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GREEN BUILDING CONCEPT

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Abstract: Constructing a green building is assembling all the latest green materials and technologies. Also, it's a process in which each element of design is optimized and after this the interrelationship and impact of several different system and element within site and building are again evaluated, then they are optimized as a part of whole building solution. The main aim of this project is to make a device which reduces the development footprint in building by making green construction scheme in building practices.

Key Words – Renewable, Green Building, Footprint, Development

I. INTRODUCTION

Green building reduces the use of natural resources while construction. A green building involves various design and construction practices which helps in reducing the bad impacts of building. A green building aims to,

- Reduce the requirement of non-renewable resources.
- Increases the efficiency while using these resources.
- Fully utilize renewable resources.
- Increase the recycling and reusing of the resources the are available.

Green building can also defined as a building which is designed, operated, demolished and constructed in a efficient and healthy manner. In the past four to five years the green building movement has gained major momentum. The beginning of this was building a 20000 sq ft of green footprint in the year 2003 and then by building 10 million sq ft by the end of the year 2008. The green building has reached major heights.

II. OBJECTIVES

The main objective of this study deals with,

- Recognize different aspect to apply for developing footprint.
- Estimating the assessment of footprint in terms of unusable and usable land.
- Identifying different credit requirement which is related in developing the footprint.
- Identifying different purpose concerning the development footprint.

III. SCOPE

The main scope of green building is to reduce the energy and environmental impact by using RES and energy efficiency measures in public buildings, since renewable energy represent a natural competitive advantage for MED areas.

IV. METHODOLOGY

1. Data collection

- Data of green rating system in India.
- Identification of site.
- Data of existing footprints.

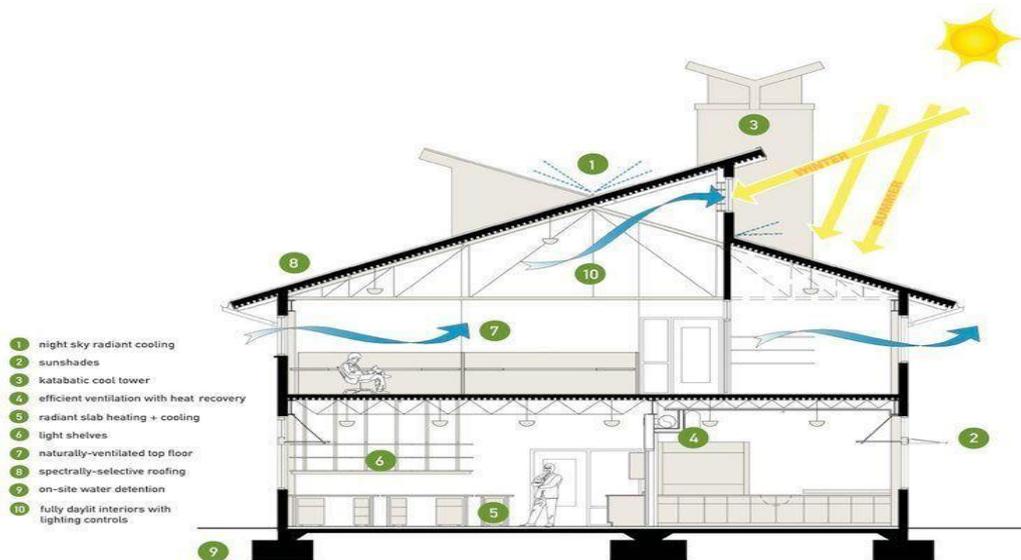
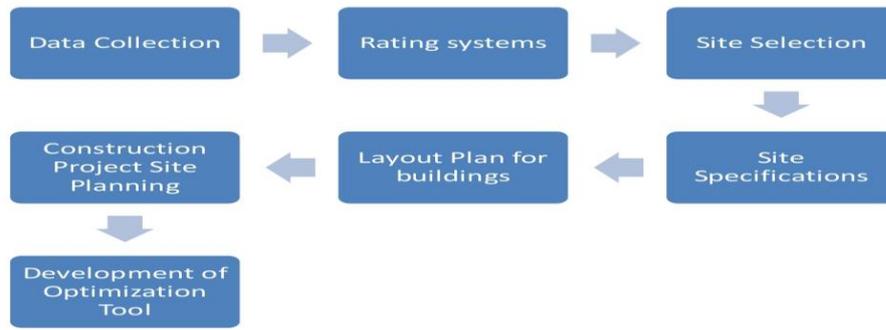
2. Methods

The methods that involve during the cores of study are given below:

- **Data collection:** It is the first step of the project. In this step we study on learning about how to reduce footprints. This stage involves the collection of different types of data including all the green building in India, advantage of green building, case study and project cost.
- **Rating system:** In this step we study about the rating system for green building. We study the guidelines of Indian Green Building Council, LEED and other building department. We also study about the proposals, credit requirements etc.
- **Site selection:** This is one of the most important stages of the project. In this stage we select the sites on the basis of various requirements and criteria which matches our study and data that we have collected. The site should have greenery all around. The site should have to fulfil all the sunlight requirements that we need to develop a good solar energy system. It should also consist of proper ventilation. The site should be easily accessible for installing all the technologies.
- **Layout plan for building:** The layout plan of the building has to be planned in such a way that it should fulfil all our requirements. The layout should have always a chance of modification if we need to modify it in future.
- **Construction project site planning:** We should analyse the site plan such that all the possible options that improves the quality of our objective are considered for implementing.
- **Development of optimization tool:** Based on our studies optimization is implemented to get the optimum solution that is required. Dijkstra's Algorithm is used to obtain the shortest path.



Building plots	Area in m ²	Area around the building that is unused in m ²	Open space around the building required according to LEED India-NC 2007
Block A	4917.833	878.413	3622.92
Block B	4045.797	1104.227	2782.07
Block C	4396.256	1142.186	2396.40
Block D	4917.256	878.836	3624.92
Block E	3001.000	-	-
Block F	5146.076	1042.146	3627.82
Block G	4255.176	1707.776	2387.40
Block H	4257.176	1724.276	2387.40
Block I	5031.938	1457.228	3142.71



V. RESULTS AND DISCUSSIONS

I. Strategy development for footprints

a. Strategies for parking:

The total area that is covered under parking amounts to 7824 sq. m. The split up of parking areas on a building to building basis is given as follows:

Table - Parking Footprint

Block	Area in sq.m
A	411.5
B	152.5
C	476
D	411.5
E	476
F	151
G	136.5
H	426
East	1824
West	3351
Total	7826

VI. CONCLUSION

Reducing the developing carbon footprint in building through green construction schemes are the main goals of the ongoing studies. Different ways to reduce the carbon footprints are discussed and the footprints are depleted to a considerable extent. Site disturbance is to be reduced to meet the requirements for a building to be branded GREEN, which when executed well are worthy and is main role for acquiring GREEN rating.

From our research and work, all the concept and details of green building are described as follows:

- Green building is much more energy efficient and environment friendly as compared to an ordinary building.
- By using methods of green building we can enhance the quality and appearance of urban environment while increasing comfort of individual staying indoor.
- The green building help us to manage the monthly expenses in small things like electricity bill etc.
- The green building reduces the daily waste and CO₂ in our daily life.

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