



## Interview with Chandrashekar Hariharan, CEO of Biodiversity Conservation India Ltd (BCIL)

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**Focussing on sustainable development: Chandrashekar Hariharan, CEO, BCIL**

**Biodiversity Conservation (India) Ltd.** is an ecologically committed organization with 3 faces to it. One is promoting pioneering residential projects. The other is offering green consulting to corporate majors. The third is disseminating knowledge and training to various segments of workers and professionals in the construction industry. Headquartered in Bangalore, BCIL's hallmark has been sustainable design management and building and construction management aimed to preserve environmental values in construction, energy, water, waste, biomass, air and materials management. BCIL has created over 1 million Sq feet of such projects in the last five years. BCIL was earlier conferred the prestigious Ryutaro Hashimoto Award for 'Good Practices' in promoting sustainable development. This year, BCIL T-Zed Homes was awarded the 'Environment Friendly Project of the Year' by Realty Plus.

Chandrashekar Hariharan, CEO, BCIL is an economist turned eco-entrepreneur who has presided over projects on water, energy and green buildings since 1989. He heads Biodiversity Conservation India Ltd which has, since 1995, created many community-based, sustainably developed residential enclaves that have won global acclaim for representing the future of construction. He is also founder-trustee of BCIL ZED Foundation, an action research institution for zero energy development practices, established in 2003. In 2008, he founded BCIL ZedLabs, a consulting organization on Sustainability Frameworks for Green Buildings in the urban context. In an exclusive interview with **MyBangalore.com**, he talks about the challenges in

constructing environment-friendly buildings and BCIL's future plans.



**MyBangalore.com: What is BCIL and what drove you to start this venture?**

It was a combination of many things that moved me to take up the challenge of putting a human face to development and quality of life and I started Biodiversity Conservation [India] Limited, BCIL, in 1994, as an alternate technology enterprise dedicated to creating 'green' solutions for urban living. The purpose of BCIL is essentially to mainstream sustainability—which means taking what are called 'alternate' technologies and establishing these into cutting-edge systems needed in the marketplace. Its vision is to make an impact on purpose with little impact on resources; to be able to tell people: We will care for the world so much that you don't have to. This means not judging urban lifestyles but complement it with softer eco-footprints.

**What are some of the inspirations that steered you in this direction?**

Having to deal with people who were helpless after the Uttarkashi earthquake with the challenges of cremating hundreds (not burying them) in the winter of 1991 was one of many reasons to take on challenges that put a human face to development and quality of life. The inequity of life where the poor pay more for essential things in life like water deepened my resolve to work towards technologies and solutions in urban and rural eco-systems that could reduce our eco-footprint while enhancing quality of life.

**How important is it to build green today?**

In India, as elsewhere in the world, the making of buildings and active energy use in buildings account for about 35 per cent of all CO2 emissions. Globally speaking buildings use 40 per cent of all raw materials that go to make buildings. When you take a bird's eye-view of what is emerging as scenario, what's obvious is that we have to infuse green practices in every new building we build.

**What is BCIL's differentiating factor and who is your target audience?**

At BCIL's homes, as a house owner, you spend 40 per cent less on energy bills every month. In

many of our campus creations, you don't need water supply, power supply and sewerage board from the outside. We achieve 100 per cent autonomy in these areas for the home owners. Our air conditioning is ozone-friendly—no CFC or HCFC. It is not 'air-conditioning' the way the world knows it; it is superior in that it keeps your room warm when cold outside, and vice versa. But we continue to call it air-conditioning since the marketplace understands this easily.

We use no bricks or clay tiles or clay blocks which need precious top soil for production. We use only 20 per cent concrete blocks. We have the rare distinction of having made an apartment block, T-Zed Homes, which used the largest number of soil-stabilised blocks [half a million plus] in any single project anywhere in the world in contemporary times; these are made out of the earth that we excavate for our buildings. We use energy-efficient pre-fabricated systems for walls and roofs. We don't use ceramic tiles.

We use only water-conserving taps in our homes which save you up to 35,000 litres every year in every house! All our gardens are chemical-free with a combination of micro-irrigation systems, moisture-retention plans that ensure reduced water use for soil beds. We are the first to introduce Zero Food Miles Programs which help you get greens, gourds, legumes, tubers and corn (we can't grow paddy and wheat in small patches of city lands!) that ensure that the vegetable you eat does not travel many miles to reach you. All our homes are either carbon-neutral or carbon-positive.

### **What are the major challenges in constructing environment-friendly buildings?**

Obstacles? Finding enough people who have the ability to see such dire shortages are soon to befall us all. If it was a regular building, we need to only compete on location, price and quality. Here, with our pioneering green values, we have to 'market' our buildings--for people don't easily understand the importance of the many things that we design and build.

However, that has changed vastly in recent years. Our ability to raise enough capital to create new and more projects is a challenge. We are always looking for sensitive investors, who have the money, who need to be rewarded, and who see the far future the way we do. Another equally important challenge was one of enrolling other stakeholders on what we think is right and doable in constructing sustainable campuses. The key was to get them all to see it, in a way that they own the initiative as much as I wanted to, myself. This meant stepping out of my shoes and looking at every such issue from the other person's viewpoint. That was, and still is, a major challenge, if not an 'obstacle'!

### **Do you think Bangalore is ready for the green revolution?**

We have many thinking minds who follow such principles in isolation or in groups here in Bangalore like in other parts of India. The difficulty is that green is so fashionable that everyone is jumping on to the bandwagon, claiming astonishing sustainability or remarkably low-energy consumption, but in reality selling the idea but not realizing the ideal. But we are noticing a change in people's perception of how they should build more sustainably.

The word green was never associated strongly with buildings until the beginning of the last decade. Into this decade clearly, with 20 per cent of all buildings already slated to go green by the coming year, there will be an orbit shift in the next five years in the way we look at buildings.

### **There's a common notion that you have to make a choice between building something green and building something beautiful. Can you combine both - aesthetics and sustainability?**

I will not say that it is a choice between building something green and building something beautiful but rather building something green and building something that is commonly seen amongst peers as a status symbol, while of course aesthetics is very important. While there may

be public opinion that importing well-polished marbles from Italy is the 'in thing', warm wooden flooring in various hues and shades stand far superior to the feel cold stone flooring can offer. Muted and elegant and far superior than garish and loud. That's a difference that only some make, alas!

### **'Going Green' is the mantra today, but how good is green architecture as a career option?**

When you realize that just less than 3 per cent of buildings are designed by architects in India today, you will realize how serious it is to have more thinking architects out there, ensuring that we leave a softer imprint on this planet. Additionally, we need good mechanical engineers with hands-on consulting experience on water management, and air-conditioning. Energy managers and not electrical engineers is another serious need into the future, and is a great career option. Any career that drives sensitive natural resource management will be rewarding.

### **How has your entrepreneurial journey been so far?**

If I were to be given back the last 30 years, and my restive spirit taken away, I would be a happier person, I think. It was never easy having to stick to doing what you knew well, but did not know how to enroll others into. And so it was a lonesome journey for many years.

Over the last seven years from 2000, we have learnt many things the hard way over five more projects that we have created. We lost a lot of money in the early years, but kept our clients. But we have now understood that sustainability is only another face of good, efficient management. Today, as an organisation, we are about 180-strong, growing to be 200, with the extended network of virtual workers reaching about 1500 at the count of all our workers on projects. The depth of management we have created has now ensured that we de-risk our processes. In all this, we have not lost sight of the need for pioneering and proto-typing. This is the soul of BCIL.

### **What are your future growth plans?**

We will be creating energy-efficient office spaces, alternate spaces that serve functions better than conventional spaces people are used to but do not enjoy presently, and shopping malls that will help office blocks get air-conditioning and every other facility, but with a softer eco-footprint and at lower financial costs of maintenance. BCIL does not value-judge urban lifestyles. We provide the same services that a regular builder does but in a way that is sustainably developed.

### **Currently, what are the interesting projects that BCIL is working on?**

BCIL's biggest offering so far is BCIL ZED Earth with over 130+ homes nestling in a land sprawl of 20 acres. This is a world in itself. It is BCIL's most ambitious residential enclave so far. Set on a land sprawl of over 20 acres. Offering a soft density of just over 6 homes to an acre, the campus is 70% independent from the State Grid for power for every one of its 130+ homes. Bangalore suffers 2-hour power shutdowns every day, and will remain power-deficit for at least the next ten years.

The Campus does not need municipal water supply connection and offers 24x7 treated water supply. You know the grim story of water shortages in every apartment block and residential enclave. BCIL Zed Earth is designed to have no need for Sewerage Board connections of the State government. Homes here are engineered to offer you complete independence from the outside world for power, water and for waste management. BCIL's very unique 'Grow your Own Water' technologies help to make Red Earth 100% water-positive.

### **Finally, your advice to budding architects/ engineers?**

You have to be a long-term player, if you want to pursue dreams that are beyond the conventional. You need to be unreasonable, which is a virtue in every leader or human being.

You need to be perseverant, of course. I have often told many engineers and architects that they should not just limit themselves to reading their own subject.

They must go beyond to understand how the world works, how nature works. To look at a building as an energy system; to understand what plugs in and plugs out of every building and how you can be responsible for all of it. It is like your human body. It needs energy and water and puts out waste. All have to be handled effectively, efficiently. Young career aspirants should not look for a job. It won't help. Instead, they should be looking to see what they want to achieve in the long term for themselves. They should think of how to be the best in the world at what one chooses to be.

### **Quick Q's**

**Your biggest achievement** - Winning customers for 15 years with responsible climate-change sensitive, 'zero energy' homes.

**Beyond business, what do you enjoy the most** - Writing, exploring solutions for a sustainable urban world.

**Favourite Books** - Madhav Gadgil's Ecology and Equity. Somerset Maugham's Of Human Bondage. Alvin Toffler's The Third Wave.

**Favourite Music** - Kumar Gandharv.

**An architectural site you admire** - Raja Man Singh's fort in Amber, Rajasthan, for its amazing architecture of water.

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