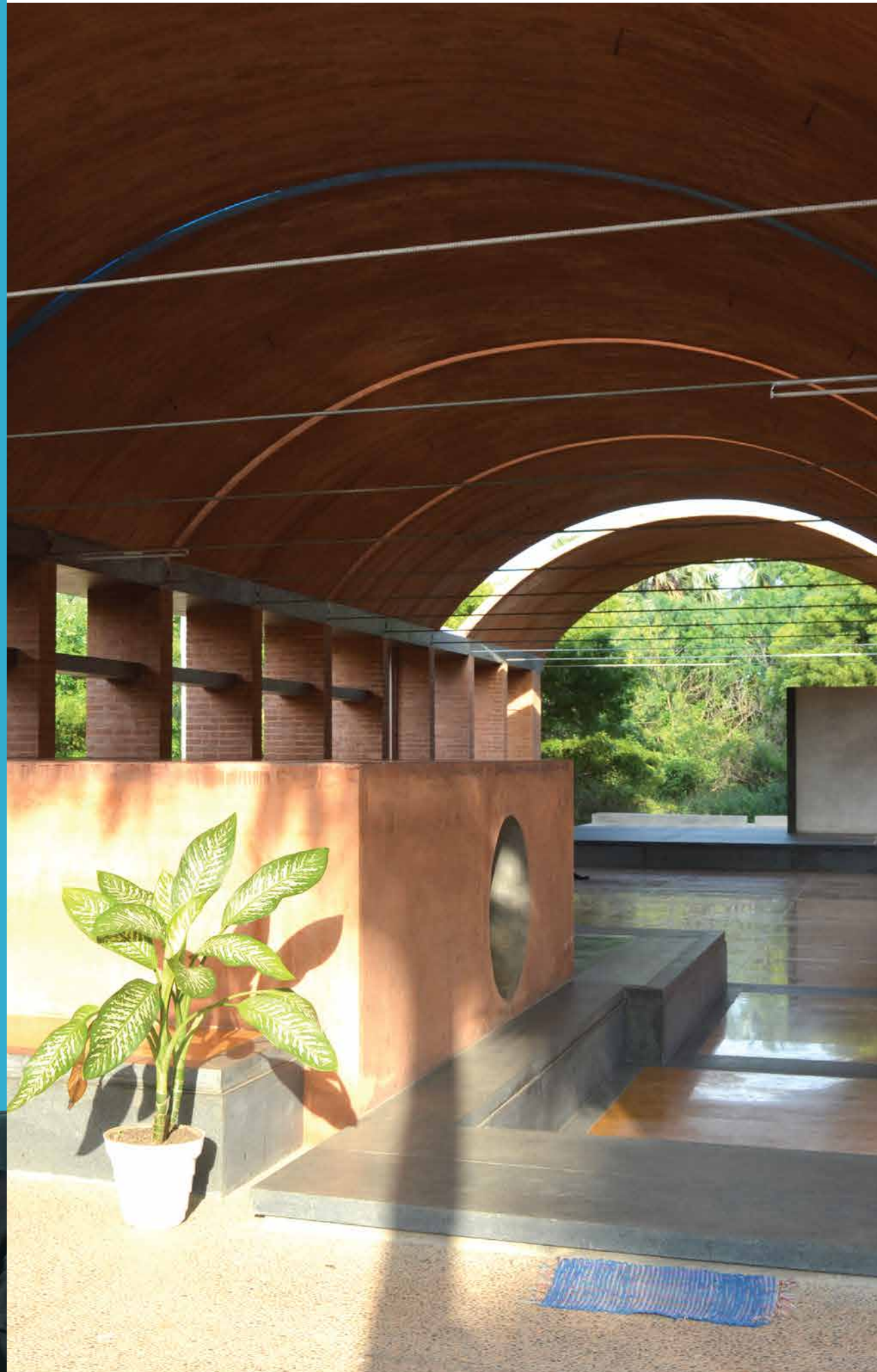
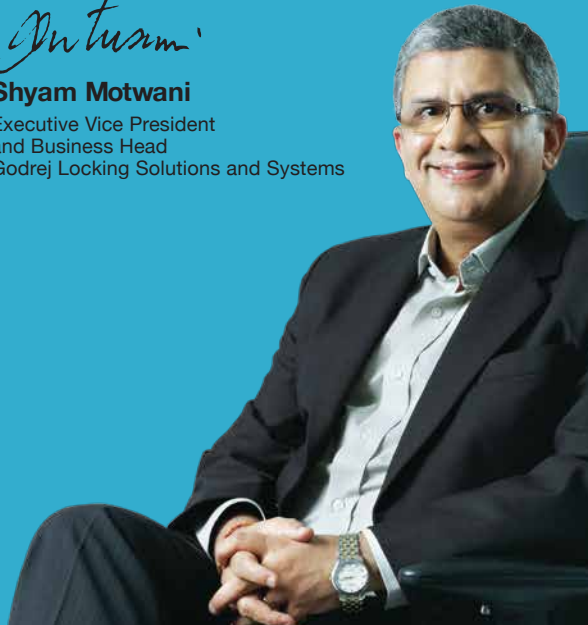
Our cover story is about an eco-friendly architect who has given the landscape of Puducherry a true gem in form of Sharanam, a Centre for Rural Transformation. Closer to home, read about our factory in Goa that is preserving its coastal divinity by paying respect to its surroundings.

We hope this edition of Click! makes you think about the footprint we are leaving behind on our Planet.

Happy reading!

Shyam Motwani

Shyam Motwani
Executive Vice President
and Business Head
Godrej Locking Solutions and Systems



One of the most prestigious projects of Sri Aurobindo Society, Sharanam—Rural Development Centre, was started in Puducherry in south India in 2007.

One For Nature

Trupti Doshi defines sustainability as doing more with less. Her work mirrors her ideology of recognizing that Earth is a finite resource and worthy of immense respect. She talks to us about building with a heart and soul.

A large part of most of our cities are unimaginative concrete jungles. More often than not, buildings are designed as ends in themselves - stacked boxes of copious amounts of concrete, steel, brick and facades of glass to enclose interiors, which are ubiquitous and dull, powered by artificial lighting and air conditioners.

Most people living and working in these spaces have no idea about the movement of the Sun or where the breeze comes from. If architects working in these surroundings do not take the effort of reconnecting themselves back to Nature, it will be difficult for them to think outside the box and understand buildings and cities as parts of the larger cyclical loops of Nature. The incorporation of sustainable building materials in construction is not easy or difficult to follow. A sustainable practice is my soul's calling. I cannot create another way.

India's ready for Green

I find tremendous amount of support and ample examples from India to urge me on this journey. There is a growing awareness among various stakeholders from the construction field such as sectors like agriculture, offices, manufacturing, institutes, etc. I see a wave of openness and rising mindfulness when it comes to eco-friendly building.

However, a small plot owner in a city suburb or town who wants to build their own house, would be able to go the sustainable way only if it's financially conducive. It is fair not to expect the incorporation of sustainability in such cases unless the person has an awareness and knowledge in the subject and has a highly developed conscience. However, when it comes to any public building such as offices or institutions, eco-friendly building and sustainable construction should be made the norm, not an option. And, I'm happy to report that from those areas, there's definitely a growing awareness.

Making Green building 'mainstream'

There is an old Native American saying which states, only when the last tree is cut down, the last fish dead and the last stream poisoned will man realize that money cannot be eaten. So when it is suggested that eco-friendly building be made 'mainstream', and more freely incorporated, the unspoken word beneath it is cheap. Sadly, whatever is cheaper will become mainstream. But in my understanding, cost should not be calculated only in terms of finance but with respect of environment also. This parallel system of costing is most important to consider. Thus, in terms of environmental cost, a sustainable building will cost much cheaper than a mainstream one. This is because it is much easier to procure standard raw materials and build a regular edifice.



Auroma French Villaments is a residential community of 24 French-styled villa apartments based on The Mother's symbol for grateful Seekers, by grateful Seekers.

5 ways to practicing sustainability

There are five ways in which we can practice and incorporate sustainable building in construction. These are explained here:

Planet: Let's give a long thought to how we can be more respectful towards the resources our Planet has to offer.

Prosperity: Think about how sustainable construction can be made profitable without compromising Nature or the comfort and convenience that we offer to people.

People: Our processes should focus on enriching social capital. For the second largest economy in our country after agriculture, not enough is being done to increase the skills of the people in the construction industry.

Progress: The only way to combine the earlier points is through innovation, which means progress. This progress will not come if old and outdated processes are followed in the industry.

Place: We have to construct by keeping the uniqueness of a place in mind. The one-size-fits-all approach in construction is not feasible and when the peculiarity and uniqueness of a place is ignored and blueprints of another place and geography are blindly replicated, this goes against sustainable construction.

Nurturing Nature

Eco-friendly construction is here to grow. If the knowledge and practice of sustainability doesn't keep growing, then we're surely heading for a disaster on the planet in the next few decades! Globally, people are really enthusiastically talking about the prospect of mainstream sustainable construction, so hopefully, the trend should catch on much sooner in India as well! ■

Sharanam Rural Development Centre on the outskirts of Puducherry houses perhaps the largest vault made of unfired earth in the country. As opposed to traditional arched vaults made of fired brick, Trupti designed and built the vault using bespoke unfired bricks. She brought down the thickness of the arch - which in the normal case would have been 5 feet - to a mere 4 inches at the keystone! The vault which would have otherwise consumed 10,000 bags of cement was built using a mere 33 bags of cement for stabilising the soil mortar. It has been recognized as a model for sustainable development by the United Nations Environmental Programme. Trupti is the youngest Indian woman architect to achieve this feat. She was able to truly innovate and make sustainable building a reality with this and her other projects.

LET'S LEAN ON GREEN



Godrej Locks' factory in Madkai, Goa, is doing its bit to conserve the environment around its geography.

India is home to a few cities that are amply contributing to Green-house gas emissions and the overall environmental downfall of the geography. This is especially true for the lands that have factories on them. But Godrej Locking Solutions and Systems is going the extra mile to ensure that the environment around its factory in Goa is preserved. Its plant in Madkai, Goa is the most advanced in eco-friendly manufacturing.

So, how is the conglomerate managing this feat?

To ensure minimal impact on the environment, it adequately processes chemical fumes, waste water, and solid waste. It's also adopted a technique called Green chemistry. Let's get the details.

Fumes at the location are treated with online scrubber systems, which do not send harmful toxic waste in the environment. Treated water recycles in the plant through an advanced three-stage RO system. It is then fed back to the plating system for reuse such as maintaining greenery around the facility. Solid waste is monitored and maintained before it is sent to landfills.

Out of the many locks manufactured at this plant, the Ultra XL+ Twinbolt makes for a fine example that is born in the lap of an eco-friendly factory. Green chemistry is used for the manufacturing process which is less hazardous to the environment. Ion exchange has been installed for selective heavy metal removal in the effluent, which is extremely energy efficient. It also has an online automated effluent treatment plant. What's more; eco-hazard materials have been replaced

with more bio-sensitive alternatives.

The green chemistry technique utilises trivalent chrome, which is non-cyanide based, instead of environmentally hazardous hexavalent chromium. Similarly, alkaline copper system is utilised in the plating process rather than the hazardous cyanide copper. Most of the materials that are used are recycled (brass, Mazak, etc). The process scrap is sent back to the smelter to convert into raw material again for further use.

This fine example of a factory doing its bit to significantly reduce impact on the fragile eco-system of Goa is heartening to see; and a case study in itself! ■



The Ultra XL+ Twin Bolt lock is a fine example and result of manufacturing using clean and green processes.

What's trending in 2017?

All big things start with one small step. We narrow down a few trends in building eco-friendly constructions by using Green raw materials.

Gifts of Nature

The bio-hazardous waste that the construction industry is producing on a daily basis has created immense opportunities for innovative and unconventional resources to be used as building materials. Eco-conscious designers are inspiring the world with highly energy efficient and economical methods of construction.

Here, we look at a few other natural building materials that are eco-friendly, affordable, and durable.

Hempcrete

Hempcrete is a concrete-like material created from the woody inner fibers of the hemp plant, whose fibers are bound with lime to create concrete-like shapes that are strong and light. For example, this technique is used to make walls of entire buildings and houses intermittently with wooden members.

Earth

What's more natural than the dirt under your feet? Rammed earth technology has been used since time immemorial. It can stand the test of time and even withstand natural calamities. About 80% of India's population lives in these houses in the rural areas. They require very little maintenance. Multi-storied monasteries and palaces in Leh, Ladakh are made using this technique.



A community building in Auroville, India using compressed stabilized earth blocks

Further, Compressed Stabilized Earth Blocks (CSEB) do not require firing or baking like conventional fired bricks. They simply need compression, following which the bricks are kept wet for about a month and then sun dried for three months; a superior raw material!

Bamboo

Bamboo is a promising raw material thanks to the combination of tensile strength, light weight, and fast-growing renewability it offers. In fact, bamboo has been used to make entire houses since ancient times. Entire beds as well as dining tables with chairs can be made of bamboo too.



Bamboo is an ideal eco-friendly raw material used for furnishing.

Straw-bale

In this construction technique, bales of straw of wheat, rice or oats are strategically stacked to allow the finished building to 'breathe' during hot or cool weather. It is cost effective, renewable, and has high insulation value. Its proper usage cuts moisture absorption and contrary to popular belief, rainfall does not pose a problem to a well-made structure!

China grass or Ramie

Ramie is one of the oldest textile fibers that was used for mummy cloths in Egypt. This plant-based fiber finds its roots in China. It is so readily available in the geography that the crop can be harvested as many as six times in a year! It is extremely strong, up to eight times more durable than cotton or silk. Further, it holds shapes, is dye-able and can be blended with other raw materials easily. China grass can be used in a wide variety of interior upholstery, draping, industrial threads, etc.

Eco-friendly and natural building are handcrafted and handmade by sourcing local and indigenous materials. Working with natural materials also ensures the employment for local craftsmen, thus enabling communities.

If we blend traditional building practices with modern technology, we can find innovative solutions to the environmental crisis we face today.

With inputs from Ashumi Jhaveri, an eco-friendly Architect, who practices construction with CSEB as well as bamboo as a raw material for furniture and products.