

Green Libraries

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Abstract: - *Green libraries will protect our environment and its natural resources for current and future generation. Green is nothing but a set of practices to lead more environment friendly and ecologically responsible decisions.. It is a practice of protecting the natural environment on individual/ governmental level, for the benefit of both the natural environment and humans. Green libraries give a pleasant environment to the user community. Through Leadership in Energy and Environmental Design (LEED) certification, a rating system has been developed and planned by the U.S. Green Building Council (USGBC). This paper discusses the object, concept and requirement of Green Libraries. This paper also encourages existing libraries to GO GREEN.*

Keywords: Green Library, Environmental Library, Library, Nature, Environmental protection, Energy Efficiency, LEED.

INTRODUCTION:

Libraries are places where continuous learning of learners takes place and it provides knowledge to them. Green libraries can manage to support society for services of library resources to remain healthy and eco-friendly by economy and ecology. A library should be designed to minimize negative impact on the natural environment and maximize indoor environment 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. There are the serious issues of

global warming, depletion of natural resources and pollution in every walk of life. Green libraries will protect our environment and its natural resources for current and future generation. Green is nothing but a set of practices to lead more environment friendly and ecologically responsible decisions. The role of library in this worldwide phenomenon is huge. There is no better place to model the best practices for educating new ideas than the library. Green libraries can modify or design by providing relevant information related to green issues and concerns.

Concept of Green Libraries

The Online Dictionary of Library Information Science ODLIS, describes the Green libraries as having a unique role in the green library building movement due to its public and pedagogical nature and the fact that new libraries are of the 21st century, usually high profile, community driven projects.

Objectives:

The objectives of the Green libraries are as under:

1. It provides literacy about environment.
2. Gains from healthy environment will be helpful to all, in long run.
3. Green library Building, where it can use water and energy, can use natural and renewable resources in maximum extent, design the library building in such a way that it maintains high standard of free air and health of users. It must have maximum scope for greenness in such a way that, they can work it with more productivity, and always take care of health environment and resources management.
4. It conserves non-renewable energy.
5. It minimizes life cycle impact of material used.
6. It also uses renewable energy.
7. It protects and restores local air, water and soil.
8. It reduces cost of construction. We can build green libraries within budget limit.
9. It is important to reduce carbon foot print of our building and green libraries help in this matter.

Key Areas:

Site selection:- Library building constructions have impact on the local environment. Will there be erosion, what can be done with storm runoff. Library should be located in a densely populated area. People should reach the building via public transportation and the parking lots should give priority to those driving energy efficient automobiles.

Water conservation:- If a site is selected properly strategies can be used to capture and conserve rainwater, rainwater runoff to be used in irrigation. Also it has to use low flow fixtures and waterless urinals.

Energy conservation:- Library buildings vary according to location, natural elements, mostly wind and sun, to manage the temperature and to provide ventilation and light. Using photovoltaic cells that turn sunlight into energy is becoming an increasingly popular way to reduce energy dependence. Energy conservation can be done through passive and active strategy. Passive strategies could be based on sun and wind energy. Active strategies include using more advanced technology driven strategies converting solar energy into energy resources and sensors readjust lighting.

Building materials:- In selecting materials for library prefer those that contribute as little waste as possible. To choose materials that can be produced without causing too much damage to the natural environment. It should be possible to reuse and recycle. It is believed that up to 40% of landfill space is filled with construction waste

material. It is also important to consider where materials are coming from, resources material option is using quickly renewable materials such as bamboo in place of wood whenever possible. The widening availability of green building materials, along with the development of non-profit watchdog groups are two important factors. Also materials should be chosen that are going to be able to be reused or recycled by 50-100 years down the road when the library building has reached the end of its useful life. Resources have emerged to help guide the material selection process, such as the Forest Stewardship Council (FSC).

Indoor air quality:- Most modern buildings are temperature controlled, they are designed to be airtight. The lack of ventilation makes buildings expensive to cool. Green buildings need to be designed in such way in which the air gets recycled and does not stay stagnant. To care for the external environment, there should be least use of air conditioners, which will reduce emission of harmful gases responsible for holes in ozone layer and in turn Global warming. Materials that make up the library, including paints and carpeting, have volatile organic compounds (VOCs), which produce a ground level ozone after reacting with sunlight and nitrogen. The carbon dioxide that people exhale into the atmosphere is another toxin. To improve air quality, materials can be bought that have a low VOC content, and CO₂ monitors can be installed to ensure that CO₂ levels remain at a safe

level. Therefore, Green library buildings need to be designed perfectly.

Elements for Green libraries:-

- Community collaboration assets are efficiently used and help to maintain public support.
- Daylight with reduced artificial lighting to reduce energy costs.
- Green materials use renewable materials like wood, linoleum, bamboo, and cork, green roofs.
- Raised floor system, Natural ventilation and, Indoor environmental quality.
- Energy efficiency, Green power and renewable energy. Indian Green Building Council (IGBC) was established in 2001 to promote and rate Green buildings in India. There are about 2190 registered buildings, 398 rated buildings and also 1082 IGBC aggregated professionals.
- Leadership in Energy and Environmental Design (LEED)-INDIA, green building rating system is nationally and internationally accepted for construction, design and operation. Four certification levels rate on 100 points are as follows:
 - 25-40 points as Certified.
 - 41-50 points as Silver.
 - 51-60 points as Gold.
 - 61-80 points as Platinum.Leadership in Energy and Environmental Design (LEED)-INDIA, has five key areas such as

1) Site location, 2) water conservation, 3) energy efficiency, 4) materials, 5) indoor air quality, for innovation and plan.

Advantages

Green libraries can serve for the information needs of the users as well as the present and future of the users by saving environment.

- Beautiful and pleasant world,
- Better health,
- Saving earth for the future generation, improve mental health.
- A Green building always takes care of health environment and resources management. It conserves non-renewable energy. It minimizes life-cycle impact of material used. It also uses renewal energy. It protects and restores local air, water and soil. Thus we can understand the reason for building green libraries is it reduces cost of constructing green libraries. That means it can build Green libraries within the budget limit. It uses new and renewal energy resources. It is important to reduce carbon foot print of library building and green libraries help in this matter.

How to make existing libraries GO GREEN---

- Management of waste by using most modern waste segregation & recycling practices.
- Use of CFL lights which can minimize the expense.
- Use of rain water harvesting system.
- Use of maximum natural light.

- Use of E-books & journals.
- Use of eco-friendly pesticides.
- Use of eco-friendly paints in the library.
- Turning off fans and light when not required.
- Using network printer.
- Re-fill toner cartridges instead of buying new.
- Putting computers in sleep mode when in not use.
- Reusing and donating the library materials instead of disposing. Reducing paper use and minimizing printing. Using electronic and digital communication. Using environmentally friendly cleaning products. Using stairs rather than elevators.
- Promoting scholarly research in green library. Majority of scientist agree that Earth planet is under pressure. It is time for librarians to come forward and lead the step towards green development by eliminating the unnatural and practices in libraries. It's time for librarians to support and grow the library environment. Libraries have specific needs that raise some extra challenges for their preservation of books. Books must be kept away from sunlight as well as moisture and temperature change. Green image is a good image for the libraries and should use their way of going green to promote a powerful green image towards their stake

holders and users. Librarians should act as role model by providing suitable and relevant information related to green issues and concerns. For the next generation, library professionals should move beyond environmental various practices of “greening libraries”

The first green pre conference took place in year 2000. The task force on environment has been working for last 20 years approximately, at the ALA (American Library Association). This organization had **Objectives:**

1. To make people aware about different issues of environment.
2. To recognize environmental concerns. To gain insight into Eco-friendly libraries.
3. To find out solutions to convert existing libraries into Green libraries.
4. Gains from healthy environment will be helpful to all, in long run.
5. Environment education will also help us in protecting nature for long period of time.
6. To understand the meaning and importance of Green libraries.

Some of the **Green Libraries.**

In India TERI has taken many initiatives in this direction and has developed, India’s National Green Rating for Integrated Habitat Assessment System for Green Buildings TERI-GRIHA- an indigenous tool for rating green buildings in the country in different climate zones. Centre of Science and Technology for Rural Development (COSTFORD) (Kerala) and Habital Technology

Group are other organizations working on this project.

- Anna Centenary Library Chennai, has used solar central thermal insulation glasses, green roof, etc. as GGL initiative.
- Karnataka University library, Dharwad has also taken some initiatives.

In USA:

- Seattle Central library, designed by Rem Koolhaas, USA
- Minneapolis Public library, designed by Cesar Pelli, USA

In Asia-

- Kannazawa, Japan
- National library, Singapore

CONCLUSION:

Now the time has come for our communities and Government to increase efforts for Green libraries. In other words, Green libraries should be like seven wonders of world. The role of green library is to help students, teachers and others, for getting new knowledge but at the same time, society has also some requirements. Green library is a library built with environment concerns in mind. Librarians should encourage the drive of green libraries. More and more eco-friendly solutions should be implemented to make our mother earth a better to live in. All these efforts would definitely achieve a more socially responsible Global profession and professional-Greener libraries and librarians.

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