

**Developing an Eco-Rating system for Resorts in
sensitive natural landscapes of Western Ghats.
Case: Tungi Resort, Lonavala.**

Synopsis

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Personal narrative



Figure (i): Maldives - year 2009
Source : photographs - Author



Figure (ii): Kandalama - year 2009
Source : photographs - Author

I love to travel. I feel refreshed being close to nature and exploring variety of places, people, culture. I have experienced stays at some amazing Resorts located in beautiful natural landscape settings. With landscape studies, I began to think, how can one conserve this natural beauty and its ecology, and that's how I started this Research.

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1 Abstract

Hospitality industry contributes to about 9.6% GDP and 8% of total employment in India. This industry is one of the key drivers of growth. Its strong potential is due to **beautiful natural landscapes of India** and **rich Indian cultural heritage**. While making it enjoyable for travellers, it becomes necessary to keep its original form and value intact, alongside securing **culture** and **Economy of local communities**. The increasing number of travellers, is bound to cause more and more use of resources and generation of waste. If there are no mitigation measures for these negative impacts, it leads to **depletion of resources** and **degradation of Ecology**.

Resorts are one such part of hospitality industry, that are self-contained destinations, mostly **in natural landscape settings** like beaches, mountains, lakes, historic or scenic places, for purpose of relaxation and leisure. Hence for Resorts, it becomes even more necessary to protect, restore, preserve, and manage this natural environment and relationship between living organisms within its natural surroundings.

Among the natural landscapes of India, Western Ghats, Himalayas, Indo-Burma region, Sundalands-Nicobar group of islands are the **biodiversity hotspots**. Biodiversity Hotspots have a dire need for ecological conservation through responsible design, construction and management.

Landscape ecology is a science of studying and improving relationships between ecological processes in environment and the ecosystems. All relevant existing Guidelines and Rating systems were found inadequate in relation to ecology, thus Author felt the need to develop an Eco-Rating system to **incentivize Resort owners and management** to adopt **Ecological conservation practices**. This Eco-Rating system is developed with a **greater purpose of Ecological conservation**. Along with ecological benefits, it would bring community, economical, recreational benefits, specifically in and around the **Resorts** situated in **Western Ghats**, thus considers its climate, topography, biodiversity, and its unique ecological conditions.

Need for such a defined ‘System’ is even stronger in wake of Covid-19.

Keywords: Sensitive Natural landscapes, Western Ghats, Ecological conservation, Resorts.

2 Premise

Incentivize Ecological conservation in Resorts situated in sensitive natural landscapes of Western Ghats.

3 Research Question

What can ensure, and How to incentivize Ecological conservation in Resorts situated in sensitive natural landscapes of Western Ghats?

4 Introduction

Biodiversity Hotspots have a dire need for ecological conservation through responsible design, construction and management. Threats due to tourism in Western Ghats, are uncontrolled growth of tourists, intensive water demand, untreated water discharge, increase in pollution, habitat fragmentation, changes in traditional livelihood. Human habitation and an addition in overuse due to tourism, is a major threat to Western Ghat's high level of biodiversity and endemism. Hence, author felt the need to develop an Eco-Rating system to incentivize Resort owners and management to adopt Ecological conservation practices. Its need is even stronger in wake of COVID-19

5 Need for study

Author found that all relevant existing guidelines and ratings systems are inadequate for Ecological conservation in Resorts situated in sensitive natural landscapes of Western Ghats.

IGBC Green Resorts Rating system[2018] is the only one available, which also is inadequate, as it is generic for India, irrespective of any region/biogeographic zone; it doesn't have elaborate guidelines for construction phase, and lacks ecological perspective.

Need for study, was in order to create a 'system' for Ecological conservation in Resorts situated in western ghats considering its ecological conditions. This need is even stronger in the wake of COVID-19.

6 Aim and Objectives

Aim: To develop an Eco-Rating system as a tool to incentivize Ecological conservation in Resorts situated in sensitive natural landscapes of Western Ghats.

3 Objectives to develop eco-rating system are:

- 1) **To encourage holistic pre-planned approach through well-defined framework and certification** of Eco-design for Resorts.
- 2) **To incentivize** ecological conservation, that **promotes strong reasoning cum willingness** of Resort owners and management to adopt better ecological practices.
- 3) **To create a Region-specific Rating system** for Resorts as a tool for ecological conservation in biodiversity Hot Spot - the Western Ghats.

7 Methodology

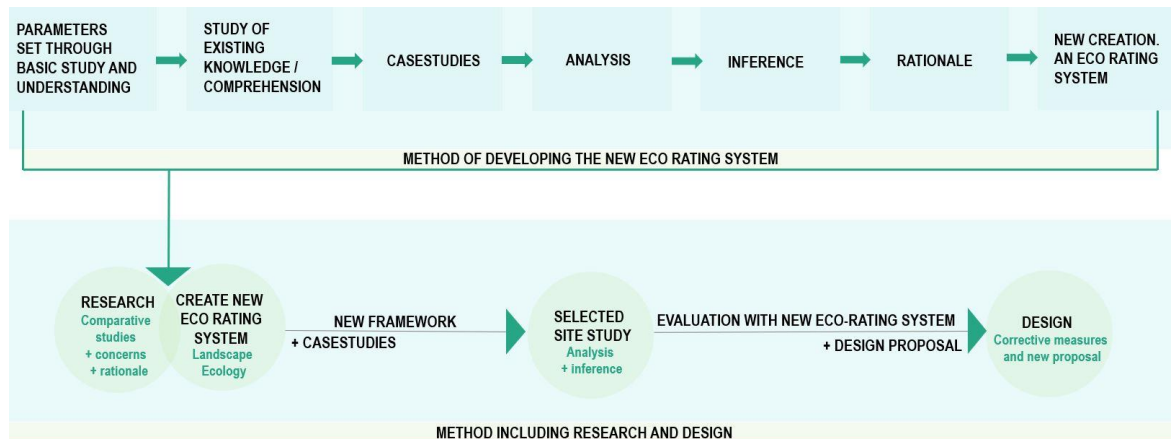


Figure (iii) : Method towards Research and Design.

Source: Author

Initially, author listed parameters with an ecological perspective, as follows:

1. Predesign stage measures
2. Design stage measures
3. Construction stage measures
4. Soil conservation
5. Rain water harvesting
6. Grey water treatment
7. Black water treatment
8. Solid waste management
9. Conservation of flora and fauna
10. Energy saving and generation
11. Education and awareness
12. Community and culture
13. Excellence or innovation - was also considered later in score process.

With above mentioned parameters, author desired to create framework and Eco-Rating system for Resorts in Western Ghats. With an ecological perspective, these parameters are included through Author's Academic landscape learnings, readings of various Rating systems, Guidelines, Author's Professional experience of 18 years in Architecture and correlated informal landscape learnings.

To develop this Eco-Rating system along the mentioned parameters, author studied other green Rating systems. Author searched through Rating systems like IGBC,

LEED, GRIHA, NZGBC, specific to Resorts. These Rating systems were found inadequate for Resorts, thus looked into guidelines for Resorts by various authorities constituted by Government of India, Bhutan green building design guidelines - Bhutan being a country sensitive to environment and with elaborate guidelines. WGEEP -Western Ghats report and other research works and documentation. Comparative study of Rating systems and guidelines for Resort were done first, and then for hotels and other kind of buildings for certain relevant pointers were considered.

Reference Rating systems:

(R1) IGBC (Nov 2018) - Indian Green Building council - Rating for Green Resorts.

(R2) GRIHA (2019) - Green Rating for Integrated Habitat Assessment.

(R3) LEED (2011) - Leadership in Energy and environment.

(R4) NZGBC (Aug 2016) - New Zealand Green Building council.

Reference Guidelines:

(G1) - HRACC (Jan 2018) - Hotel and Restaurant association classification committee, Ministry of Tourism, Government of India. (Approval, classification, and reclassification of Hotels)

(G2) - MOEF - Ministry of Environment and Forestry, Government of India

(G3) UNESCO - United Nations Educational, Scientific and Cultural Organisation

(G4) WGEEP - Western Ghats Ecology Expert panel - Report 2011 - constituted by 2011 - constituted by MOEF - Ministry of Environment and Forestry, Government of India.

(G5) Tourism Policy Of Maharashtra (2016) , Government of Maharashtra.

(G6) Maharashtra Shasan Rajpatra (July 1997) - Special regulations for development of Tourist Resorts in hill station areas.

(G7) Environment Management plan for Matheran plateau - Funded by MMR - Environment improvement society - Prepared by Grassroots Research and consultancy.

(G8) Research and Documentation on Western Ghats - OIKOS for Ecological services - Research and Documentation.

(G9) Bhutan Green Building Design Guidelines (June 2013) - Bhutan Green building Design Guidelines - Ministry of works and Human Settlement, Royal Government of Bhutan.

Relevant study and analysis :

- **No Indian Rating system or guidelines are sufficiently elaborate, holistic or complete in terms of landscape ecology.**
- **Bhutan** green building design guidelines were studied, as its a country sensitive to environment that believes in Gross National Happiness - has **elaborate** guidelines. (international)
- Only one available **IGBC Green Resorts Rating system [2018]** is generic, (not region specific) for Resorts in which focus is more on resources / energy savings in operational phase, but lacks perspective of landscape ecology - natural systems and processes.
- **WGEEP** and **UNESCO** has mention of ecological points for **Western Ghats** but it is **not specific to Resorts**.

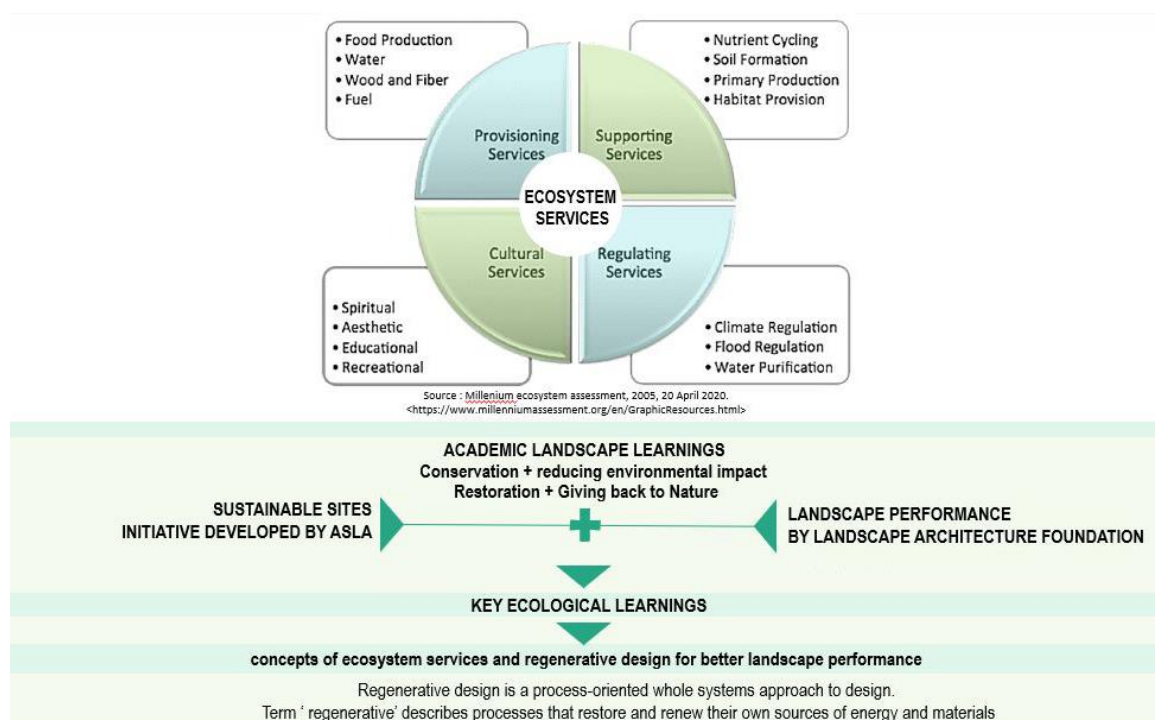


Figure (iv): Key ecological learnings

Source: Millenium ecosystem assessment, 2005, 20 April 2020.

<https://www.millenniumassessment.org/en/GraphicResources.html>

SITES. *SITES Rating System*. n.d. 20 April 2020. <<http://www.sustainablesites.org/certification-guide>>.

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<<https://www.usgbc.org/education/sessions/introduction-sites-program-6749989>>.

Foundation, landscape Architecture. *Landscape Performance Series*. n.d. 20 April 2020.

<<https://www.landscapperformance.org/guide-to-evaluate-performance>>.

Simultaneously, Author studied landscape and ecology-oriented documents, that are sustainable sites initiative developed by ASLA, and landscape performance by landscape architecture foundation. Concepts of ecosystem services and regenerative design for better landscape performance are key ecological learnings. Author also studied other Resorts as case studies for further understanding about Ecological conservation practices in Resorts and to choose one to evaluate it based on the new developed Eco-Rating system.

Criteria for Choice of Resort case studies are :

- **One International case study** in an environmentally sensitive country **Bhutan** that is located in a biodiversity hotspot.
- Resorts in **Western Ghats**.
- Resorts that are in **Natural landscape settings**.
- Resorts that are well known brand or **famous - most visited** and liked by travellers.
- Resorts with area of **25 acres or more**.
- Resorts that **more or less follow environmental conservation measures**.

Based on above criteria, following Resorts were studied:

1. **Six senses, Punakha, Bhutan**
2. **The Macchan Resort, Lonavala, Maharashtra, Western Ghats.**
3. **Banasura Hill Resort, Kerala, Western Ghats.**
4. **Wilderness Nature Resort, Goa, Western Ghats.**
5. **Tungi Resort, Lonavala, Maharashtra, Western Ghats.**

Comparative Study of Rating systems, guidelines, and case studies were used to first form the framework of ecological conservation measures for Resorts and decide scores. Eco-Rating system is developed by comprehension of existing knowledge, analysis, inference, and refining through rationale for each point, along the parameters mentioned earlier. Author's Academic landscape learnings, readings of various Rating systems, Guidelines, Author's Professional experience of 18 years in Architecture and correlated informal landscape learnings, and casestudies cumulatively supported the process.

Three major reasons for an eco-rating system for western ghats are as follows :

1. A new Eco-rating system **to consider landscape ecology of Western Ghats for regenerative design to better landscape performance.** Hence this System was to be designed underpinning idea of **‘Reinforce Natural landscapes to Reactivate natural systems’** on any Resort site that includes creation of habitats, reviving of ecosystems, and revitalizing natural self-regulating systems and processes for any Resort site.
2. A new Eco-rating system **to develop an elaborate framework** for predesign, pre-construction, during construction and post **construction phases, which is most crucial phase in relation to conservation, ecological processes and ecosystems.**
3. A new Eco-rating system **to be elaborate and well - defined that considers landscape ecology and regenerative design. Need for a defined ‘System’ towards landscape ecology at Resorts is even stronger in the wake of COVID-19.**

Thus,

Main step 1 was to develop an Eco-Rating system as a tool to incentivize Ecological conservation in Resort situated in sensitive natural landscape settings of Western Ghats.

Next step 2, was using this developed Eco-Rating system, as a tool to evaluate the Resort that seemed to fall short among the selected case studies, and then enhance that Resort towards better solutions and design proposal.

8 Scope

Scope: A voluntary eco-rating ‘System’ to serve as an authoritative source, that provides a framework for certification of any Resort situated in sensitive natural landscapes of Western Ghats, for Ecological, Community, Recreational and Economic benefits in and around the Resort.

Need for such a defined ‘System’ is even stronger in wake of Covid-19.

Author believes that in the wake of COVID-19, this System of ERCA (proposed as an independent body) ideally should be considered by Ministry of Environment and Forestry, and to be taken under jurisdiction of WGEEP [Western Ghats Ecology Expert Panel] for policy level consideration and implementation of this defined System, specifically for best results in Resorts.

9 Limitations

Resorts are a private commercial establishment. Studies or any research around ecological conservation are generally not encouraged in such establishments. All owners do not have that vision and understanding towards ecology. Entry in such Resorts, even for case studies, are possible only if we have the bookings to stay, as guests.

Author’s study was done, as a visitor and guest, which was challenging and created certain limitations like no access to official documents, and detail service drawings of Resorts.

10 Proposal

Author has developed an **Eco-Rating system**, as a tool to incentivize Ecological conservation in Resorts situated in sensitive natural landscapes of Western Ghats.

Through the process of Research and design, author emphasises on concept of:

‘Reinforce Natural landscapes

To Reactivate Natural Systems’

which is basis for ERCA Eco-Rating system - a defined ‘System’, to be implemented for certification of Resorts in sensitive natural landscapes of Western ghats.

Not only the Research but also the Design intent and proposal follow the same concept.

Author believes that in the wake of COVID-19, this System of ERCA ideally should be considered by Ministry Of Environment and Forestry, and to be taken under jurisdiction of WGEEP [Western Ghats Ecology Expert Panel] for policy level consideration and implementation of this defined System specifically for best results in Resorts situated in this biodiversity hotspot.

On the decade old **Tungi Resort site**, certain sustainable measures are an after thought and instead of just beautification, site needs a new vision towards better landscape performance, and self-regulating natural systems that renew its own natural resources, with a holistic approach.

For thesis, Author applied this created ERCA Eco-Rating system, to the selected site, leading to a **design proposal and better solutions** for master plan from macro to micro level.

11 Conclusion

Author has developed an Eco-Rating system, as a tool to incentivize Ecological conservation in Resorts situated in sensitive natural landscapes of Western Ghats.

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Thank You