

Green Library- A New Perspective to Library Architecture

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Abstract: - Libraries are known as temples where knowledge and education reside. Over a period of time, Libraries have changed their nature in terms of resources, architecture etc. to become eco friendly. Green Library is the best example of that. A Green Library is also known as sustainable library, and is built according to designs which are environment friendly. Constructing a green library building using a performance standard like LEED is a way some libraries are choosing to become green and sustainable. This paper throws light on overall aspects of Green Library and architecture related to that giving examples of some green libraries worldwide.

Keywords: Libraries, Green Library, Environmental Management, LEED, Library Architecture

Introduction

A Green Library is 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 (water, energy, paper), and responsible waste disposal (recycling, etc.). 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)

Many 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.

What is a Green Library?

There are many ways to define a green library, but there are a number of central themes that run through all of them, including:

- minimizing the negative impact the building will have on the local environment, and if possible having a positive impact.

- reducing the use of water and energy by designing in a way that maximizes the use of natural and renewable resources.
- integrating actual greenery and vegetation into the building and site design; preferably, using drought resistant and/or native vegetation.
- maintaining high standards of indoor air quality to help ensure the health of the people who inhabit the building.



Fig.1 First ever Green Library, Singapore

LEED: The United States Green Building Council (USGBC) developed the Leadership in Energy and Environmental Design (LEED) rating system in the year 2000. Their point based rating has a total of 100 base points possible, and buildings can be categorized as certified (40 points), silver (50), gold (60), or platinum (80+).

Elements of Green Library:

LEED has given the following elements to fulfil the condition of Green Library:

- Site Selection: This is very important before you start your actual construction;

LEED has a number of guidelines to help the site selection process.

- Water Conservation: Again site selection process is very important in order to have good water facility, proper site help libraries to conserve water which could be rain water also.
- Energy Conservation: This is the most important category with high LEED rating system.
- Building Materials: These need to be chosen in such way that they are produced with minimum damage to the natural environment. Recycled materials can be used. Renewable sources can be explored, like instead of wood, bamboo can be used wherever possible.
- Indoor Air Quality: Poor air quality may cause serious damage to people’s health. And it is not so cost effective to cool the building, so green libraries should be designed in such way where air can be recycled and does not stay stagnant.
- Community Collaboration
- Daylight
- Green Materials
- Green Roofs
- Energy Efficiency
- Natural Ventilation
- Green power and renewable energy
- Indoor environmental quality



Fig. 2 Anna Centenary Library, Chennai (First government green library building in India)

Role of American Library Association (ALA)

Ms. Sarah Ann Long, (ALA President, 1999-2000) initiated a project in cooperation with Global Learning, New Jersey, entitled “Libraries Build Sustainable Communities”. The basic definition of "sustainable" is the use and stewardship of resources today that preserves them for tomorrow, and a sustainable community is one that is healthy and prosperous over the long term. The project defined three components of a sustainable community--Economy, Ecology, and Equity. Economy is the management, or stewardship, of the resources; Ecology is the relationship of the community with its environment, particularly the natural environment; and Equity is fairness to all.

For the purposes of this resource on "green" libraries, the first two E's--Economy and Ecology--will be considered.

Libraries by their very nature are "green" in that their resources are shared by the larger

community. But libraries can extend the environmental benefit further through both sustainable practices, which reduce the environmental impact of day-to-day operations, and green buildings, which seek to minimize consumption of resources either in their building or their operation.

Green Libraries-India

Anna Centenary Library, Kottupuram is the largest library in Asia. The cavernous space can accommodate well over a thousand readers at a time and 1.5 million books. The designing by C.R. Narayana Rao makes the most of the outdoor light with many windows to the north-east skylight and an outdoor amphitheater on the roof. Inside, LED lights illuminate a huge indoor auditorium, cafeteria and many reading and research areas. The library was built from the ground up with conservation in mind. Special care was taken to select sustainable materials more than 60% of which are locally sourced and recyclable. Natural lighting is a key player in the design, as are large windows facing the north and east to provide the best light without introducing heat. The south utilizes shading and vegetation to create heat buffer zones. Waste water is reused on the grounds and naturally educational materials are placed throughout the space to raise awareness of how the building works.

The Green Library Awards

- IFLA’s Environmental Sustainability and Libraries Special Interest Group has a green library award where libraries can nominate for

- The Catholic University of Eastern Africa (CUEA) won an award for best green building in Kenya in 2014

Notable Green Libraries Around the World

- Seattle Central Library.
- National Library, Singapore
- Children’s Museum of Pittsburgh
- Minneapolis Public Library

Conclusion

Green Libraries are related to the green building movement. The time is right for librarians to step up and help communities become green and sustainable. The role of the library is to help and support the community. And communities need libraries and librarians to act as role models for sustainability by providing accurate information on all manner of green topics from alternative building practices to renewable energy options. The time is also right for librarians to support and continue to grow the Green Library Movement.

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