

# GREEN LIBRARY TRENDS AND DEVELOPMENT IN INDIA: A STUDY

Dr.R.VASANTHI

*Librarian, University College of Engineering, Ariyalur*

## ABSTRACT

*Library is synonymous with ubiquity and utility. The role of library in this worldwide phenomenon is enormous. Libraries are platform for lifelong learning and provide users with information and knowledge they need. Green Library Movement which comprises of librarians, libraries, cities, towns, college and university campuses committed to greening libraries and reducing eco-degradation. This paper highlights the efforts of the leading organizations towards an eco-friendly earth, developed standards for the betterment, green India, green library, role of a librarian, features of green library, Initiatives in India and outside India.*

**Keywords:** *Green library, LEED, BREEAM, IGBC, Sustainability, Environment*

## Introduction

Green libraries are quite popular all over the world. Most of the famous libraries are transforming their library buildings into green environment. Minimum negative impacts in the natural environment and maximize indoor environment quality by means of careful site selection, use of natural construction material and conservation of resources and responsible waste disposal is termed as “Green”.

The word Green has a great importance here for a healthy survives. Over the past few years there are increasing interest towards green revolution in every sector and library is one of them. The Online Dictionary of Library and Information Science (ODLIS) define green library “green/sustainable libraries as a library designed to minimize negative impact on the natural environment and maximize indoor environmental quality by means of careful site selection, use of natural construction materials and biodegradable products, conservation of resources like water, energy, paper, and responsible waste disposal recycling, etc.”

## Importance of Green Library

The green library movement emerged in the early 1990s and it is gaining popularity in the field of library and information science profession. A Green library, also known as a sustainable library, is a library built with environmental concerns in mind. Green libraries are a part of the larger green building movement. Libraries, particularly public and academic libraries, are lifelong learning centers for people of all ages in local communities. Libraries are not only repositories of knowledge, but are also important information resources for raising awareness about environmental concerns. Green libraries educate the public about environmental issues through their collections, sustainable and environmentally friendly facilities, and public library programs. Among other things, green libraries maximize the effects of natural sun light and natural air flow; green libraries are thoughtfully designed while taking into account site selection to structural design, energy use, materials used and human health effects.

## Purpose

The green library or sustainable library is a new concept and it is gaining popularity among the library professionals and encourage the LIS future generation to think about environmental sustainability and libraries, to “go green” in their Library Environment, and to spread the “Green library movement” in their library associations and their

countries. This paper highlights the efforts of the leading organizations towards an eco-friendly earth, developed standards for the betterment, green India, green library, role of a librarian, features of green library, Initiatives in India and outside India.

## Review of Literature

For this study we have referred some literature related to Green library or Sustainable Library and Green Library Movements. There are very few numbers of Literature have been found and gone thought literature which was relevant. LeRue and LeRue (1991) (1) explain environmentally supportive library. Brown (2003) (2) gave emerging trends of green libraries. describe the detail about the Green Library Movement and early begin of the movement in 1990s. (Hauke and Werner, 2013) (3) reviewed green libraries websites. Neale (2008) (4) described eco-friendly libraries. (Vijayalakshmi, 2014.) On his article on “Greening the Library for sustainable development” gives information about the Green Library or Sustainable libraries initiative in India and rest of the world.

## International Standards to assess Green Libraries

We have international standards like LEED (Leadership in Energy and Environmental Design) certification system and BREEM at international level.

- **LEED** is considered a performance standard, which means it allows a building owner or planner to choose how to meet certain benchmark numbers without prescribing specific measures. It is a point-based system in which projects earn LEED points for meeting green building criteria. The six credit categories for new building construction are sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, and innovation in design.
- **BREEAM** is the leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and enables a building's environmental performance to be measured. Environmentally friendly features include the use of low carbon technology for heating and cooling, low energy lighting and water conservation systems. Eden Prairie Library, Eden Prairie- First in US to create natural gas fuel cell to create power and heat on-site. It is made of recycled materials, low VOC materials and efficient lighting arrangements. Container-Batu, East Jawa, Indonesia- is an amalgam of two words: container and entertainer, which reflects its goal of providing a better quality of living. Enfield Town Library, Britain- Floor-to-ceiling windows bring in plenty of light while providing views to the library's new green. This is built around BREEAM rating.

## Indian Standards to assess Green Libraries

In India we have GRIHA and IGBC. GRIHA has been adapted by the government of India as the National rating system. Indian Green building Council (IGBC) was established in the year 2001 to promote and rate Green buildings in India.

- **GRIHA** has been adapted by the government of India as the National rating system. Keeping in view of the Indian agro-climatic conditions and in particular the preponderance of non-AC buildings, GRIHA has been developed as a rating system which is suitable for all kinds of buildings in different climatic zones of the country. There are about 1722 IGBC certified projects buildings, 507 certified professionals and also 42 evaluators.
- **Indian Green building Council (IGBC)** is established in the year 2001 to promote and rate Green buildings in India. The vision of the council 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". There are about 4289 registered buildings, 1125 IGBC certified projects buildings and also 2662 IGBC aggregated professionals.

## GREEN INDIA

There are various projects are under taken by various ministry of government of India to redirect the mode of change to a green India and also big companies in private sectors both nationally and internationally like TERI (The Energy and resource institute), Infosys, IKEA, Adobe, Coca-Cola, Google, HPE (Hewlett Packard Enterprise), Microsoft, Nestle, NIKE, Philips, P&G, Tata Motors aims to play a lead role to reduce the carbon economy level and help to decrease the impacts of climate change.

## GREEN LIBRARY: INTERNATIONAL INITIATIVES

Green libraries are quite popular all over the world and librarians are transforming their library buildings into green library buildings. There are some of the green library initiatives working in the world. This list is not exhaustive but exemplary.

**Thomas Golisano Library at Roberts Wesleyan College (2007):** This is the first academic library building to achieve a LEED Silver certification and uses various methods to make it 40 percent more energy efficient than the New York State Energy Code recommendations. Library shelves limit daylight from side windows, so the design compensated by using a large atrium to provide natural daylight to both levels of the building. Use of white paint and solar shades reflect the direct rays of the sun and bounce light to specific areas. The internal lights respond to outside conditions.

**Beitou's green library (2006):** East Asia's most eco-friendly building. The library's large windows help cut electricity use in two ways. An abundance of natural light means less interior lighting is needed. Also, the windows are often opened wide for ventilation, thus reducing the need for fans and air-conditioning. One part of the roof is covered by photovoltaic cells that convert sunlight into electricity. The library conserves water by capturing rainfall. The sloping roof gathers rainwater, which is then stored and used to flush the library's toilets.

**Brighton's Jubilee Library UK (2005):** winner of multiple building awards including a BREEAM excellent Rating. Solar and wind energy are used to heat and cool the building naturally, except during extremes of temperature. Air is taken in from outside, circulates through the building through spaces in the walls and under the heat-absorbing floor, and is pushed out through roof vents. Rainwater is harvested from the roof, collected in tank and used in the toilets. Internal lighting automatically adjusts to the conditions. The library emits half as much carbon dioxide as buildings of comparable size.

**Amsterdam Public Library (2007):** It is the most sustainable building in Amsterdam based on BREEAM method. The library building uses a ground source heat system together with highly efficient boilers. It also makes use of free cooling from the cold air outside whenever possible. The building is equipped with abundant solar panels, it has double glazing, and sustainable materials have been used.

**Fayetteville Public Library, Minneapolis (2004):** It has earned many certificates. It has green roofing and reduced air temperature by 20 degree celsius, saving Rs. 2,40,000/- per annum energy cost. Roof water is harvested for landscaping and irrigation further reducing energy cost by 75%. Natural lights have been used for public areas. Trees were re harvested.

**National Library, Singapore (2005):** It is known as greenest building on the planet. It uses light shelves allowing light to filter into the library. Sensors dim or brighten the lights for maximum comforts.

## GREEN LIBRARY: INDIAN INITIATIVES

India has been ranked third (899 projects) on the list of top 10 countries in Leadership in Energy and Environmental Design outside America, according to the latest US Green Building Council report 2018. China followed by Canada occupies the top two ranks in the ranking of the top 10 countries for Leadership in Energy and Environmental

Design (LEED) outside the US. There are numbers of Green library has situated at different part of the country. There are some green libraries are given below:

**Anna Centenary Library (2010)** is an established state library of the Government of Tamil Nadu. It is located at Kotturpuram, Chennai. In the building is designed in such a way that the reading area receives good daylight. The western end is flanked by the service areas to prevent solar radiation. The seven-storey atrium allows in abundant natural light. The library building received the LEED NC Gold rating from IGBC becoming the first library building in Asia to reach this. This project has achieved 43 LEED points, highest amongst any government buildings in Tamil Nadu thus far.

**Karnataka University Library:** launched a project on Green Library. The concept is to provide a congenial natural environment for the study. This system is a blend of tradition and modern system with all amenities. No books shelves, chairs or tables but benches are installed under the trees so that students can sit and read the books taken from the university library. Keeping this in vogue the Green Library has been established in the centre of the campus and providing all facilities to students for study. The facilities include sitting, supply of drinking water, WiFi connectivity and other facilities etc.

**Perma Karpo Library(2010):**designed by Arup for a small village in Ladakh (in the Indian Himalayas), is the perfect example of how good design, science and local knowledge have worked together to create a building that is as sustainable as it is beautiful. Amongst the technologies and design solutions used on site: ventilated Trombe Walls, wool insulation, a mud roof, timber paneling and even solar panels on the roof. The materials are locally sourced, and the experience and design solutions are worked out with the people on site to ensure that the knowledge remains in place.

**Delhi University Library:** The great height, vast open areas, thick walls, windows all through the eastern wall are some green gestures that are in built in this heritage structure as well as nurtured even today by the present library leadership.

## THE ROLE OF GREEN LIBRARIAN

Librarian should always make efforts to promote green library movements by using different online tools like social media.

- The Librarian constantly willing to work under the Eco-library system and identify those people who are willing to work in this environment.
- He can promote green library tools, techniques to encourage others.
- A Librarian can encourage other librarians towards green library by discussion, seminar, and conferences.
- The green librarian's role is most dynamic he is also called as eco librarian because he has to handle the budgets to support the organizations.
- Use wooden furniture and material because these are bio degradable materials.
- Paper Insulation is also an ultimate trick to make environment friendly building. It is made from newspaper and cardboard which are recyclable. Also it protects wall from fire and insects.
- Library can use wool brick instead of burnt brick. Solar tiles or panel can be used for roof.
- More and more use of bamboo by replacing steel and rooftop planting can be a good idea.

## SUGGESTIONS

Following suggestions are made for green Libraries in India:-

- ❖ UGC should take steps to improve library buildings in academic institutions and convert them green libraries by providing grants.

- ❖ Libraries can use a variety of tools to popularize the ‘green concept’ and educate their patrons about the features of their green buildings. These include in library displays, publications, and library programs relevant on ‘going green’.
- ❖ UGC should make it mandate for all colleges and Universities to get the approval to go for Green Libraries and also green buildings.
- ❖ Government should take steps to promote green libraries through award and financial aid to maintain such libraries.
- ❖ Librarians should be aware of new in green library initiatives.

## CONCLUSIONS

India is a developing country and it should develop in all fields. Green Buildings has very important role in the environmental protection. Libraries and librarians are directly related to the society and their green buildings are giving them great opportunities to educate the citizen. The duty of a Librarian is not only to provide information to the users but they should play a role of leader to construct modern Green Buildings to save our natural environment. For the next generation, library professionals should move beyond environmental sustainability exemplified by various practices of “Greening Libraries” and focus on proactive steps to guarantee future sustainable development of libraries.

The upcoming LIS generation, the future librarians are called to take over the “Tomorrow’s Green Library” initiatives and to catch the chance of marketing the library in a new, customer orientated, and sustainable way.

## REFERENCES

Thomas, R. (2017). Green Libraries: India Vs International Scenario. *Scholarly Research Journal for Interdisciplinary Studies*, 4(37). doi: 10.21922/srjis.v4i37.10786

Leena, Shah. (2015). GREEN LIBRARIES IN ACADEMIC INSTITUTIONS: NEED OF THE HOUR. *International Journal of Research - GRANTHAALAYAH*, 3(9), 1–5.

Bhattacharya, A. (2017). Green library and its utilities in modern day library service: A study. *International Journal of Next Generation Library and Technologies*, 3(3), 1–11. Retrieved from <http://www.ijnglt.com/files/v3i3/Anindya%20Bhattacharya.pdf>

Sunil , R. (2016). Green Library Buildings: A Sustainable Process. *International Journal of Advance Research and Innovative Ideas in Education*, 2(6), 342–346. Retrieved from [www.ijarjie.com](http://www.ijarjie.com)

S. Bangar, M. (2018). Green Libraries in India: An Overview. *Knowledge Librarian An International Peer Reviewed Bilingual E-Journal of Library and Information Science, special issue*, 223–230. Retrieved from <http://www.klibjlis.com>

<http://conference.ifla.org/ifla77>

<http://www.globallibraryconsulting.com>

<http://in.usgbc.org/leed>

<http://igbc.in/site/igbc/index.jsp>.