

BACK TO NATURE

Meet a leading Brazilian architecture firm at the forefront of sustainable design – with the movement gaining ground globally, sustainability has never looked this good.

By Claudia Jarjoura

Sustainable design is at the core of the best architecture in the world. Leading architects are committed to addressing issues such as energy and resource conservation, social values and environmental consequences of urban development.

At the forefront of sustainable design in Brazil is the internationally acclaimed architect Arthur Casas, known for his ability to use all natural aspects and physical challenges of our environment in his favour in order to achieve the best and most beautiful pieces of architecture.

Australian-based architect Claudia Jarjoura asked fellow architect Raphael França, from Studio Arthur Casas, to explain some of the sustainable thoughts and strategies adopted by the São Paulo-based architectural practice.

GREEN MOVEMENT GATHERS PACE

Raphael França: On the issue of discussing sustainability with our clients we often have a lot of enthusiasm in the first moment and then an escalating ‘do we really need that?’ as the construction phase approaches. We believe that the greatest danger is trying to go green for the sake that it should be the new black. Over the last few years, ecological issues have become the centre of the architectural agenda and Brazil hasn’t escaped this trend. With the Amazon, huge water reserves and a tropical climate, the international image of Brazilian architecture is that it should be green first because it’s right in the middle of a lot of... green.

In a temperate climate, a perfectly sustainable building might look like a fridge, with few openings, thick isolating walls and the abundant use of passive energy. A little photovoltaic hat and some shrubs might give the necessary touch to attain all the required certifications. Good architects have managed not to be victims of the green agenda; they have actually used the new technologies and awesome traditional construction techniques to make examples that do not have the gratuitous green look. Instead, they make perfectly balanced architecture such as the one made in the Voralberg region in Austria, or by the great master Glenn Murcutt in Australia.

FROM LITTLE THINGS, BIG THINGS GROW

When it comes to Brazil we try to rescue some of the ideas that were planted by the founders of our modernism, such as Lúcio Costa. He had a great culture on colonial architecture, with its large spaces, wise use of local materials and cross ventilation. In the first half of the 20th century, Brazilian architects made brilliant inventions, such as the Cobogó, a ceramic tile that allows the air to pass through, offering sun protection at the same time. This technique is a direct descendant of the moucharabiehs brought by the Portuguese out of the Iberian Mauresque architecture. The Parque

Guinle Housing made by Lucio Costa in Rio is a great example of its use. Architect Oscar Niemeyer made the most of the abstract and dynamic beauty of the vertical brise-soleil, spread all over Brasília and at the Biennale pavilion in São Paulo. The list goes on and on, but we can summarise the main characteristics of our modernist architecture and its main ecological aspect in one phrase: make a generous shadow and let the air flow.

At Studio Arthur Casas, we try to use the ingredients that are inherent to our modernist and colonial architecture and push them a little further. We do so by having large volumes that stimulate the creation of a constant breeze inside the buildings. Large glass panels don’t have to be double-glazed as our climate doesn’t require it, but we try to make them slide out of the volumes completely to have a total fusion with the landscape and no barriers for the wind. The pleasure of living in a tropical country is the possibility of erasing the boundaries between architecture and nature. Our architecture is conceived from inside to the outside, protecting but also revealing. There is a lot of rain, the price for an exuberant flora. We choose permeable materials for the ground and always have a green roof to absorb as much water as we can, often having a reservoir to irrigate the gardens. These simple and quite obvious techniques do make a difference.

SUSTAINABLE DESIGN IN PRACTICE

There are three key projects that spring to mind that can illustrate Studio Arthur Casas’ approach to sustainable architecture. The first one is a beach house in Iporanga, about two hours away from São Paulo. In the middle of the Mata Atlântica, the rainforest that stretches across the Brazilian Coast, the house is a space to contemplate nature. Two simple volumes hold the bedrooms and bathrooms of the house, connected by a small bridge in a double height ceiling. Six-metre tall glass panels slide and the house becomes part of the forest. Certified tropical wood brings warmth and play mimesis with the surrounding forest. It’s a retreat that the owner uses to concentrate on his work, which should not be considered minimalist, but quite pragmatic in its search for the contemplation of nature.

We are completing two projects in 2012 that have been entirely conceived with a sustainable basis. One is a complex of houses, a hotel and restaurants overlooking the island of Florianópolis. The Villa do Cedro is built next to a large reserve of rainforest. We tried to touch as few trees as possible, barely moving the ground and placing the buildings on stilts upon the inclined part of the plot by the sea. All the roads are made out of braston, an entirely permeable material. The cars stay in a parking lot by the entrance of the condo; everyone moves on electric golf cars. Thermal solar panels are placed on

Iporanga House.



Clockwise from top left: Country House. Villa Do Cedro, Iporanga House.



every building, and green roofs bring the building impact almost to zero when it comes to water draining.

The most important ‘green’ aspect of this complex is the use of local materials and labour. Workshops were made with the neighbouring communities to find workers willing to learn sustainable building techniques used on the site. Adobe was used in many walls, all the wood was certified and all the paint was made in situ, using the earth found onsite, without any chemicals added to it.

The other project is a country house close to São Paulo. Our client was very excited with having a sustainable house, but hesitated when the price tag rose as some of our choices seem expensive at first. Back to the question “Do we really need that?”

He did, as the bricks were made at a local factory, reducing the costs of transportation. Large glass panels were quite expensive, but these will pay for themselves in a few years as the air conditioning will be necessary only in the bedrooms during summer. Electricity usage will also be lower as the thermal solar panels are in charge of the hot water. The certified wood increases the value of the house, and he won’t have any friends asking if he was responsible for destroying a few acres of the Amazon forest to have beautiful flooring, and that is priceless. The structure was prefabricated in metal, speeding up the construction time and making it much cleaner. It

came with a cost of course, but soon he will be a proud owner of a sustainable house and all the extra charges he had will be paid back in a few years with energy savings.

CHALLENGES AND OPPORTUNITY

As the Brazilian economy is booming we have been confronted with a large variety of projects, ranging from houses to shopping malls. Not always is it possible to have a client willing to go green, neither would it be sincere to say that a building is sustainable because sometimes it has a clear green aspect to it.

Time and money are still the big enemies of green architecture, but the general consciousness is rising and entrepreneurs use sustainability as an attraction to potential clients. Our aim is not to be an architecture office capable of providing green solutions as an extra to our projects, but to be able to incorporate these issues right from the beginning of the concept, in a search for simple and pragmatic lines that reveal nature and brings comfort to our everyday lives. **z**

Collaborators: Claudia Jarjoura, Jarjoura Design Architecture, Sydney, Australia; and Raphael França from Studio Arthur Casas, São Paulo, Brazil. Photography: Tuca Reinés for the photos of Iporanga house, Brazil