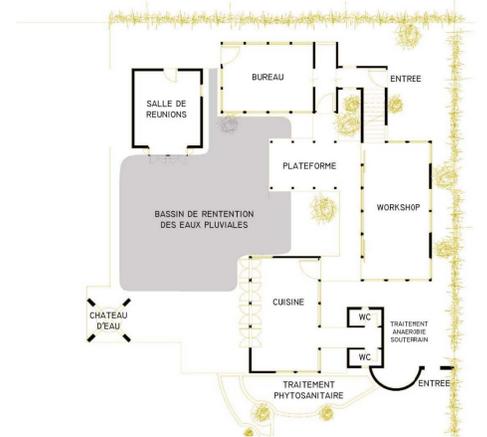


Inspiration - Jaigopal

methodology
local development
renewable energies
ressources management
materials
process

Inspiration creatively combines a competent team of architects and planners, infrastructure engineers and technical experts, product designers and interior designers, construction management and business management personnel, trained artisans, craftsmen and technicians, all under one roof. Founded originally 12 years back as a group of architects and engineers inspired by life and works of the eminent architect Sri. Laurie Baker, 'Inspiration' today professionally designs construction appropriating technologies and taking natural resources to account.

Inspiration combine au sein d'un groupe unique travaillant sous le même toit des architectes, urbanistes, ingénieurs réseaux et voiries, designers produit, décorateurs, managers de projets et administratif, artisans et techniciens manuels. Fondée il y a 12 ans par un groupe initial d'architectes et d'ingénieurs inspiré par le travail de l'architecte Sri. Laurie Baker, l'agence Inspiration met en oeuvre dans chacun des projets (de la maison individuelle à l'échelle du village) des techniques appropriées qui tirent parti des ressources locales.



Appropriated technologies

project

The architect

Mr. Jaigopal is the Managing Partner & Director Designs of the Inspiration office in Cochin (Kerala). He has personally completed over 300 building projects, all designed and built in tune with concepts of eco-sensitive and cost-conscious approaches. He has also been involved in the training of over 500 crafts persons.

The building

Architecture office composed of 4 workshops, a meeting room, a reception, a kitchen and technical rooms. The building can house about 20 professionals. Designed with eco friendly considerations, 90% local materials, 100% local labour.

Opening date

Construction: April 2003- December 2003

Surface

Built area: 2250 SQFT, 2600 SQFT
cost approx : RS. 500 PER SQFT including all finishes, excluding landscaping and interiors (RS. 50 = € 1)

Context

Kerala - The site is situated in the middle of a quiet residential area strewn with bamboo. Kerala's climate is hot and damp. The site is flat, next to a river.

process

Bamboo: a suitable material in Kerala.

More than 50 different types of bamboos can be used in construction. Only the yellow bamboo is used, the green one is not adapted. The yellow bamboo can be exploited after growing 5 or 6 years. The choice will then be based on the characteristics of the building to be constructed. The different selective parameters will then be its thickness, its diameter and its growth milieu which has a direct impact on its property. In a dry and rocky milieu, the bamboo is far more dense and rigid than in a fertile and damp milieu, where the bamboo will be light and flexible.

The bamboo is a cost-effective, renewable and locally abundant material; therefore it is interesting and especially suitable to the climate.

Like every natural material, bamboo is exposed to degradation due to external aggression. Inspiration provides one alternative solution to this problem : the office has carried out research and set up a new non-chemical method in which preservatives are not involved. Bamboo is leached and soaked in water during 2 weeks. It is then dipped in 80°C oil (cashew Nut + "Neems oil" +Vetever oil") during 2 hours. The bamboo is dipped 2 days in this oil and can be used after 1 week drying. Sardine oil can be applied to protect the surface.

A Bamboo - Concrete collaboration

For floors and certain surfaces, architects have chosen to use a mixed technique associating bamboo with concrete. The bamboo is split in 2 longitudinally. Bamboo has good tensile strength and plays the role of steels used in reinforced concrete. On the bamboo-made permanent form, concrete rigidified with chicken mesh is poured.

For the ground floor, trellis beams made of coconut wood serve as supports. These beams are assembled in an interesting way: coconut wood mortises lodge themselves in aluminium sockets. Aluminium is a stainless material which avoids cutting along the fibres.

Water management

Inspiration proposes a demonstrative and functional wastewater treatment. Waste waters are harvested to be submitted to a first degradation in anaerobic milieu in 12 successive cluster level anaerobic filters. Water is then treated in a phytosanitary treatment basin. It is composed of a flowered vegetal species whose rhizomes/bacteria symbiosis allows the degradation of organic matter. This milieu is covered in stones and fragrant bunches of flowers. Finally a retention basin allows a visual control of purified water, which gives this installation a demonstrative dimension. An overflow supplies the nearby stream and the harvested water can be drawn manually for washing or gardening. Some of the purified water is not stocked as water is an abundant resource in this region.

Dissemination and Implementation of Decentralized Wastewater Treatment Systems

The DEWATS India Project is a private cooperation between German and Indian non-profit organisations, financially supported by the European Union (EU) and the Federal Ministry for Economic Cooperation and Development, Germany (BMZ). The aim of the project is to support small and medium sized enterprises, institutions and communities in planning, designing and constructing effective, reliable, cost efficient and custom-made wastewater treatment systems. DEWATS are based on a modular and partly standardised technical design. The integrated approach includes the reuse of wastewater.

Background

There is a significant increase in demand for wastewater treatment systems in urban and semi-urban India. Nonetheless, the reality is that most small and medium sized companies, institutions and communities simply cannot afford to use the highly sophisticated wastewater systems that are available in today's market. Besides the initial capital investment, these systems are also beyond the reach of smaller companies and institutions because of high energy consumption and high-level maintenance regimes. The DEWATS concept is offered as a viable option that fills this gap with reliable, long lasting and affordable techniques.

Inheritance

Inheritance India invests in land close to ecologically sensitive areas, and in related conservation projects. They do this with a view to making meaningful returns for the clients, while preserving and restoring precious natural land and heritage structures. Currently, they are investing in land in India lying along the Western Ghats in Kerala. This area is one among the 25 "bio-diversity hotspots" of the world as declared by the United Nations.

Not only does this area hold strong investment potential, it has over 1700 species of plants, 22 species of small mammals, 95 species of reptiles and 90 species of amphibians. In just 2 hectares, over 55 species of trees measuring over 10 meters in height can be identified.

Their business model is a coming together of conservation planning with financial expertise to produce a win-win strategy that makes money for the investor as well as contributes to the health of the planet.

