

Green Library Services in the Libraries of Agricultural Universities

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Abstract

Learning activities need a peaceful, eco-friendly and healthy environment; hence the concept of green building was implemented in the library, and the Concept of Green Library emerged. Green concepts enhanced the library's image and marketing the library services. There is a need to promote Green Library Services in the agricultural institutions and universities. This paper explains the challenges to green libraries, explains various standards available for green libraries and elements and suggests green library services along with changing role of library professionals in green libraries.

Keywords: Green Library, Library Services, Agricultural Libraries, Agricultural Universities

Introduction

Nowadays, there is a growing concern for sustainable development and green concepts to save the environment. Impact of greenhouses effects, climate changes, global warming, and sustainable development trends in society are forced to implement the Green Concept. People perform most of their tasks and activities inside the buildings and desired an eco-friendly atmosphere to enhance the qualities of work; therefore, concepts of green being implemented in the buildings are recognized as Green Buildings. Ecological, energy-saving, waste-reducing, and health-promoting buildings are collectively called as green buildings. The library is a learning hub for intellectuals. Learning activities need a peaceful, eco-friendly and healthy

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environment; hence the concept of green building was implemented in the library, and the Concept of Green Library emerged in the 1980s. In the 21st Century, the Green Library is trendy and commonly accepted by society. United Nations has introduced the Sustainable Development Goals (SDGs) in 2015, which consists of three key aspects, including 'natural resource conservation. In these circumstances, community centers, knowledge hubs, and libraries also play a significant part in saving the environment and conservation of natural resources.

Green Libraries are scaling down the negative impression on the surrounding. These are focused on reducing carbon footprint in collection development, routine activities, and services of the library. The Green Library concept tries to provide a natural environment and eco-friendly atmosphere to their patrons within the library building and its surroundings. These libraries developed and adopted such policies that help save the environment of the earth.

According to the Online Dictionary for Library and Information (ODLIS), Green libraries are "designed to minimize the negative impact on the natural environment and maximize indoor environmental quality employing careful site selection, use of natural construction materials and biodegradable products, conservation of resources (water, energy, paper etc.), and responsible waste disposal (recycling, etc.)." The concept of a paperless library and less paper library system boost-up the green library movement and reduced deforestation to meet the requirements of the papers industry.

Oxford English Dictionary (1989) defined the term green as "about, or supporting environmentalism" (p.811). The term "sustainable" relates to "forms of human economic activity and culture that do not lead to environmental degradation, esp. avoiding the long term depletion of natural resources". Green libraries take all initiatives which save the nature and natural resources i.e., use of solar energy, maximum use of natural light and air, implementation of green building concept, move towards e-resources and reduce the consumption energy therefore clean environment

gift for the forthcoming generation. The concept of green is going to be implemented across the globe. Leading library agencies of the world and authorities are planning to save the libraries and nature by the guidelines to move towards Green Library. The library has five organs i.e., Building, Furniture, Books, Human Resources, and learning atmosphere. All these five entities move towards reducing the negative energy, enhancing the positive energy and make eco-friendly environment then a library becomes a Green Library. Green libraries reduce the negative and enhance the positive effect on the environment, economy, and society.

A library that follows eco-friendly practices in all its activities is called a green library. Eco-friendly practices include Reduce, Reuse and Recycle policy, creating a zero garbage system, creating a paperless work environment, planning for sustainable development, and propaganda of saving nature through library operation and services. The Green library building design is the maximum use of renewable resources, and after optimum utilization, these resources must be reused and recycled. Maximum use of on-site available natural resources i.e., sunlight, fresh air, water, and reuse of waste. Sustainable design of buildings enhances the use and reuse of resources and minimizes building impact on human health and the environment during the lifecycle of the building. It fulfills the requirement of the present without any negative impact on coming generations.

Objectives

The primary objective of the green library is to provide an eco-friendly learning atmosphere to the readers and play a negligible role to save the earth and make it green with the following aims:

1. To study the design aspect of library building which helps Green Concept.
2. Identify the challenges to initiate the green library concept in agricultural universities,

3. To study the role of library professionals towards the greenness of library and its services,
4. To promote the use of natural resources in the library,
5. To save the cost and provide a healthy environment to the readers,
6. To know how libraries can be transformed into Green Libraries.

Review of Literature

Literature review indicates that several studies regarding Green Library and related concepts have been published in print and electronic media during 1990 to 2021, especially on green library buildings and their standards, substitutability of the library building, green library initiatives in University and public libraries. The implementation of Green Library concept in agricultural universities is very important and critical for the spread of the green concept in libraries of other sectors.

Singh, M. P., & Dixit, S. (2021) finds out Sustainable Strategies adopted by the Selected State University Libraries of Lucknow, Uttar Pradesh. The study shows that library professionals are aware of green libraries and sustainable development and are using their guidelines for the library. Yasin Sesena (2020) discussed the report "Our Common Future prepared by the World Commission on Environment and Development (WCED)" and explored the idea for the coming generation to meet their information need in the natural environment. To promote the green library concept and its implementation, IFLA (International Federation of Library Associations and Institutes) started a Green Library Award in 2016. It also points out the user behavior and expectation with the green library.

Walker (2020), in his blog "100 Ways to Make Your Library a Little Greener," gives detailed information in a lucid style. Mahawariya (2019) states the concept of a green library on how to make libraries green, the criteria of LEED, the need for a green library, and the role of library professionals for the eco-friendly library. Vasanthi (2019) discussed the green library building, the importance, the purpose of eco-friendly libraries, and various national

and international standards to assess the green library. Attia (2018), in his book, straightforwardly explains Net Zero Energy Buildings. Weerasinghe (2018) has observed that the construction cost of building a green library is 37% higher than that of a similar-natured conventional building. However, the end life overall cost saving is 21% higher in green buildings. Hence it has been stated that green libraries involve initial cost but save cost in the future run.

Meher and Parabhoi (2017) studied green libraries and unique references to Indian libraries and focused on initiatives taken by librarians. Bhattacharya (2017) has explained various standards for green libraries, major green library initiations globally, the role of librarians, how awareness about the green library can be created, etc. Haipeng (2017), in his research, explored the sustainable learning environment at the University of California (UC) Merced Library, showing that the library is built to support active and constructive learning through its sustainable design as an open, collaborative, and welcoming learning environment. Nikam (2017) has highlighted the concept of a green library, its features, and its elements. He has also emphasized the role of the modern librarian in the process and has mentioned some valuable suggestions to implement the green library concept. Sornasundari and Saha (2016) have pointed benefits of green library buildings. They have suggested focusing on the sustainability of resources by greening existing library facilities and providing green library services to users.

Chakraborty (2013) studied on realities of green initiatives of the metro cite libraries i.e., University of Calcutta Library, Mumbai University Library, Madras University Library, and Delhi University Library. Hauke and Werner (2012) focused on sustainability through recycling the old buildings into new libraries. He thinks that "we are ecological interdependent with the whole of the natural environment; we are socially culturally, and economically interdependent with all of humanity; sustainability in the context of this interdependence, requires partnership, equity, and balance among all parties". Antonelli (2008) has explained the benefits of the green

library for future generations, the concept of LEED, various green library programs. He has also discussed some green library courses and has provided information about green library associations. Brown (2003) studied the emerging trend of green libraries and proclaimed that libraries have cutting edge green design.

Why the Green Library

The world's population is increasing day by day, and the whole world is facing a lot of environmental problems, i.e., pollution, environment degradation, diminishing of resources, and many more. In this situation, we are focused on conserving natural resources, health & hygiene, an eco-friendly environment, and sustainable development of society. The green library gives quality services in a pleasant atmosphere and homely environment for good mental and physical health. Dr.S.R. Rangamathan gave the fifth law of library science in 1931, i.e., "Library is a growing organism" that says the library is growing like living things. Therefore, libraries also need sustainable development to serve a coming generation with a homely and eco-friendly learning environment. Green Concept and sustainability has reduced the maintenance cost of library activities and services, so the library feels independent. Green library services increase the library's market value and attract more users to the library, therefore enhancing the library footfall.

Challenges of Green Libraries

Sustainable Design for the library is strongly recommended under the green building movement by different authorities across the globe, i.e., USLEED, BREEM, LEED-India, IGBC, GRHA, etc. However, libraries and information centers have some unique challenges to going green.

- Patrons are very much comfortable with traditional reading materials.
- Books still play a significant role in preserving knowledge for future generations.

- Books may damage by extreme temperatures, moisture, and ultra-violet rays of sunlight.
- Reconstruction and modification of Building design
- Financial Constraint
- Lack of Administration Support and staff
- Lack of awareness of users and staff
- Non - availability of a green library policy and plan
- Lack of physical resources and human resources
- Lack of time

Standards for the Green Libraries

We have some standards and certification agencies for standardizing green library buildings at the national and international levels. LEED and BREEM are at the international level, and GRIHA and IGBC are at the national level.

LEED

LEED rating system was developed by the United States Green Building Council (USGBC) in 2000. It stands for Leadership in Energy and Environmental Design (LEED). This is an ecology-oriented building certification program that judged building's sustainability based on six credit categories for new building construction: sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation in design. It is a point-based rating system where projects earn LEED points for meeting green building criteria that certify as Silver, Gold, or Platinum.

BREEAM

BREEAM is the environmental assessment method for the rating of buildings was launched in 1990 by Building Research Establishment, Walford, England. BREEAM (Building Research Establishment Environmental

Assessment Method) measures buildings based on its five sustainable design principles and environmental performance. It considers and observes the building on low carbon technology for heating and cooling, low energy lighting, and water conservation systems. In this method, the building is rated at five BREEAM rating levels: poor, i.e., very good, excellent, and outstanding. BREEAM has been implemented in 93 Countries, and 598729 buildings are certified out of 2322635 worldwide up to Oct 2021.

Chicago Illinois Standards

This standard is developed based on LEED for the Rating of Green Building in Chicago, mainly for the public building to implement the eco-friendly guidelines. It considered the design aspect, materials selection for construction, energy efficiency, and life-cycle analysis of buildings which minimize the harmful impact on the environment.

IGBC

Indian Green building Council (IGBC) was established by the Confederation of Indian Industry (CII) in 2001 to promote and rate Green buildings in India. The council's vision is, "To enable a sustainable built environment for all and facilitate India to be one of the global leaders in the sustainable built environment by 2025". IGBC has licensed the LEED Green Building Standard from the U.S Green Building Council and developed a Gold rating system to promote Green Buildings in India.

GRIHA

Green Rating for Integrated Habitat Assessment Council was jointly set up by the TERI (The Energy and Resources Institute, New Delhi) and Ministry of New and Renewable Energy in 2007. The Government of India has adopted it as the National rating system for Green building which is suitable for all kinds of buildings in different climatic zones of the country. It is an indigenous tool for rating and plays a forefront role in the Green building movement in India.

LEED-India

Leadership in Energy and Environmental Design is the paradigm in the green building rating system. It is a nationally and internationally accepted benchmark for the design, construction, and operation of high-performance green buildings. There are four certification levels (Certified, Silver, Gold, Platinum) awarded according to achievement as evaluated by points using the LEED scorecard. LEED rate on 100 points and certify the buildings on the following criteria:

25-40 points as Certified.

41-50 points as Silver.

51-60 points as Gold.

61-80 points as Platinum.

LEED-India stimulates a whole-building approach to sustainability by acclaiming the performance in the following key areas:

- Site location
- Water conservation
- Energy efficiency
- Materials
- Indoor air quality
- Vegetated Green Roof
- Conserves the energy.

Green Library Activities Services:

1. Maximum use of electronic resources rather than books,
2. Minimum purchase of printed books,
3. Printed books may arrange through Resources Sharing,

4. WebOPAC search facility in place of catalog card,
5. Minimum use of Xerox machine and provide e-copy of the document,
6. Use a maximum of natural light in the reading room and stack,
7. Use Indoor and outdoor to reduce the building temperature,
8. Sensor-based lights must be used in the library,
9. Roof garden to maintain building temperature,
10. User and staff orientation to promote the green concept in the library to enrich our environment.

Elements for Green Library

Support of Administration/Community collaboration

Implementation of the Green library concept is needed to support public administration and people awareness. Community/Public assets are efficiently used and maintained with public support.

Both Daylight and Artificial Light

The library should have large windows and ventilation for the natural lighting, mainly east and west sides of the building. Sensor-based LED or energy-efficient lighting systems may use in place of bulbs or tube lights to save electricity. Use pair daylight with artificial lighting to reduce energy costs

Use of Green Materials

Use renewable, recyclable, and regionally available natural materials to construct and design buildings, i.e., wood, linoleum, bamboo, and cork for eco-friendly buildings.

Green Roof

Green Roof planting or rooftop gardens are an excellent idea to reduce the

building temperature and proper rainwater and fresh air. Solar tiles or panels can be used on the roof to generate solar energy. Reflective roofs may use to come down inside the temperature of the building. Green roof systems help to save energy costs.

Natural Ventilation

The library should have large windows and ventilation for the natural and fresh air for an eco-friendly, healthy, and hygienic atmosphere. Insulated windows may use which are maintain inside temperature and resist dust and noise.

Quality of the Indoor Environment

Indoor environmental quality required proper plantation inside the building, providing pure and breathable air and making the library cool. Good ventilation and proper plantation reduce the electricity consumption of the air-conditioning and pleasant and healthy environment. Uses of laptops and LCD monitor in place old computer system to reduce electricity consumption and building temperature.

Raised Floor System

Raise the floor for fresh air and use of paper insulation is also a good trick to make an eco-friendly building. It also protects the wall from insects and fire.

Area/ Location

Site selection is a fundamental element of green building; Sustainable building depends on the physical situations of the locality, so the most suitable site to be selected for the green library building allows for maximum utilize local natural resources. Before the construction of the building must be planned and must think about all sides benefit and drawbacks.

Water

The library should plan appropriately for a sound sanitation system that helps the library clean, green, and healthy. A water harvesting system must be implemented in the building to store rainwater properly in sanitation and plantation.

Green Library Collection

Green library collection means reading materials available in the library, which helps to save the environment.

- Promote the maximum use of e-resources.
- Avoid purchasing multiple copies of the book.
- E-books provide under the Book bank facility.
- Provide softcopies of reading material in place of Xerox.
- Digitalization of old and rare books
- Develop institutional repository

Conclusion

The green library concept is widely spreading across the globe, and it is the need of hours and most libraries are moving towards the green library concept. This concept is beneficial to provide modern library services without any harmful impact on nature. Libraries especially in Agricultural Universities should lead the Green Library concept and show the way to libraries in other sectors.

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