



Study on IGBC Green Village Rating System- Limda Village, Vadodara

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ABSTRACT

The objective of this study is to assess the Limda Village's eligibility for the Green Village category. In 2001, the Confederation of Indian Industry (CII) established the Indian Green Building Council (IGBC) with the aim of promoting the development of Green Buildings. The IGBC is actively engaged in providing resources to facilitate the adoption of Green Building practices in India. The creation of the IGBC Rating system for the Green Village represents a significant milestone in the efforts to promote sustainability in rural areas of India. The study involved conducting a survey of the Limda Village, which currently falls under the gold category. However, there are several criteria that still need to be met in order to achieve the platinum category status.

Keywords: Green Village, CII, IGBC, Green Building.

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INTRODUCTION

Limda, located in the Waghodia Taluka of Gujarat's Vadodara district, is a village situated approximately one kilometer away from Parul University and about 23 kilometers east of the district headquarters in Vadodara. With a population of 2700-2800 and 450-550 houses, Limda is a small village where the local language spoken is Gujarati.

In India, the construction sector plays a crucial role in the country's economy, experiencing significant growth over the past decade. However, this rapid expansion has presented challenges in maintaining environmental sustainability. To address this issue, the Confederation of Indian Industry (CII) established the Indian Green Building Council (IGBC) in 2001. The IGBC aims to facilitate the adoption of green building practices in the construction sector by providing tools and resources.

One notable initiative by the IGBC is the development of the IGBC Rating System, which aims to transform existing villages into environmentally-friendly communities. This step is particularly significant in greening rural areas in India, as villages often face various challenges such as open defecation, inadequate healthcare facilities, limited access to clean drinking water, basic amenities, schools, and power storage [1].

By addressing these rural challenges through the implementation of the IGBC Rating System, the council aims to promote sustainable development and improve the overall quality of life in Indian villages.

Benefits of Green Village

- Reduce the demand for water (20% - 30% water saving)
- Reduce the demand for power (30% - 40% Energy saving)
- Better handling of solid waste
- Access to basic facilities like healthcare, schools, transportation, recreation
- Hygiene access to safe drinking water & sanitation

The objective of IGBC Green Village is to preserve water, energy, waste management, optimal material utilization, and design for a healthy, comfortable, and environmentally friendly village.

IGBC- (Green Village Rating Syatem):- The following modules of the IGBC Green Village rating system address the sustainable aspects of green villages.

- Health & Hygiene(Credits-10)
- Village Infrastructure(Credits-9)
- Water Conservation(Credits-3)
- Energy Availability & Efficiency(Credits-4)
- Materials & Resources(Credits-3)
- Social & Community Actions(Credits-3)
- Green Innovation(Credits-5)

IGBC Green Village Rating System divided in to total 7 criteria and total 7 Criteria's divided in total 37 credits. Each credit have different requirement, so points are distributed according to requirement and total points are 100[2].

Table - 1 The various levels of rating awarded are

POINTS	LEVEL OF CERTIFICATION	RECOGNITION
40 to 49	CERTIFIED	BEST TRY
50 to59	SILVER	OUTSTANDING
60 to79	GOLD	NATIONAL EXCELLENCE
80 to100	PLATINUM	GLOBAL LEADERSHIP

Village identified for IGBC Village certification by the govt. or corporate must be registered with IGBC. The certification will comprise two stages.

- Pre- Implementation Phase:
 - Interaction with Sarpanch
 - Identification of Developmental opportunities
- Post Implementation Phase:
 - Interaction with sarpanch, Village panchayat and green Village Audit

It is important to note that credit points earned during the pre-implementation phase are considered provisional and will not be awarded until the implementation of additional green features and completion of the final audit. Any changes made after the pre-implementation stage should be addressed during the final audit. The Indian Green Building Council (IGBC) will issue an official certificate to Green Villages that meet one of the grading levels.

Checklist for IGBC Green Village [5] (Table 2)

Table – 2 check list fir IGBC Green Village

(1) Health & Hygiene (HH)
(2) Village Infrastructure (VI)
(3) Water Conservation (WC)
(4) Energy Availability & Efficiency (EA)
(5) Materials and Resources (MR)
(6) Social and Community actions SC)
(7) Green Innovation (GI)

RESULT AND DISCUSSION

Total Point: - 100

Available point: - 70

Balance point: - 30

Limda village concludes to be under Gold category.[4]

During the survey, it was noted that the village demonstrates commendable health and hygiene practices, as indicated by the proper upkeep of sanitation facilities and the presence of accessible healthcare facilities. Furthermore, the village possesses a well-established infrastructure. However, despite the efficient utilization of resources, the marketability ratio is comparatively low. Although the availability and efficiency of energy are satisfactory, the adoption of renewable energy sources is limited. Moreover, social and community engagement within the village is minimal, with only the Anganvadi organizing programs to enhance awareness among the residents.

To attain the Platinum badge from Gold, Limda Village should consider implementing the following strategies:

- The village should ensure the provision of at least one public toilet and one bus stop.
- Encouraging organic farming practices among the villagers should be prioritized.
- The sewage handling process in the village should be improved and expanded.
- Proper management of livestock should be established within the village.
- The availability of at least one park within the village should be ensured.
- Efforts should be made to increase the green cover area through afforestation initiatives.
- Strict adherence to rules regarding plastic handling should be enforced to preserve and restore water bodies.
- The village should establish a small sewage treatment plant to treat wastewater, thereby conserving water resources. Alternatively, the wastewater can be supplied to Parul University, which already has a Sewage Treatment Plant. Villagers can pay for the use of this plant and utilize the treated water.
- The use of renewable energy sources should be promoted among the villagers to conserve energy and reduce pollution. The installation of solar water heating systems can be encouraged, taking advantage of government subsidies currently available.
- Villagers should explore alternative livelihood options to improve the village's economic condition.
- The formation of a committee dedicated to conducting awareness programs on water conservation, renewable energy sources, afforestation, and green innovation should be considered.

Table 3: IGBC Green Village Rating System- Limda Village, Vadodara

Credit	Item	Highest Point	Available Point	Balance Point
HH1	Solid waste collection and disposal	3	1	0
HH-2	Clean Village	3	2	1
HH3	Drinking water Availability	2	2	0
HH4	Sanitation Facility	4	3	1
HH5	Healthcare Facility	6	6	0
HH6	Indoor Air Quality in Household	2	1	1
HH7	Organic Waste Management	2	1	1
HH8	Sewage Handling Practices	1	0	1
HH9	Use of organic Fertilizers	2	1	1
HH10	Recreational area	2	2	0
VI1	Basic Amenities	4	4	0
VI2	Education infrastructure	5	5	0
VI3	Inter & Intra village Commuting	3	3	0
VI4	Live Stock Managemet	3	3	0
VI5	Preservation and Maintenance of water bodies	2	1	1
VI6	Water supply network	4	3	1
VI7	Strom water network	3	2	1
VI8	Sewarage network	3	2	1
VI9	Green cover in village	3	2	1
WC1	Rain water Harvesting	3	2	1
WC2	Waste Water Treatment	4	1	3
WC3	Treated water Reuse	2	1	1
EE1	Rural Electrification	3	3	0
EE2	Renewable Energy	6	2	4
EE3	Energy Efficiency	5	4	1
EE4	Solar water Heating systems	2	0	2
MR1	Local Materials	2	2	0
MR2	Alternative livelihood	2	2	0
MR3	Plastic Handling and disposal	1	1	0
SC1	Green Outreach & Awareness	2	1	1
SC2	Green Village Committee	2	1	1
SC3	Smart Village Attributes	4	3	1
GI	Innovation	5	3	2
		100	70	30

Table - 4 Result based Point

Criteria	Total points	Available points	Balance Point
Health & Hygiene (HH)	27	19	8
Village Infrastructure (VI)	30	25	5
Water Conservation (WC)	9	4	5
Energy Availability & Efficiency (EA)	16	9	7
Materials and Resources (MR)	5	5	0

Social and Community actions (SC)	8	5	3
Green Innovation (GI)	5	3	2

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