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## **Study of Green Libraries in India: Issues of Acceptability and Relevance**

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**Abstract:** Libraries play an important role in today's globalised society by providing users with access to knowledge at any time regardless of whether or not they are enrolled in the university. It is well-known as a community institution because of its accessibility and usefulness as a repository for a wide range of different types of documentation.

The concept of a green library is becoming increasingly popular these days. Libraries must be made green if they are to be long-term and environmentally helpful. For this study, a green library is defined as one that is environmentally friendly and has a modern librarian as a key player. Additionally, it emphasises the development of higher standards for the betterment, as well as the efforts of huge organisations to make the world a greener place, including the work of Green India, which operates both within and outside India. In light of current global events, it is difficult to overstate the importance and values of libraries and their services.

The library's information services will be negatively affected by global warming. For this reason, some libraries are constructing green libraries as a method to conserve the environment and assure long-term viability in the future.

**Keywords:** Green Library, Green Library Movement, LEED, IGBC, Eco-friendly, Librarian, Environment, Sustainability, Green Library structures, Green Concepts, climate change

### **Introduction:**

Any institution's pulsating heart, brimming with information and insight, is the library. Academic libraries serve as learning centres for students and stages of development. . A growing amount of curiosity and interest in technological achievements is being generated as a result of the never-ending hunt for new products and solutions made possible by contemporary technological advancements. In recent years, the "Go Green" concept has piqued the curiosity of people across all industries, including the library industry. The term "green" refers to behaviours and lifestyles that are environmentally conscientious.. Only when our environment is ecologically sustainable can we expect to see an endless circle of productive advancement. Since the beginnings of the library profession in the early 1990s, and particularly since 2003, the incorporation of sustainability has risen in importance and importance.



Causes of Green Libraries Emergence:

The emergence of green libraries can be traced back to a number of factors.

Water level reduction, disasters (floods, droughts, wind storms, earthquakes, and cyclones), global warming, biodiversity, climate change, melting of glaciers and ice caps, and massive temperature swings, as well as rapid increases in temperature, are all examples of global environmental crises.

Climate adaptation and mitigation have been enhanced through the Green India Mission, which aims to promote ecosystems for carbon sequestration and storage, hydrological services and biodiversity as well as the conservation of fuel fodder, wood and non-timber forest products (NTFP).

Climate change will have a significant impact on the distribution, type, and quality of natural biological resources in the country, as well as people's livelihoods, according to the National Mission for a Green India, one of the eight missions under the National Action Plan on Climate Change (NAPCC). Residents of countries that have contributed the most to global warming are the ones who are most at risk of mortality and disease due to rising temperatures.

For our survival and quality of life, we need a healthy natural environment. Libraries aren't the first thing that comes to mind when we think about issues like global warming and climate change. In contrast, libraries spend a lot of energy to offer their services, reducing the problem. As, a consequence, we librarians have a unique chance to assist the planet.

- Libraries, to some extent, in addition to being an essential information repository, also act as providers of environmental knowledge, helps in boosting public awareness. As a result, green libraries enhance environmental awareness and educate the public about environmental issues.
- Green libraries sprang to prominence in the early 1990s, and they now play a significant role in both academic and public libraries, aiding them in their environmental efforts.
- We may create a green library by choosing a suitable location for the library's construction, using natural materials and biodegradable items in the construction, saving resources such as water, energy, paper, and other materials, and being responsible for waste material recycling.
- Green Libraries are becoming more popular in the public domain, and, it is undeniable that a well-equipped library infrastructure will lessen the negative ecological impact; however, it will also promote the idea of an eco-friendly environment for sustaining libraries for a long time.



- . Adopting the suggestions of the Indian Green Building Council (IGBC), which promote ecologically friendly and sustainable library services and operations, existing libraries can be converted to green libraries.
- A librarian's goal is to create an atmosphere that is both energy-efficient and good to the environment. As part of the broader green construction trend, there is a growing green library movement. Green libraries, for example, make the most of natural light and ventilation.
- Different ministries in India are implementing various programmes to implement more environmentally friendly industry and departments seriously consider adopting an environmental strategy in our surroundings by preventing deforestation, reducing carbon dioxide levels, and encouraging a healthy climate.

### **Review of literature:**

In order to conduct this research, we combed through literature on issues such as Green Libraries, Sustainable Libraries, and Green Library Movements, among others. A small number of articles from the literature have been discovered and evaluated to see if they are eligible for publication.

Mahawariya highlighted the Green Library (2019), including its importance, acquisition process, and the role that existing librarians may play in acquiring it. In this study, author investigated resources in order to present a more full picture of the concept and function of the librarians in green libraries and LEED standards.

A sustainable expansion of library is essential, say Vyas and Priyanki (2021), as is the promotion of sustainable collection services, such as e-books and e-journals, which minimise the consumption of printed resources. The aim of the library specialist is also to design a library type that is energy efficient and environmentally sensitive, while using the least amount of electricity. The Green Library should be designed by selecting the best location for library construction, using natural and biodegradable materials in library construction, and prioritising natural resource protection.

Bhattacharya (2017) investigates many green library standards, important worldwide green library activities, the role of librarians, and public awareness of the necessity of green libraries.

Prasanth, M. investigates the different strategies that can be taken to make library greenery possible, which are not limited to the establishment of ecological libraries. In addition, he provides one-of-a-kind ways for implementing a green library.

Vasanthi, R. (2019) discussed the efforts of prominent organisations to attain environmentally beneficial land, developed environmental standards, green India, green library, librarian role, green library features, India and international initiatives, and green libraries in this article.



Sunil, R. (2016) described green library buildings by discussing the permissions, required materials, and looking to the future of green library buildings in our modern Indian country.

S. Bangar, M. (2018) explains what tasks a librarian should play in order to establish green libraries.

The type of information resources and services that libraries provide to their communities will have an impact on climate change and other environmental concerns in the future. The notion of green libraries is gathering steam not only in India, but also across other countries.

### **Research Objectives:**

- To identify the small steps towards a greener world.
- To make the library more technologically advanced and environmentally sustainable.
- To raise public awareness about environmental issues.
- To help the spread of the green library movement.
- To inspire the next generation librarians to follow "go green" trend in their libraries.
- To encourage several well-known corporations to advocate environmentally responsible practises.
- Give an overview of green libraries and the role of the modern librarian in their growth.
- To promote the initiatives of major environmental organisations for the advancement of Green India and the Green Library.

### **Librarians' Role in Green Libraries:**

- Librarians have always been an important part of community learning, so, it only makes sense that librarians should be at the core of the sustainability movement, given their long-standing role in community learning.
- Users are encouraged to engage in green library projects by librarians who explain the advantages.
- Green library standards should be used by librarians to establish long-term library architecture and to encourage ecologically friendly library expansion.
- Green library design enhances the library's reputation and image.
- Thanks to the green library system, librarians can effectively control the expenses associated with establishing and operating the library.
- Librarians encourage employees and users to get involved in the creation of green projects.

There are several ways to safeguard the environment:

- Solar, hydroelectric, and wind energy may all be utilized to produce electricity.
- Green library practices must be followed while selecting library resources and equipment.
- Affordable renewable energy, combined with more efficient resource utilization, has the potential to lower costs, reduce greenhouse gas emissions, and reduce reliance on traditional energy sources.



- Installing energy-saving ventilation, climate, and temperature controls, as well as low-energy lighting and passive heating and cooling systems, may save both money and the environment.
- Waste management, in collaboration with other parent institution departments, provides the library with the resources it requires to meet green standards.
- Government or management must identify sustainability as a guiding principle in order to consider sustainable principles in their constructions.
- Teach LIS students about environmentally friendly library activities so that future libraries are more likely to adopt them.
- Ensure long-term service models, such as e-books and e-journals, to reduce paper consumption.
- Organic roof top gardening lowers heating expenses while improving teamwork, employee morale, and creating a work-family friendly environment.
- All educational institutions should be required to have green libraries and infrastructure.
- Automation of the library to remove the need of plastic reader tickets.
- Instead of printing a membership application, fill it out online.
- Only soft copy supporting documents are required.
- During the day, use natural light by organizing the reading space so that no obstructions block natural light.
- Light sensors can be used to illuminate areas while they are in use by users.
- Energy-saving choices include movement and light sensors, timers, and energy-saving dimmers.
- For lighting, use LED bulbs and tubes.
- It also saves electricity by making optimum use of natural light.
- Renovate the existing library building utilizing sustainable practices under the LEED for existing buildings (LEED-EB) option.
- Library buildings could be flexible, allowing library personnel to collaborate to supply solar energy and roof top flora. It also strengthens interpersonal bonds and increases societal awareness of sustainability.
- Indoor plants can help to enhance the quality of the air in your home.
- Air conditioners in the library should be avoided since it releases toxins into the air. Digital libraries and labs are the only alternatives to air conditioning.
- To use less chemicals, volunteer for cleanups in your town.
- Libraries in India should promote and assess green buildings using the Indian Green Building Council (IGBC) criteria.
- The first user who approaches may initiate OPAC, and orientation information may be provided.
- Library personnel and users should be educated on the most efficient ways to use energy.
- The importance of reuse and recycling should be emphasized.
- Books that have been discarded could be donated to orphanages or recycled.
- Old furniture can be recycled or repurposed in other ways.
- The UGC should support green library initiatives at universities by sponsoring conferences and seminars.



### **Leading Initiatives for Green Library in India**

The Green India Mission has enhanced greening in terms of climate adaptation and mitigation. India is a developing nation with the world's second largest population. With such a vast population, the country faces a variety of issues, including pollution, resource depletion, poverty, unemployment, and environmental degradation, to name a few. In this context, greater emphasis should be focused on newly emerging issues such as cleanliness, natural resource conservation, and a focus on continual progress while fostering environmental awareness. A green library initiative was spearheaded by India's Energy and Resources Institute (TERI). There are certain processes that must be performed in all departments, including libraries, to achieve GRIHA (Green Rating for Integrated Habitat Assessment). GRIHA has been recognised as India's national grading system by the Indian government. As a result of the Indian Green Building Council (IGBC), which was founded in 2001, a variety of services are available to support the construction of green buildings in India, including certification, green building rating schemes, and green building training. LEED (Leadership in Energy and Environmental Design) certification is the gold standard in environmentally friendly green building design. LEED-INDIA is a nationally and internationally recognised high-performance green construction certification scheme. It has also collaborated with various grading standards/systems to accelerate the implementation of green construction projects in India (examples include in Gurgaon, Bangalore, Mukteshwar etc.)

A number of green libraries have already begun to conceptualise and implement measures for natural lighting, energy savings, natural air provision, cleanliness, and proper waste disposal in the country's largest LEED Gold rated library facility.

#### **Some examples of green libraries all over India include:**

- Karnataka University Library
- NIT Silchar
- Madras University Library
- Perma Karpo in Ladakh
- Anna Central Library in Chennai

Some of the libraries that have been chosen have the following characteristics:

- The Anna Centenary Library (built by the Government of Tamil Nadu in 2010) is a well-known government library in Tamil Nadu. It is India's first fully enclosed, light- and environmentally friendly model green library. The library building received the LEED NC Gold certification in July 2010 as the first in Asia, consuming 30% less energy and 20% less potable water without significantly impacting the internal environment or the comfort of the occupants.
- People who reside there, profit from it on a daily basis. It is located in Kotturpuram, Tamil Nadu. In order to ensure that the reading area receives sufficient sunlight, a mechanism has been put in place. This is done by placing the service buildings on each side of the structure to block sunlight entering from the west. This massive atrium is designed to take use of the abundant natural light. This makes it Asia's first LEED NC Gold-certified library building. This project now has more LEED points than any other government building in Tamil Nadu, surpassing 43 other projects.



- The Karnataka University Library has launched a campaign to promote green library practises. The goal is to establish a comfortable natural location in which to conduct the research. This method is a mix of a traditional and a modern system with all of the benefits of both. The amenities include a place to sit, a supply of drinking water, WiFi connectivity, and other similar items.

### **Ladakh's Permakarpo library in the Indian Himalayas.**

- In Ladakh, the Perma Karpo Library is a shining example of what Green Libraries can do. It combines magnificent design, science, and rural knowledge passed down from generation to generation to create a structure that is both beautiful and sustainable. Arup, a small Ladakh settlement, employed trombe walls and a mud roof. This miracle was created using timber panels and wool insulation. Solar panels were even added. All the resources were obtained locally, and the job was completed with the assistance of commoners, allowing this expertise to be passed on. The enormous height, huge open sections, strong walls, and windows all the way across the eastern wall are only a few of the green gestures that have been included into this heritage edifice and are still encouraged by the library's current administration.

### **Conclusion:**

India is a developing country that needs progress in all sectors. A high-performance green building has a very high ambience when it comes to environmental protection. It is no secret that environmental awareness is on the rise in our society, and libraries are no exception. Librarians are well positioned to assist Green Library in achieving this type of long-term development. Libraries and librarians assist individuals to learn about green buildings. For users, having access to a green library is critical.

Changing seasons, greater greenhouse gas emissions, glacier retreat, and changes in agricultural productivity are all signs of global warming. In this case, the picture is characterized as being beneficial to libraries. They should focus on building a convincing green idea that will benefit their employees and stakeholders. The establishment of a green library is supported by a significant number of organizations. Because their materials are freely accessible, libraries are considered green in their own right. Libraries can assist people in adopting sustainable practices that will help to protect the environment. Information storage and retrieval in a sustainable environment is not only a library for the current era of new trends; it is a vital part of the future. Librarians must participate in the Green Library movement in order to help Indian libraries thrive. Librarians should take the lead in constructing environmentally friendly architecture to aid in long-term environmental preservation. Libraries will thrive for future generations if they continue to take proactive steps to ensure institutions' long-term viability. In addition to provide knowledge, librarians have a responsibility to lead the way in creating ecologically friendly green buildings. Future libraries will encourage students and librarians to participate in activities that promote innovation, improve customer service, and preserve environmental stewardship. Reduced energy expenses, water conservation, solar energy, and environmental stewardship are all

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advantages of Green libraries. Using ecologically suitable materials from a Green Library protects society from the negative effects of a traditional library system, which could result in pollution, unstable waste, and damage to resources and the ecosystem, in addition to protecting the environment.

An ideal Green Library would use natural light in the reading rooms rather than artificial lighting like light bulbs and tube lights. Green practices should be made more widely known, and space should be made available for them to be shown. It is critical that libraries accept this concept and that all members of the library community use it. The concept of a green library is gaining popularity due to its numerous benefits and societal worth. That is, it is more vital to make greater use of natural resources such as natural lighting, windows, and tubes, and to use digital media instead of print media to prevent paper waste, by using alternative environmentally friendly materials such as wooden racks rather than plastic materials. Focusing on the public service potential of green libraries as a whole, they seem like a boon to society in certain respects.

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