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An Initiative Towards Implementation of Rating System in Green Building

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Abstract - *A green building is one which uses less water, optimizes energy efficiency, conserves natural resources, generates less waste and provides healthier spaces for occupants, as compared to a conventional building. With the increasing awareness of property development within the industry, implementation of a Green rating procedure to assess buildings is changing into a lot of preponderating. The paper presents on case study related to comparative study of rating system used for comparative study of two distinguished property Green building rating systems LEED, and GRIHA.*

The main goal of this study to compare the rating systems in order to ascertain of best one. The study provides a deep insight into sustainable green building rating systems.

***Key Words*: Green building, classification system, BREEAM, LEED, GRIHA**

1. INTRODUCTION

Green Building could be a planning conception that reduces the environmental impact of buildings through innovative land use and construction methods. Currently the main reason to global warming is construction industry which needs more natural resources in a bulk quantity e.g. stone, wood, fuel etc. therefore there is an extreme need to implement green building certification systems .For the purpose of case study, the Suzlon One Earth building is selected because it one of unique building in India which is certified by both LEED-India and GRIHA rating System.

The focal comparison of this study is targeted on LEED and GRIHA. This study could be a comprehensive assessment every class and subcategory related to each system. The system comparison is completed by associate assessment of the incorporation of life cycle thinking. This study recommends distinctive Green building classification system by scrutiny all higher than exiting classification system that covers every and each side needed for the assessment and certification for Green building. This distinctive classification system is relatively less complicated and provides the mandatory perception concerning the project with ease. This study can focus mostly on the manner within which users square measure probably to interpret and implement the system, as critical that specialize in necessities of system overall.

2. OBJECTIVE:

To compare Green Building Rating system LEED-India and GRIHA.

3. GREEN BUILDING CLASSIFICATION SYSTEM

The property building classification system is outlined as tools that examine the performance or expected performance of a building associated translate that examination into an overall assessment that permits for comparison against different buildings. For a classification system to feature price to the property style and operation of a building it should supply a reputable and consistent basis for comparison.

LEED (The Leadership in Energy and Environmental Design) Green Building classification system, developed by the U.S. Green Building Council (USGBC) in 1998, provides a collection of standards for environmentally property construction. LEED-India programmed has tailored by the Indian Green Building Council (IGBC) from u. s. Green Building Council's (USGBC) in 2007.Since its beginning in 1998, LEED has full-grown to include quite fourteen, 000 comes within the USA and thirty countries covering ninety nine billion m^2 of development space.

GRIHA (Green Rating for Integrated Habitat Assessment) Green Building classification system, formed by TERI and developed put together by the Ministry of latest and Renewable Energy, Government of Asian country 2007, it's supported nationwide accepted energy and environmental principles. Over three hundred comes across Asian country of variable scale and performance square measure being designed supported GRIHA tips.

4. CASE STUDY

For the purpose of case study, the Suzlon One Earth building is selected because it one of unique building in India which is certified by both LEED-India and GRIHA rating System. Details of the case study are as follows:

General information:

Project Name: Suzlon One Earth
Location: Hadapsar, Pune, India

The Suzlon One Earth Global Corporate Headquarters project is an engineering marvel in all respects including excellent architectural design, and seamless integration with building services based on the essential green building concepts of energy efficiency and sustainability

Suzlon is committed to generate Green power and create for its people a great place to work. Suzlon Energy Limited is in the business of Green energy.

The Campus is designed to be one of the Greenest campuses and is certified as:

1. Platinum rated building under LEED-India NC

LEED: Leadership in Energy and Environmental Design rating system was developed and piloted in the US. The Indian Green Building Council has adapted LEED system and has certified Suzlon One Earth project.

Table 1: Point achieved under LEED-India

Sr. No.	Categories	Maximum Points	Target point
1	Sustainable Site	13	10
2	Energy and Atmosphere	17	14
3	Water Efficiency	6	6
4	Indoor Environmental Quality	15	15
5	Material and Resources	13	7
6	Innovation and Design	5	5
	Total	69	57*

* Achieved LEED-India NC certification with PLATINUM rating.

2. Five Star rated building under GRIHA rating system

GRIHA: Green Rating for Integrated Habitat Assessment is a green rating system developed by The Energy Resources Institute (TERI) has certified Suzlon One Earth project.

Table 2: Point achieved under GRIHA

Sr. No.	Categories	Maximum Points	Target point
1	Sustainable Site	17	16
2	Energy and Atmosphere	37	36
3	Water Efficiency	15	15

4	Indoor Environmental Quality	9	9
5	Material and Resources	17	16
6	Waste Management	5	5
		100	97*

* Achieved TERI-GRIHA certification with Five-star rating.

3. CONCLUSIONS

The certification process helps us to minimize global warming by adopting green building rating systems

1. LEED provides different rating systems based on the building types. GRIHA has only one rating system which is applicable for all building typologies
2. The appeal process for GRIHA is done before the certification is awarded. While LEED allows appeal for a higher rating after the certificate is awarded by the evaluation committee.
3. When GRIHA prescribes use of recycled water control waste water of water during curing and other construction stages LEED neglects this aspect of conserving water.

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