

GREEN LIBRARY: AN EMERGING CONCEPT

Dr. Suresh S. Nikam *

*Librarian

Dhananjay Mahadik Group of Institutions, Vikaswadi, Tal. Kagal, Dist. Kolhapur, Maharashtra, India.

QR Code



Abstract: - *Green library is the concept of recent origin. Though it is of recent origin it is gaining popularity among the researchers, academicians, and library professionals around the world. The amount of information available on green libraries and green library practices is limited but continues to grow. Environmentally conscious people and library users around the world are looking at and expecting that libraries of today should not only an information resource center but also a green place. Interconnected topics of green libraries and sustainability have received a great deal of coverage in recent years in various publications targeted toward world librarians. Many librarians and other information professionals are taking action to ensure that their workplaces will be environment friendly.*

This conceptual research article/paper highlights concepts like green library, sustainable library, and Leadership in Energy and Environmental Design (LEED); list outs features and elements of green library; discusses elements of green library; explains role of modern librarian, and also offers some useful suggestions for implementing the concept of green library.

Keywords: Green library, Sustainability, Green librarian, Leadership in Energy and Environmental Design (LEED), Indian Green Building Council (IGBC), Green Library Movement

1. Introduction: With the advancement of modern technology, life styles of human being towards development are influencing and changing at a rapid speed. Now, the demand for anything and its fulfillment through qualitative supply should reach within a fraction of second. The curiosity and interest in technological innovations are in a running

position to fulfill the unending demands. In this scenario we people are forgetting something important which should be recognized before we talk about sustainable development in this technologically advancing world. It is nothing but the word 'Green' which has a great importance here for a healthy survives. In fact, over the past few years there

are increasing interests towards green revolution in every sector and library is one of them (Meher, P. & Parabhoi, L. 2017a).

Today, libraries as gateways for knowledge are particularly responsible not only for disseminating the idea of sustainability but also for leading by example and thus serving as exemplars. There are several reasons why libraries would want to build green or incorporate green features into their buildings. First, the cost of constructing green buildings has now become affordable. It is now possible for libraries to build green buildings on conventional budgets. Second, most readily available energy resources are finite resources. It is now possible to use these resources prudently within budgeted limits. It is vital to the health of the users and the planet as a whole (Purohit, S. 2017).

2. Concept: The term 'Green library' is of recent origin. There is no univocal definition of a green library. But there are a number of central themes that run through all of them, which seek to minimize the negative and maximize the positive effects the building will have on the local environment. Green libraries seek to reduce the use of water and energy by designing the building to maximize the use of natural and renewable resources. They also integrate actual plants into the building design, preferably with drought resistant and/or native vegetation. Furthermore, the maintenance of high standards of indoor air quality to help

ensure the health of the people who inhabit the building. It is not merely a term but it is an activity, a process, and a movement. In simple words, green library is nothing but environment friendly or eco-library. Green or sustainable libraries are the structure that is designed, built, renovated, operated, or reused in an ecological and resource efficient manner. It is one of the many collective efforts of all mankind to make green planet by reducing global warming effect. The Online Dictionary of Library and Information Science (ODLIS) defines green library or sustainable library 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 use of responsible waste disposal recycling system; etc." Further, according to New World Encyclopedia green library, also known as a sustainable library is, "a library built with environmental concerns in mind."

Here, the term 'Sustainability' is defined in Online Dictionary of Library and Information Science (ODLIS) as, "the capacity to meet the needs of the present without compromising the ability of future generations to meet their own needs." It has economic, social, and environmental aspects. And sustainable library is one which performs its functions and plays its role in an

environment friendly manner. In new construction and library renovation, sustainability is increasingly achieved through Leadership in Energy and Environmental Design (LEED) certification, a rating system developed and administered by the U.S. Green Building Council (USGBC).

Basically, green libraries are a part of the larger green building movement. Also known as sustainable libraries, green libraries are being built all over the world, with many high profile projects bringing the concept into the mainstream. Along with library, green design is an emerging trend, defining the library of the 21st century. Many people view the library as having a unique role in the green building movement due to its altruistic mission, public and pedagogical nature, and the fact that new libraries are usually high profile, community driven projects.

3. Features: Green library is characterized as environment friendly library or sustainable library. According to definition given in Online Dictionary of Library and Information Science (ODLIS), green library is a library designed to minimize negative impact on the natural environment and maximize indoor environmental quality by means of careful selection of site; use of natural construction materials and biodegradable products; conservation of resources like water, energy, paper, and use of responsible waste disposal recycling system, etc. Thus, every green

library necessarily possess certain essential features like -

- a. Proper location or most suitable site
- b. Use of natural, recycled and regionally available materials
- c. Use of reflective roof and ground
- d. Use of insulating windows
- e. Conservation of resources like water, energy, and paper
- f. Use of energy-efficient lighting minimizing consumption
- g. System for optimized cooling
- h. Suitable plantation both inside and outside of building
- i. Circulation of fresh and healthy air
- j. Use of environment friendly technology

4. Elements: The green library movement has emerged in the early 1990s and it is gaining popularity in the field of library and information science profession. Library professionals of today are working on the idea of green library which will use natural and regional construction material, minimize consumption of water and electricity, and use environment friendly technology. Though it is in initial stage of development we need to understand that green or sustainable library is the structure that is designed, built, renovated, operated, or reused in an ecological and resource efficient manner. There are wide range of ways to promote the idea of green library such as use of environmentally friendly or recycled and regionally available materials,

optimal use and conservation of natural resources, virtual user services and resource-saving copy services, waste separation, elimination of plastic bags, no more paper cups and instead use of recycled/private crockery, fair-trade coffee in the library's coffee shop, green events and choosing library suppliers with green certificates.

While the term green library is often used specifically to describe a library building that has built by using standards or guidelines like LLED, it can also refer to a library which is becoming more environmentally sustainable in significant ways, whether by using nontoxic cleaning supplies, reducing energy consumption, or collecting and promoting materials with environmental themes. Basically, green design is an integrated process. No one aspect of a building's architecture makes it a green architecture. Without proper integration right from the early stages of the planning phase, redundancies can occur, and can eliminate many of the potential benefits of sustainable design. Good sustainable design always capitalizes on the synergistic relationships that occur between the various design elements. LEED groups these elements into five categories. Buildings can be designed in a way in which, one category helps another category fulfill its goal of good and sustainable design. These five elements can be discussed as under.

- **Site selection:** As Library is a heart of any institution or university or any department, it should be at an appropriate site or locality such as away from the noise zone like club, auditorium, entertainment hall etc. to make patron concentrate on their reading or study. Accessibility or connectivity through public transportation system is a necessary element which should need extra attention while searching for site. There are various guidelines given by different agency and organizations like LEED, USGBC, and Indian Green Building Council (IGBS) to developed green library. In the context of our country it is to be said that India's diversity is not only in terms of its languages, culture, and traditions but also in terms of geographic locations, weather, etc. Therefore, before planning for a construction it is most important to think about alternative sites. A library should be located in a densely populated area, near a number of other service related buildings and people should be able to reach via public transportation system.
- **Water conservation:** As we know water is an essential resource required everywhere in houses as well in offices. However, it is scares and valuable, hence, need to use very carefully. For the good sanitation system a library should plan in proper water available area which helps library

clean, green and healthy. There are many different ways for libraries to conserve water. Most of them depend on proper site selection. Therefore, proper site selection strategies should be used which allow us to capture rainwater by rainwater harvesting system, to use low flow fixtures, and waterless urinals. Moreover, library can reuse of waste water and rainwater for plantation and gardening, and for flushing in toilets.

- **Energy conservation:** For us use of energy is unavoidable, but its consumption should be reduced as to minimize cost of energy. In a library energy can be save in many different ways. A library should have sufficient number of windows, glass windows and skylights which allow natural light abruptly in to it and there would be no need of any light generated from electricity during day time. Also using of low energy consuming bulbs and lights in non-reading areas during night time indirectly help library save energy i.e. electricity as a whole. Even electricity can be generated using direct sun light by planting solar system on the roof top of library building. Also the surplus energy can be conserved and used during summer when library need extra energy because of the use of air conditioner, fan, cooler, etc. Energy efficiency is considered to be the most important category in becoming sustainable. In energy saving passive

strategies should be implemented to capitalize on the natural elements, mostly wind and sun, to manage the temperature and to provide ventilation and light. On the other hand, active strategies should be implemented, which include using various forms of renewable energy resources and using sensors to adjust lighting.

- **Construction/Building materials:** While we think about green library the first thing which comes in to our mind is the library building. There are lots of standards and protocols in India and outside India to make a green building by using recyclable and environment sustained materials. Indian Green Building Council (IGBC) is a part of Confederation of Indian Industry (CII), which offers a variety of services like green building rating programs, training programs, certification service program, etc. LEED is an internationally accepted program planning environmentally compatible high performances green building for a healthy environment. The primary responsibility in selecting materials for the library is to contribute as minimum waste as possible and causing less damage to the natural environment. Also, materials should be chosen that can be reused or recycled after 50–100 years down the road when the library building has reached the end of its useful life (Tseng, S. 2007).

- **Indoor air quality:** Today, fresh, healthy, and breathable air is a most important factor. Particularly, inside the library building there is the need of a quality air. For this proper plantation is needed in the surrounding campus which provides clean and pure air and make library a cool place. Also trees give pleasant air and it controls air conditioner operation during summer season. In hilly area building should be in a sunny place so that it will become little warmer and reduces room heater and blower expenses. It is to be more air ventilator planned the more it reduces electricity consumption. Always remember that along with energy inefficiency, poor air quality has been another side-effect of the post air conditioning building design. Because most modern buildings are temperature controlled, they are designed to be airtight. Lack of proper ventilation not only make buildings expensive to cool, but also traps harmful toxins that can do serious damage to people spending their time in a library. Toxins come from a variety of sources. In order to improve air quality, decorative materials like paints, carpets, etc. with a low volatile organic compound content and CO₂ monitors can be installed to ensure that CO₂ levels remain at a safe level (Lamis, A. P. 2003). Thus, green buildings need to be designed in a way in

which the air gets recycled, and does not stay stagnant.

Some of the green libraries which have introduced both national as well as international standards, and inculcated above mentioned elements in their library premises and building mainly includes Anna-Centenary Library, Chennai; Perma Karpo Library, Ladakh; National Library of India, Kolkata; Karnataka University Library, Karnataka; NIT Library, Silchar Assam; NIT Library, Trichy; Delhi University Library, Delhi; Madras University Library, Chennai; and Mumbai University Library, Mumbai.

5. **Green Librarian:** The library professionals should always keep in their minds that a green library is not just about taking care of the environment, it is about taking care of the health and well-being of those who work in it and patronize it. In green library movement, in the venture of making green library librarian should always make efforts to promote green library movements by -
 - Encouraging users to use e-books, e-journals, etc. which can work as space, paper saving tools
 - Undertaking practices like making soft copies, microfilming of old and scares books and by weeding-out of old and outdated books

- Using different electronic medias and online communication tools like social media
 - Working under eco-library system and identifying those people who are willing to work under such environment
 - Promoting green library tools, techniques and encouraging others to use the same
 - Encouraging other librarians towards green library by discussions, seminars, and conferences
 - Handling and managing the library budgets to support the organizations
 - Using wooden furniture and other bio-degradable material
 - Using wool bricks instead of burnt bricks as construction material
 - Using solar tiles or panel i.e. reflective material for library roofing
 - Using recyclable paper insulation which considered as an ultimate trick to make environment friendly building.
 - Using more and more use of bamboo, fiber, etc. by replacing steel material
 - Making rooftop planting which can be act as a good idea
 - Taking necessary steps for conservation of energy, water, paper, etc.
6. Making suitable plantation including lawn both inside and outside of library to minimize dust and make environment cool (Meher, P. & Parabhoi, L. 2017b).

7. **Suggestions/Practices:** In order to make green library movement more effective and in order to bring the idea of green library into reality, following practices can be suggested.
- Reusing or donating the items instead of disposing
 - Separating the waste and providing onsite recycling collection
 - Eliminating use of plastics and starting using disposable materials
 - Reducing paper use and minimizing printing
 - Routing print materials rather than making multiple copies
 - Setting copier/printer default to duplex mode
 - Minimizing use of paper and reusing paper or using recycled paper
 - Using electronic/digital communication tools or medias
 - Using electronic storage devices and tools
 - Using shared e-mail folders as searchable repositories for information and content
 - Using online and electronically completed/submitted forms
 - Using products/consumables with recyclable content
 - Procuring refurbished items when and where possible
 - Purchasing locally available items or materials
 - Using environmentally friendly cleaning products instead of toxic chemical cleaners

- Using stairs rather than elevators
- Re-filling toner cartridges rather than buying new
- Recycling toner cartridges and choosing green inks (Hacettepe, S. K. & Boustany, J. 2014).

These suggestions if workout in a planned and systematic manner, will definitely lead to saving of energy, water, and paper; will ensure healthy and hygienic environment; will cause less harm to the natural environment; and will reduce administrative and operational cost to the greater extent. In fact, there is a greater need to increase awareness among other library professionals and users.

8. Conclusion: To conclude it is to be said that a library always facing problems like space and budget in the same way the books has been facing problems from dust, moisture, fungus and it needs special care. The green library or sustainable is a modern library i.e. a place, which minimize electricity consumption and maximize use of renewable sources like air, sunlight, etc. Now days it is much more needed for a library to greening the library environment. The librarians of today should take some concrete decisions to make their library green and should also take part in green library movement. Many national and international bodies are helping to library professionals make green library. Government

should also encourage green library and help all the library professionals for making green libraries. In fact some of the Indian libraries have been trying to make successful green libraries. They should take initiatives and actively participate in green library movement. It should not be underestimate that enthusiastic library users are calling on libraries not just to provide popular services but to communicate a clear green identity. Today's libraries as gateways for knowledge are particularly responsible not only for disseminating the idea of sustainability but also for leading by example. Small steps in going green can produce big results over a period of time. The concept can be develop and can bring into reality in cooperation with unpaid partners like NGOs, friends of the library groups, school projects, library suppliers and, last but not least, the library users.

9. References: A large number of literatures have been reviewed extensively. However, the following literature is duly cited and produced as the list of references.

1. Meher, P. & Parabhoi, L. (2017a). Green Library: An Overview, Issues with Special Reference to Indian Libraries. International Journal of Digital Library Services (IJODLS). 63 Vol. 7, April - June, 2017, Issue – 2. ISSN: 2250-1142 (Online), ISSN 2349-302X (Print). Geetanjali Research Publication. Pp. 62-63. Available from:

- <http://www.ijodls.in/uploads/3/6/0/3/3603729/7ijodls217.pdf>. Retrieved on: 9th December, 2017.
2. Purohit, S. (2013). Green Library- A New Concept of Library. International Conference on Entrepreneurial Approaches to Librarianship. Manlibnet. Available from: <http://www.mugeakbulut.com/bby721/wp-content/uploads/2017/03/21-09-2013-Prohit.pdf>. Retrieved on: 10th December, 2017.
 3. Tseng, S. (2008). Green Library Design and Evaluation: The Taipei Public Library, Taiwan. *New Library World*. Vol. 109 Issue: 7/8. ISSN: 0307-4803. Emerald Group Publishing Limited. Pp. 321–336. Available from: <http://www.emeraldinsight.com/doi/abs/10.1108/03074800810888159>. Retrieved on: 6th December, 2017.
 4. Lamis, A. P. (2003). *Greening the Library: An Overview of Sustainable Design. Planning the Modern Public Building*: Edited By G.B. McCabe & J.R. Kennedy. Libraries Unlimited: Westport, Connecticut. Landon. Pp. 31–45. Available from: <https://books.google.co.in/books?id=NUplCIv1KRYC&printsec=frontcover#v=onepage&q&f=false>. Retrieved on: 12th December, 2017.
 5. Meher, P. & Parabhoi, L. (2017a). Green Library: An Overview, Issues with Special Reference to Indian Libraries. *International Journal of Digital Library Services (IJODLS)*. 63 Vol. 7, April - June, 2017, Issue – 2. ISSN: 2250-1142 (Online), ISSN 2349-302X (Print).
 6. Hacettepe, S. K. & Boustany, J. (2014). From Green Libraries to Green Information Literacy. Pp. 28–30. Available from: http://ecil2014.ilconf.org/wp-content/uploads/2014/11/kurbanoglu_boustany.pdf. Retrieved on: 13th December, 2017.
- Geetanjali Research Publication. Pp. 62-63. Available from: <http://www.ijodls.in/uploads/3/6/0/3/3603729/7ijodls217.pdf>. Retrieved on: 9th December, 2017.