

## Green Hoteling: A Case Study of 5 Star Hotels in Bengaluru

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**Abstract.** During the past thirty years, the hotel industry has acknowledged environmentally responsible movements as one of most significant items on the agenda for hotel operations. Evidenced by a myriad of practices intended at improving the environmental impact on the hotel industry, hoteliers are more committed to environmental concerns. In recent decades Tourism Industry has been contributing immensely to the gross domestic product in many countries, however, the growth of this industry over the time has created an increasing amount of pressure on the natural environment.

All over the globe, tourists consider themselves to be eco-sensitive and it shows a thriving market for environmentally friendly offers in the tourism and hotel industry. So, hotels are becoming greener and using green hotel term symbolizes an environmentally friendly place focusing on resourceful use of non-renewable energies and appropriate use of renewable energies. During the last few years, ecological consciousness is gaining more and more momentum amongst tourists around the world. Inquiry and implementation of environment-friendly practices is now the challenge to all aspects of human activity and the tourism sector is by all means a part of it. The reduction of the carbon footprint of built-up environment is a main concern of the Green hotels, not only due to the relative legislation which is recently in force, but as a motivation through low energy consumption and subsequently low operating costs, as well.

As sustainable tourism is continuously receiving more interest in today's world and will be an imperative part of tourism in the future, this topic is very contemporary and interesting. The city of Bengaluru, considered as the Silicon Valley of the country has taken a lead in eco-hoteling with some of the latest trends in green hoteling having started from the city. The research paper is inclined towards analysing the practices, products, services, investment, technology, benefits, the barriers accrued by green hoteling and the perception of guests (staying in regular hotels as well as Eco-friendly Hotels) about green hotels in Bengaluru, Karnataka, India.

**Keywords:** Development; Environment; Green Hotel; Hotel Management; Sustainability

### 1 Introduction

In the recent times, the hotel industry has become more alarmed towards maintaining the equilibrium between environmental, resource consumption, ethical and societal concern and consequently environmentally responsible movements are one of most essential items on the agenda for hotel operations. Ecological consciousness is gaining more and more ground amidst people around the globe. The reduction of the carbon footprint of built-up environment is a main concern of the Hoteliers, not only due to the relative legislation which is recently in force, but as a motivation through low energy consumption and subsequently low operating costs. The hospitality industry has recently joined this effort and so the term "green hotels" has evolved.

Tourism can be regarded as one of the largest industries in the world. A huge number of visitors also put enormous stress on the environment. However, with responsible actions, negative impacts on the environment can be minimized. Responsible actions apply to the whole tourism industry. Sustainability at hotels today is starting to be a requirement in order for a hotel to keep up with the growing competition. There will be a growing demand for sustainable hotels in the future, not only because of customer demand but also because of the increased awareness of the state of our environment.

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When a hotel commits to environmental protection, it not only brings environmental benefits but also cost savings and increased profitability for the hotel, preserves the hotel's natural assets and surroundings and enhances its image and reputation as an environmentally responsible hotel, which especially today is becoming a factor of choice for the customers.

Bengaluru, the capital of Karnataka, known as the Silicon Valley of India, is among the most-visited Indian cities by foreign tourists. Today, Bengaluru is a land of apartments and industries but surprisingly, Bengaluru is actually a plateau that has developed over a period of time into a modern settlement. Therefore, it is home to several natural places, ranging from lakes to hills and forests to waterfalls and enjoys a pleasant weather throughout the year. It is the hub for high-tech industries, Multi-National Companies and is also known for the plethora of choices it has in store for tourists to relax and visit within the city. The city is also the hub to finding a variety of food, an abundance of delectable cuisine choices.

## 2 Objectives

The aim of this research paper is to examine green practices being followed by Eco-hotels in Bengaluru and Guests perceptions about the green hotels, with specific focus on-

- To evaluate the products, services and technology adopted by the green hotels.
- To examine the barriers in adopting green practices by non-eco-friendly hotels.
- To analyse the perception of guests (staying in regular hotels as well as eco-friendly hotels) about green hotels.

## 3 Methodology

This is basically a qualitative paper. However, since guests (staying in regular hotels as well as eco-friendly hotels) are interviewed about their perception, the study has also got the essence of quantitative touch. Therefore, this research work has adopted mixed methodology of research.

The study has explored the green practices in the green hotels and tried comparing it with the regular hotels. The perception of guests has been analysed. Therefore, the study is exploratory, comparative and analytical in nature.

### 3.1 Data Collection:

#### Primary Data

- Primary data for the study has been collected through the interview.
- Tool used to collect the data is structured questionnaire for the staff of eco-friendly hotels in Bengaluru and the guests visiting regular as well as eco-friendly hotels in Bengaluru.
- Samples were drawn from Hotels managers, supervisors, associates and guests by stratified sampling.

#### Secondary data

- Manuals
- Journals
- Magazines
- News paper
- Research articles

## 4 Review Of Literature

One of the important tourism related terms discussed nowadays is Ecotourism. Alexander (2002, p.2) explained Ecotourism as a nature-oriented tourism which is having rapid growth and development mainly having environmental concerns.

This is an important sentence to be remembered when thinking about the current status of tourism and the world of today. Sustainable tourism and the relationship between tourism and the environment are a growing trend in the field of tourism and hospitality and are increasingly causing hot debates all over the world (Holden 2008). In fact, ecotourism and tourism to protected areas are one of the fastest growing sectors within the industry (Ishwaran 2004, pp. 11-12).

According to Wood (2002, p. 28), an eco-lodge is a tourism accommodation facility that meets certain criteria. It is said that it contributes to the conservation of the surrounding natural and cultural environment. While constructing the establishment, a green hotel minimizes its impacts on the environment and is designed and built in a way that it fits into the specific physical and cultural contexts by its form, colour and landscaping, without forgetting the local architecture. A green hotel also takes into consideration the principles of sustainability for example in water usage, energy consumption, disposal of solid waste and sewage as well as by cooperating with the local communities. Furthermore, a green hotel contributes to environmental awareness training of both the tourists and the employees.

The race to going green has started among Indian hoteliers but the race has started only recently. India is emerging as a major global tourism destination. Living up to the image of leading hotels of emerging tourism destinations, the hotels are trying to provide world class services to its customers (Sharma et al., 2018, pp. 1-9).

As an indication of the same, many hotels are claiming “LEED” or “Ecotel” certified. LEED and Ecotel Certificates are given by third party organisation to hotels maintaining high environmentally responsible and sensitive practices. With hotels having Ecotel and LEED certification, we can be sure the organisations are following strict power saving norms (Verma and Chandra, 2018, pp. 24-41).

According to Han et al. (2011, pp. 345-355), environmental deteriorations are happening due to the existence of conventional hotels. The authors also observed that the solid and liquid waste management is not organised properly in these hotels and hence it has a negative impact on the environment.

The hotel sector causes water pollution mainly due to untreated waste water from swimming pools, guest rooms, laundries, kitchen and from golf courses as well as from the discharge of sewage (Middleton, 1998).

According to various open sources, major certification for green hotels in India are Leadership in Energy and Environmental Design (LEED) certificate awarded by U.S. Green Building Council, ISO-14000 certificate which is awarded by the International Standards Organization, Green Key Global certified by the Hotel Association of Canada, Sustainable Tourism Eco-Certification Program (STEP) conferred by the Sustainable Travel International, ECOTEL® certification done by the HVS and The Indian Green Building Council (IGBC) certificate awarded by the Confederation of Indian Industry and the Godrej Green Business Centre. These entire organisations have evolved their own parameters and standards to evaluate the hotels and certify them. (Source- Respective websites).

## 5 Results

As a part of the study, the researchers undertook survey of Bengaluru hotels which comes under green hotel segment. The growing trend in “greening the business” attracted the researchers to conduct a deep study aiming to know how the hotels are dealing with the environmental concern. The study revealed the following practices of green hoteling adopted by hotels in the city:

### 5.1 The products, services and technology adopted for the eco-friendly practices in the hotels of Bengaluru.

#### ENERGY EFFICIENCY:

- Use of Ever-Green Chillers that provides air conditioning comfort with lowest Electrical Energy Input.

- Variable primary Chilled water flow ensures optimum level of chilled water flow thus saving considerable electrical energy when compared to a conventional system.
- Energy efficient ARI certified cooling towers – consumes lowest energy when compared to conventional cooling towers.
- CO2 Sensors – based fresh air handling units' leads to optimum comfort to guest while saving energy.
- Inco mm – Guest Digital Assistant, ensures customized room climate controls and ensures no waste of energy.
- Double glazed windows – energy efficient glass ensures minimal Sun light penetration thus reduction in air conditioning load.
- Air handling units (AHU) are fitted with sophisticated pressure independent valves to control the chilled water flow thus avoiding the wastage of energy.
- Back of the house offices are provided with Variable air volume-based air conditioning leading to energy saving while providing environmentally friendly work atmosphere.
- Energy efficient boilers automated operations with O2 trimming consume less Diesel to produce more steam.
- 100 percentage wasted heat recovery (condensate recovery system for hot water generation) ensures energy saving.
- Solar Concentrators produces steam to cook food in the cafeteria.
- Energy efficient lighting at the back of the house using LEDs, Energy efficient lights.
- Usage of LEDs in the guest rooms.
- Computerised controls for light dimmers in the restaurant, while providing mood lighting saving the electrical energy.
- Energy efficient periphery lighting.

#### **WATER EFFICIENCY:**

- Separate treatment for Grey water and black water and reutilization of the same back in flush water and in processes ensures reduction in water consumption.
- Water flow restrictors in all the water taps.
- Water efficiency in air conditioning systems: 100% reduction in water consumption for AC make up.
- Setting up of on the premises drinking water purification/ treatment plant (to reduce the carbon foot print generated during the transportation of water).
- Replacement of RO water plant by ozone water filters.

#### **SUSTAINABLE SITE DEVELOPMENT:**

- Waste segregation at source.
- Recycling of solid waste with Organic Waste converter (produces manure out of solid waste).
- Heat island effect, non-roof: car parking provided in basement.
- Green education to the staff, guests, media/visitor using newsletters, seminars, signage, brochures, tours and websites.
- Transplantation of matured / established trees prior to construction.
- Controllability of systems: the building occupants provided with individual lighting controls and the building occupants provided with thermal system controllability.

#### **SUSTAINABLE MATERIALS AND PURCHASING:**

- **LOW EMITTING MATERIALS:** low VOC (volatile organic compounds) levels in adhesives, sealants, interior paints & coatings, carpet systems, composite wood and agri-fiber products contain no added urea-formaldehyde resins.
- Green housekeeping chemicals that are green (eco) guard certified.
- **REGIONAL MATERIALS:** most of the materials used in the projects are manufactured locally and extracted regionally.
- **RECYLED CONTENT:** a part of materials used in the project contain recycled contents.
- **CERTIFIED WOOD:** wood-based materials certified in accordance with forest department are used for building components.

## **5.2 Barriers in the eco-friendly practices**

### **LACK OF KNOWLEDGE**

It is evident that there are several benefits of adopting green practices in an organisation, but still many hospitality operators are still not adopting and implementing green practices. Limited awareness amongst small business owners of their environmental footprint has consistently been identified as a barrier to change. Many hospitality operators have a limited knowledge of their environmental footprint which in essence, is hampering their ability to implement environmental practices.

### **OWNER/ MANAGEMENT ATTITUDES**

Several Hotel owners and managers do not understand the value of adopting a green agenda which leads to an unworried attitude in relation to eco-friendly practices. Some hospitality managers still operate in old world mental models and do not truly recognise or appreciate the need and value of the environment in relation to their business. They often see environmental practices as an add-on to their corporate policy. If a company is to successfully implement an environmental policy, its adoption must come from the top, otherwise it is unlikely to succeed.

### **HUMAN RESOURCES**

Special positions/ vacancies within hotels need to be created in the area of environmental management in order for a property to be a true champion in this field, which in essence has implications with regard to additional labour costs for any property. Effectively implementing a programme is not about having an environmental policy or management in place; it is about the workforce.

Managers and supervisors need to lead by example when it comes to changes in environmental practices or otherwise results will be wasted. This can have a damaging effect on an organisation that is trying to implement an environmental strategy, as without employee support, the desired policy is ultimately going to fail.

### **FINANCE**

As the economy is in ongoing economic slowdown, it has dented managers enthusiasm for pursuing more eco-friendly policies, with many respondents admitting that the credit crunch will mean mission-critical priorities will take precedence over efforts to reduce their environmental impact. Hospitality operators have a perception that environmental improvement comes at a cost and so this becomes a major barrier.

### **CUSTOMER ATTITUDES**

Many hospitality organisations are waiting for increased customer demand and lower operating costs before they will fully embrace green initiatives and formal environmental practises. Hoteliers wonder if customers really care that they are making efforts to improve their environmental footprint through the introduction of green programmes. "Eco friendly or "green initiatives" were most compelling to luxury hotel guest who could afford to care about green practices, whereas these programmes are least important to customers who look for economy brands. It is evident that price is still the main factor when it comes to hotel selection and that many guests are not ready to pay extra to support green initiatives.

### **OPERATIONAL**

The major obstacle that hotels face when adopting green practices is the basic structure. The majority of hotels erected in the last decade were built by developers and managers who did not consider the environment during construction as the cost of greener hotel development was higher.

Operational issues such the non-availability of vendors, contractors, engineers, housekeepers, landscapers and managers that understand environmental systems, procedures and products inhibit the development of environmental practices.

**LEGISLATION and ACCREDITATION**

Few hotels have adopted a formal environmental management system or the internationally recognised ISO 14001 environmental management standard but the majority of hotels are still lagging behind in adopting environmental management systems. The lack of government support and stakeholder demand as well as the fact that ISO 14001 is not a legal requirement constitutes the most salient factors hindering the adoption of the standard.

**5.3 The perception of guests (staying in regular hotels as well as eco-friendly hotels) about green hotels:**

**Guest’s Perspective Staying in Regular Hotels:**

As a part of the study, the researchers undertook a survey of regular hotels (non-eco-friendly hotels) in the Bengaluru City of Karnataka. Questionnaires were distributed to the guests staying in these hotels. 100 questionnaires were distributed in total out of which three were incomplete and not filled properly, therefore, only 97 samples could be taken for analysis. Simple random sampling method was used and the research was conducted in a time frame of three months.

**Table 1.**

FACTORS THAT GUEST CONSIDER WHILE SELECTING A HOTEL (The guests were requested to tick any one option only)		
Factor	No. Of respondents	Percentage
Price	42	43.29%
Location	24	24.74%
Environment Friendly Hotels	8	8.24%
Amenities	10	10.30%
Brand	13	13.40%

From the above table, it is evident that out of 97 respondents, approximately 43% consider price to be the determining factor in selection of a hotel. Nearly 25% said location while about 13% answered amenities and almost 10% said Brand value. Just about 8% of respondents said that they consider the fact that the hotel is environment friendly.

**Table 2.**

WOULD YOU BE WILLING TO PAY A LITTLE MORE TO STAY AT AN ENVIRONMENTALLY FRIENDLY HOTEL?		
Factor	No. Of respondents	Percentage
Yes	18	18.55%
No	66	68.04%
Not Sure	13	13.40%

From the above table, it is evident that out of 97 respondents, approximately 19% guests are only ready to pay little extra to stay in environmentally friendly hotels.

**5.4 Guest’s Perspective Staying in Eco-Friendly Hotels:**

As a part of the study, the researchers undertook a survey of eco-friendly hotels in the Bengaluru City of Karnataka. Questionnaires were distributed to the guests staying in these hotels. 100 questionnaires were distributed in total out of which one was not complete therefore, only 99 samples could be taken for analysis. Simple random sampling method was used and the research was conducted in a time frame of three months.

**Table 3.**

FACTORS THAT GUEST CONSIDER WHILE SELECTING A HOTEL (The guests were requested to tick any one option only)		
Factor	No. Of respondents	Percentage
Price	26	26.26%
Location	31	31.31%
Environment Friendly Hotels	24	24.24%
Amenities	02	02.02%
Brand	16	16.16%

From the above table, it is derived that out of 99 respondents staying in eco-friendly hotels, about 26% consider price to be the determining factor in selection of a hotel. Close to 25% said location while just about 02% answered amenities and almost 16% said Brand value. As good as 16% of respondents said that they consider the fact that the hotel is environment friendly.

**Table 4.**

WOULD YOU BE WILLING TO PAY A LITTLE MORE TO STAY AT AN ENVIRONMENTALLY FRIENDLY HOTEL AT?		
Factor	No. Of respondents	Percentage
Yes	43	43.43%
No	47	47.47%
Not Sure	09	09.09%

From the above table, it is evident that out of 99 respondents, approximately 43% guests are ready to pay little extra to stay in environmentally friendly hotels.

## 6 Discussion and Conclusion

All tourism should be sustainable – economically, socially and environmentally’ -Newsome, Moore & Dowling.

The researchers found that many hotels have benefited by going “Green” and adopting the principles and practices of green management. For the business reputation, it reduces business’s cost for posting advertisements as the hotel’s approach projects hotels’ positive image, which might increase employees’ identification toward the business. In parallel, the green marketing is effective. When consumers have positive perception, concept, and recognition towards green hotel, they can be attracted by the green hotel concept and participate in environmental protection themselves. It is very beneficial that a hotel would be able to provide a better environment while enhancing customers’ educational level at the same time.

In reality, no matter in Bengaluru or other cities, the conception of green hotel has become an irretrievable trend and it will become one of the key indexes for Eco-responsible approach in the near future. Travel is an important part for people in the modern world, therefore selecting a green hotel to stay might be the best way to connect consumers and environmental protection. The major challenge is that we do not know to what extent the consumers can accept and cooperate with hotels’ green measures which may appear to compromise on luxury. Hotel personnel indicated that not only does green hotel attract highly educated consumers; it can also save energy through educating consumers, improving hotel and the whole society’s environment.

The hotels today are implementing environment friendly policies as a part of their corporate social responsibility. They are constantly and resourcefully developing strategies to ensure minimum damage to the environment and sustain the ecological balance for the forthcoming generations. However, the study also revealed that still many guests need to understand and be aware about the value of green hotels.

## References

1. Alexander, S. (2002). *Green hotels: Opportunities and resources for success*. Retrieved from [http://www.zerowaste.org/publications/GREEN\\_HO.PDF](http://www.zerowaste.org/publications/GREEN_HO.PDF)
2. Han, H., Hsu, L., Lee, J., & Sheu, C. (2011). *Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions*. *International Journal of Hospitality Management*, 30.
3. Holden, A. (2008). *Environment and Tourism*. 2nd edition. London: Routledge.
4. Ishwaran, N. (2004). Preface. *Environmental Impacts of Ecotourism*. Oxfordshire, Cambridge: CABI Publishing, In Buckley, R. *Ecotourism Book Series, Volume 2*.
5. Middleton, V. (1998). *Sustainable Tourism: a Marketing Perspective*. Oxford: Butterworth-Heinemann.
6. Newsome D., A. Moore, S., K. Dowling, R. K. (2002). *Aspects of Tourism, 4: Natural Area Tourism: Ecology, Impacts and Management*. Clevedon: Channel View Publications.
7. Sharma, R., Yadav, M. D., & Sharma, M. (2018). *An Insight into Green Practices followed in the Indian Hotel industry*. *African Journal of Hospitality, Tourism and Leisure*, 7(1).
8. Verma, V. K., & Chandra, B. (2018). *Intention to implement green hotel practices: evidence from Indian hotel industry*. *International Journal of Management Practice*, 11(1).
9. Wood, M.E. (2002). *Ecotourism: Principles, Practices & Policies for Sustainability*. 1st edition. <http://www.unep.fr/scp/publications/details.asp?id=WEB/0137/PA>
10. LEED Rating System- <https://www.usgbc.org/leed>
11. [http://www.itchotels.in/responsibleluxury/know\\_gardenia.html](http://www.itchotels.in/responsibleluxury/know_gardenia.html)
12. [www.usgbc.org](http://www.usgbc.org)
13. [www.greenglobe.com](http://www.greenglobe.com)
14. [www.ecotelhotels.com](http://www.ecotelhotels.com)
15. [www.iso.org](http://www.iso.org)
16. [www.igbc.in](http://www.igbc.in)
17. [www.sustainabletravel.org](http://www.sustainabletravel.org)