Volume : 4 | Issue : 9 | Sept 2015 • ISSN No 2277 - 8179

Research Paper

Scope for establishment of an Ecologically Sustainable Resort in Malnad Region of Saklespur in Karnataka

DESIGNING

KEYWORDS : Sustainability, Eco Friendly Architecture

SRIKANTH SV

SCHOOL OF ARCHITECTURE M.S.RAMAIAH INSTITUTE OF TECHNOLOGY VIDHYA SOUDHA, BANGALORE

ABSTRACT

The proposal for an Eco Resort which is ecologically sustainable, eco-friendly, self-sufficient and will express the local flavour, architecture, culture and traditions along with the necessary inputs required in an eco-resort, seems possible to achieve in a place such as Sakleshpur in Malnad region, which acts as the ideal natural setting for an ecological resort development.

The Western Ghats is one of the 33 recognised ecologically sensitive zones in the World. India has four such sensitive zones. They are the Western Ghats, the Eastern Himalayas, the Himalayan Range between Kashmir and Uttar Pradesh and the Andaman Islands. The significance of the Western Ghats is that along with its rich biodiversity, it also supports a rich environment-dependant civilisation of several thousand years.

The Western Ghats are home to four tropical and subtropical moist broadleaf forest eco regions – the North Western Ghats moist deciduous forests, North Western Ghats mountain rain forests, South Western Ghats moist deciduous forests, and South Western Ghats mountain rain forests.

The northern portion of the range is generally drier than the southern portion, and at lower elevations makes up the North Western Ghats moist deciduous forests eco region, with mostly deciduous forests made up predominantly of teak.

The evergreen Wayanad forests of Kerala mark the transition zone between the northern and southern ecologic regions of the Western Ghats. The southern ecologic regions are generally wetter and more species-rich. At lower elevations are the South Western Ghats moist deciduous forests, with Cullenia the characteristic tree genus, accompanied by teak, dipterocarps, and other trees. The moist forests transition to the drier South Deccan Plateau dry deciduous forests, which lie in its rain shadow to the east.

Above 1,000 meters are the South Western Ghats montane rain forests, also cooler and wetter than the surrounding lowland forests, and dominated by evergreen trees, although some montane grasslands and stunted forests can be found at the highest elevations. The South Western Ghats montane rain forests are the most species-rich ecologic region in peninsular India; eighty percent of the flowering plant species of the entire Western Ghats range are found in this ecologic region.

Malnad is a region of Karnataka state in India located in Western Ghats. It covers the western and eastern slopes of the Western Ghats or Sahyadri mountain range, roughly 100 kilometres in width. It also covers portions of Belgaum, Chikkamagaluru, Shimoga, Uttara Kannada, Kodagu and Hassan districts. It also covers western foothills of Udupi district and Dakshinakannada district .

The hills of Malnad are richly forested. Coffee and areca nut are grown in many places. Sagara, Sirsi, Siddapura, Yellapur, Thirthahalli, Mudigere, Sakleshpur, Aldur, Balehonnur are major business centres in Malnad part of Karnataka. Madikeri and Somavarapete are towns in the coffee-growing region.

Mullayanagiri, at 6,317 feet, is the highest peak in Karnataka. Kemmangundi at 4,702 feet above sea level is a popular hill station and was a favourite retreat of Mysore's former Maharaja Krishnaraja Wodeyar IV. Kalhatti Falls, 10 km from Kemmangundi, has a drop of 122 meters. Gangamoola peak, 10 km from the town of Kudremukh, is revered as the source of the Bhadra, Nethravathi and Tunga rivers.

The annual rainfall received ranges from 904.4-3695.1 mm. About 75 % of it is received in Kharif season. The soils are red sandy loam in major areas. The principal crops are rice and pulses.

This region has a Temperature 35C (Max.) 20C (Min.). Average Rainfall is 1100mm. Wind direction are south west or west to north east or east. River Hemavati flows in Saklespur. Soil types are Red soil, Red sandy soil, mixed soil and Silt clay soil. Tourism and Coffee is focal to the district.

Sakleshpur is a hill station town located in Hassan district in the south Indian state of Karnataka. The town lies in the Malnad region on the magnificent hills of the bio diversity hot spot, the Western Ghats. It includes Bisle Reserve Forest and this region is listed as one of the 18 most diverse spots in the world in terms of flora and fauna. The sub-tropical climate and heavy rains during the wet season create an environment where several unique plant and animal species flourish. It has a temperate climate surrounded with lofty green hills full of coffee, cardamom, pepper and areca plantations. The town connects port city of Mangalore with capital city of Bangalore. It is a 4 hrs. drive from Bangalore. It is connected by road and railway. The nearest airports are Bangalore & Mangalore.

Sakleshpur receives very heavy rainfall from the southwest monsoon. It is one of the places receiving the most rainfall in Karnataka. Other places are Agni, Kagineri, Bajemane, Bisile, Yedekumeri and even Maragunda.

Sakleshpur and its surroundings are extremely magnificent and are filled with many scenic spots such as, Munjarabad fort, Kukke Subramanya swamy temple, Jain Kal gudda, Ayappa swamy temple, Ishwara temple, Bisle Ghat, River Hemavathi, Agni gudda, Saklespura temple etc. Trekking and other adventure activities in the region are well known today and tourists visit in large numbers to enjoy the outdoors.

Apart from the above mentioned places and activities tourists can visit nearby places of Chickmagalur, Hassan, Belur, Halebidu, Mysore, Srirangapatna, Mangalore, Bangalore, which are easily accessible from the town.

Sakleshpur is thus an undiscovered gem and an upcoming tourist destination in the heart of the Malnad region. It central location and rich scope for future development makes it an ideal location for the establishment of an eco-resort. The eco-resort can cater to all kinds of clients, adventure lovers, nature and wildlife enthusiasts, family vacationers, foreigners, corporate etc.

Resorts are one of the booming industries in the world today. Due to the increase of concrete jungles everywhere, each and every individual at one point of their life would want to spend

Volume : 4 | Issue : 9 | Sept 2015 • ISSN No 2277 - 8179

time in a peaceful abode. Eco resorts play a wide role in providing such health and living conditions for the visitors.

How does one define an eco-resort? According to the experts the term ecology means "defence and protection of nature and environment". From what we understand, to be green, what is sought is to defend and protect everything natural around us. Eco- resort is one that is fully integrated into the environment without damaging the environment, contributing in some way to progress and improvement of the local community and sustainable growth of the tourism industry.

Eco- resorts are being built from sustainable resources and local materials and designed to better blend in with their environment. In addition, they are also being run on eco-friendly principles, such as serving organic or locally grown food, using natural cooling as opposed to air conditioning, in house rain water management and waste management systems.

In order to achieve this, one also needs to look into the concept of sustainability which promotes equality between the people of today and the people of tomorrow. The idea of sustainability is to create a balance between our ecological, social and economic needs.

Our needs of today must be taken care of in such a way that it does not negatively impact the needs of the next generations.

An eco-resort must usually meet the following benchmarks:

- Dependence on the natural environment
- Ecological sustainability
- Proven contribution to conservation
- Provision of environmental training programs
- Incorporation of cultural considerations
- Provision of an economic return to the local community

An eco-resort must strictly adhere to the following guidelines:

- Follow strict green guidelines to ensure that their guests are staying
- In a safe, non-toxic and energy-efficient accommodation.
- Use of renewable energy sources like solar and wind energy.
- Efficient waste management and disposal systems.
- The ideas of reduce, reuse and recycle to be incorporated.
- Use of natural lighting and energy-efficient lighting systems.
- Use of natural ventilation and energy- efficient ventilation systems.
- On-site transportation with green vehicles.
- Serve organic and local-grown food.
- Grey-water recycling, which is the reuse of kitchen, bath and laundry
- Water for garden and landscaping.
- Rain water and storm water recharge and management systems.
- Efficient housekeeping systems.

An eco-resort should have following criteria in order to be called eco-friendly:

- A place where the architecture is related to the environment and design traditions of the region where it is located are looked into.
- Exposure to traditional village life, art, craft, religion, cuisine, passion, architecture and archaeological tourist attractions of the region are ensured.
- Barriers between inside and outside are eliminated, thus sending a powerful message to tourists that there is no need to separate people from nature.
- To integrate design with landscape and terrain of the region giving focus to climatology aspects.
- To reflect local flavor and yet give a star hotel image.
- To provide access to active and passive leisure where the nature can be enjoyed in raw.

Why an eco-resort should be sustainable?

The concept of sustainability in the planning and design of the built environment. To build, by definition, means to make a lasting impact on the environment. The challenge is to find a balance between the aesthetic and environmental needs of the project, as well as between tangible and intangible threats and opportunities, to secure increasingly scarce resources for future generations.

Architecture is sustainable, as long as it provides a high quality environment that is cost optimal and consistent with energy efficiency with all stages of construction and use.

Thus, an eco-resort with conservation of all socio-cultural elements and environment will have low-impact design elements, brought to buildings in the form of, for instance, energy-saving features, which can be quite appropriate and functionally adequate in performing a specific task.

From the concept of sustainability, one naturally will focus towards ecological sustainability. This refers to the capacity of the biosphere to meet the needs of the present generation, without hindering future generations from being able to meet their needs. This means using our natural resources wisely in the short-term so that these resources are available in the long-term.

Ecological sustainability relies on the fact that humans have the ability to exhaust our natural resources, leaving nothing but polluted water and infertile soil for future generations. Ecological sustainability is the belief that all humans must use resources wisely and efficiently so that these resources never become exhausted or over polluted.

When one emphasizes on ecological sustainability, the question of conservation and preservation would arise.

The theory of Conservation is based on the idea of using the Earth's resources but in a sustainable manner. This means using renewable resources at a rate which ensures they are able to self-replenish. It also means reducing our use of and reliance on non-renewable resources, such as coal and oil and the concept of reduce-reuse-recycle can be incorporated to meet the demands.

Conservation of water, either rain water or surface water or other sources of water and the efficient reuse of water is an important aspect involved under conservation especially in the high rainfall region of Malnad.

While Preservation is concerned with keeping things in their untouched form. This means reducing the spread of human impact on the physical environment by not touching things that are still in their natural state. This can mean both the natural environment, such as forests, trees, water bodies, contours and soil conditions. The idea of building amidst and around nature instead of cutting across it or destroying it has been highlighted.

Moving towards sustainability is also a social challenge that entails international and national law, urban planning and transport, local and individual lifestyles and ethical consumerism. Ways of living more sustainably can take many forms from reorganising living conditions, reappraising economic sectors or work practices like sustainable architecture, using science to develop new technologies such as green technologies, renewable energy and sustainable fission and fusion power, to adjustments in individual lifestyles that conserve natural resources.

Following factors go hand in hand with the natural environment of the site location and which seem to contribute to the idea of establishment of an eco-resort in the chosen area are:

- Sustainability: The area suggested for this resort shows that a healthy and balanced social structure can be found here where in the people and the communities living constantly interact and uphold the socio economic and environmental balance, thus maintaining the harmony which is beneficial not only to the present inhabitants but also proves sustainable for the future generations. All the actions, plans, expenditure and decisions made and taken seem to provide a decent way of life to all its members. Therefore it proves to be a sustainable society.
- Eco sustainability visible in the Sakleshpur region: Hill station town, a bio diversity hotspot, with a temperate climate, surrounded by green hills where coffee, cardamom, areca and pepper plantations are abundant.
- Location of the resort in the midst of the 18 most diverse hot spots in the world in terms of flora and fauna, with subtropical climate and heavy rains during the wet season create an environment where several unique plant and animal species flourish.
- Landscape Integration: The art and craft of growing plants, known as gardening, with a goal of creating a beautiful environment within the landscape is possible by combining the living elements such as the flora and fauna. Natural elements such as landforms, terrain shape and elevation, or bodies of water are available and can be well integrated into the design. It is also possible to combine the human elements such as structures, buildings, fences or other material objects created and/or installed by humans along with the abstract elements such as the weather and lighting conditions.
- Rain water harvesting: The annual rainfall received ranges from 904.4-3695.1 mm. About 75 % of it is received in Kharif season. Sakleshpur receives very heavy rainfall from the southwest monsoon. It is one of the places receiving the most rainfall in Karnataka. This phenomenon will allow for a proper rain water management system which will be beneficial for the overall water requirement of the resort.
- Waste management: The nature of activities provided in an eco-resort will have to match the waste management techniques that will be adopted in order to reduce its impact on the environment. Large quantities of organic and inorganic waste produced will have to be targeted through the following two measures: Differentiated waste collection and Use of recycled materials.
- Alternate sources of energy: Like the use of solar and wind generation plants to provide the necessary power for the resort and making it self-sufficient in terms of energy and also contribute the excess to the grid.
- Earth Architecture: It would be possible to integrate in the design the concept of earth architecture as the following materials studied are readily available. They need to be utilised to the maximum extent in the proposed design. Some of the materials available are mud bricks, cob, sod, earth bags, concrete etc.
- Use of the Malnad style of architecture in the design of the resort. Take concepts based on the historic Hoysala style of planning. Incorporate open plan, courtyards, walkways, sloped roofing and local materials. Make use of the natural setting of the site and its contours to create an environment where in the occupants can enjoy the nature in raw.

Such a resort will attempt to integrate the socio-cultural aspect of local society, the local flavor and architecture with contemporary spatial demand of resort and create harmony between them, together harmonizing it with site, and surrounding to fit it in the context which is the nature and natural environment which you are surrounded with in the region of Malnad. One most important thing is that the resort will be focusing more on its self-sustainability of which the world is thirsty via efficiency in energy solutions, management of building services and overall performance and functionality of the resort.

Thus, the proposal of an Eco Resort which is ecologically sustainable, eco-friendly, self-sufficient and will express the local flavour, architecture, culture and traditions along with the necessary inputs required in an eco-resort, seems possible to achieve in a place such as Sakleshpur in Malnad region, which acts as the ideal natural setting for an ecological resort development.

REFERENCE

• http://www.hoysala village.com/hassan | • http://www.the hills.com/saklespur | • http://en.wikipedia.org/wiki/Eco_hotel | • http://wgbis.ces.iisc.ernet.in/energy/paper/TR109/tr109_std2.html | • www.worldlibrary.in/articles/Malnad | • https://www.acs.org/content/dam/.../reduce-reuse-recycle-powerpoint.ppt | • http://www.sustainableenvironment.org.uk/Earth/Conservation_and_Preservation.php | • en.wikipedia.org/wiki/Earth_structure | • www.tajhotels.com/luxury/exotica-resort...resort.../eco-initiatives.html | • en.wikipedia.org/wiki/Waste_management | • en.wikipedia.org/wiki/Rainwater_harvesting | • www.rainwaterharvesting.org | • http://edugreen.teri.res.in/explore/renew/solar.html | • http://windeis.anl.gov/guide/basics/ | • http://resortsmarketing.in/ | • http://ecoresort-tui.com/en/basic-criteria/minimum-requirements/ | • http://www.saphonenergy.com/site/en/better-landscape-integration.77.html | • http://www.eartharchitecture.org/ | • https://gees7.wordpress.com/category/socio-economics-aspects-of-architecture-and-planning/ | • https://raic.org/raic/sustainable-architecture