GREENING IN THE LIBRARY: SUSTAINABLE LIBRARY PRACTICES AND TRENDS OF SELECTED ACADEMIC LIBRARIES IN METRO MANILA

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Abstract

Discusses the present sustainable practices of academic libraries in Metro Manila and presents a generic list of sustainable measures which can serve as a guide on how libraries in the country can start greening.

Introduction

The call for environment protection can be traced back to the 14th century when Plato complained that Greece was then blessed with fertile soil and abundant forests. Yet Greece was likened to a skeleton of a body wasted by disease after its resources were used to the fullest. With quick pondering, it seemed coincidental that every individual in the present are also shouldering the responsibility of reversing more than a century of man's neglect of the environment. Bridgen (1997) tells that we have a mission to restructure the connection of human activity with the environment. It is not just a mere fad and is much more than a trend (Reyes,2008).

This movement on environmental awareness and stewardship has taken a new wind. Everyone is being tapped to bring about their contribution in safeguarding the environment, beginning with their homes and work places. Through time, the environmental movement has paved its way and tried to get the attention of each citizen in the planet, coining environmental awareness and practices as "green". Bright green infers that technological breakthroughs will make lives comfortable while being environment friendly and energy efficient at the same time. In contrast to this, dark green is used by persons who expect the future to be as doomed as in the Middle Ages (Waterson, 2008). On the positive side, dark green is also used to indicate that a certain institution is steadily pursuing sustainable development. Many eco-jargons and symbols have subsequently developed in line with the Green movement.

Major sectors of our society have been actively participating in the Green movement for it is a given that no matter what type and whatever size an organization is, it is still accountable in protecting the environment (Woodside, Aurricchio, &

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Yturri, 1998). This fact certainly includes the library institution. Jankowska (2008) stated that the exclusion of sustainable development of libraries in the Environmental Scan of the Association of College and Research Libraries last 2007 is perplexing since she observed that "piles of printed e-mail and unwanted books are thrown out, library users are printing page after page of documents, old computers and technologies are being discarded, and no serious accounting is done on what type and how much energy is used in academic libraries on a daily basis".

Many other evident situations that render libraries less friendly to the environment can be cited and it is disconcerting that many librarians may find them not important until they become more pronounced.

Sustainable Practices in the Library

There is no direct definition which can explain the term "sustainable practices". Deriving from the words "sustainable" and "practice", it can be described as "actions, rather than thoughts or ideas, that cause little or no damage to the environment and therefore able to continue for a long time" (Cambridge University Press, 2010). Sustainable library practices can be linked to the Brundtland definition of sustainability which is meeting "the needs of the present without compromising the ability of future generations to meet their own needs" (Monika Antonelli, Personal communication, November 6, 2010). For the purpose of this study, sustainable library practices are also defined as measures employed by the library personnel with the aim of reducing the consumption of the unit's resources and lessening its waste output.

The library as an institution and the society in which it operates belong to a single system where they are associated through common use of environment resources. One should view his institution's actions and the impact of these actions as part of one system. Growth cannot take place without an awareness of evolving social needs, and this in turn requires a particular sensitivity on the part of the institution to the economy and environment which it interacts with (Royston, 1999). The library institution can be considered as part of society. The economy, environment, and society are all interrelated to each other and so to achieve balance, it is perceived that each of these areas should be concerned with the others.

The environmental performance of the library can be seen to be affected by the following variables: perception of librarians, types of waste produced, presence/absence of environmental management policies, presence/absence

of sustainable practices, and barriers to implementation of sustainable practices (see Figure 1). These factors should be considered in the conduct of the library's Environmental Performance Evaluation (EPE). EPE is needed by any organization, including libraries, to (1) determine any necessary action to achieve the organization's environmental goals, targets and objectives; (2) identify significant environmental aspects; (3) identify opportunities for better management of its environmental aspects; (4) identify trends in its environmental performance; (5) increase efficiency and effectiveness in processes; and (6) identify strategic opportunities. The exercise of EPE is among the ways of understanding, demonstrating, and improving the environmental performance of an organization by better managing the elements of its activities that can significantly impact the environment (Bowers, 2000). During the evaluation, data is gathered about the environmental performance of the library.

Internal evaluation of environmental performance can be taken to another level by benchmarking. Benchmarking is a process that enables comparison of inputs, processes or outputs between institutions (INQAAHE Glossary, in Stella & Woodhouse, 2007). It is a structured learning process that enables those engaging in the process to compare services and activities to identify strengths and weaknesses as a basis for self improvement (Jackson & Lund, in Stella & Woodhouse, 2007). Through benchmarking, best practices may be adopted and solution to difficulties encountered in the implementation of sustainable library practices may be found.

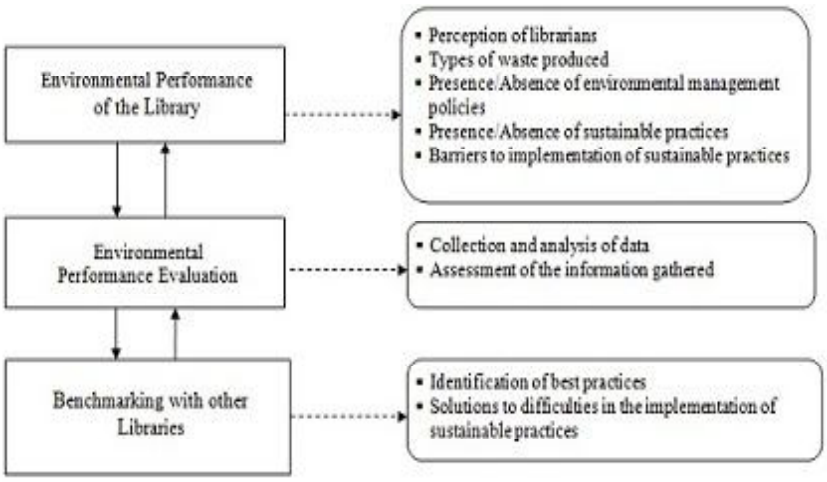

Figure 1. Conceptual framework of the study

With this illustration, the library may systematically examine its operations, establish environmental targets and objectives, and carry out environmental management programs or projects to achieve its targets. Cheremisinoff and Bendavid-Val (2001) stress that environmental management programs that are well thought-out and well carried-out, result in improved environmental performance, reduced costs of operations, reduced risk of environmental liability, and reduced regulatory penalties.

Greening in the Local Library Setting

According to the Haribon Foundation (2005), green libraries may seem to be a new concept in the field of librarianship although its foundations have been pronounced in other aspects. The greening of a library may be achieved by enriching the collection with environment related materials and practicing conservation techniques on library operations.

Various professionals who are in the field of environmental studies and management are unified in the thought that librarians should have a more pro-active role in protecting the environment. According to Valerio Mendoza, the project manager of "Save the La Mesa Dam Project", environmental management is indeed a pressing issue in the library and librarians serve as an important link in the promotion of environmental consciousness. He stated that waste segregation, recycling and efficient lighting should be included in a library's environmental policy. Librarians may observe sustainable practices which include: (1) minimizing the usage of electricity, (2) recycling discards from the library like plastic covers, paper and old computers, (3) using paper and computer in moderation, (4) conducting activities related to the environment, (5) growing potted plants and (6) encouraging wider windows for library buildings instead of using air conditioning. Other than providing information on how to protect the environment, it is also better that the library personnel employ sustainable practices which is a way of "educating people by example" (Personal communication, May 7, 2009).

Dr. Angelina Galang, environmental studies consultant and the first executive director of Environmental Studies Institute of Miriam College, shares the same view with Mendoza. Galang stated that librarians should be aware of the complex nature of the environment to be able to disseminate information about it to students, as well as the public, effectively. She added that the profession should focus more on its core responsibility of increasing awareness and understanding of the public regarding the environment. Other than that, she suggested that libraries should (1) recycle and reuse materials, (2) acquire energy

efficient equipment and (3) communicate with their mother institutions when they have environmental programs in mind so these can be implemented institution-wide (Personal communication, May 25, 2009). Romeo Sebastian, the head librarian of Miriam College who was the librarian of the Environmental Studies Institute for 11 years, finds information dissemination about the environment through article writing an important move that librarians can do in support of the environmental cause. He added that reusing of paper and cards for printing is among the sustainable library practices that librarians can adopt (Personal communication, May 7, 2009).

It is vital to understand that the library as an organization also has this responsibility of being involved in the environmental movement. An inquiry on the connection between the library institution and the environment is made and dealt with the following questions:

1. What are the perceptions of academic librarians regarding sustainable library practices in the workplace?
2. What are the types of waste that academic libraries produce in their daily operations?
3. Do academic institutions and their libraries have environmental policies? How are these policies reflected in the sustainable library practices of academic libraries?
4. Are there existing barriers in implementing sustainable library practices in libraries? If yes, what are the possible solutions to these difficulties?
5. What are the practices that academic libraries employ which may be benchmarked for library sustainability?

By knowing the librarians' concept of environmental consciousness and the existing environmental management practices in libraries, we may come up with solutions to difficulties as well as identify best practices and procedures to lessen the library's carbon footprint. Programs and policy statements may be formalized and be included in the goals of libraries. These can, in turn, help position the library as among the leaders which protect the environment. It is a continuing hope that libraries in our country do partake enthusiastically in activities and programs concerning the environment.

A Green Inquiry on Local Academic Libraries

To have a preliminary view at the sustainable library practices and trends that are being utilized in the libraries of tertiary level institutions, 55 academic libraries in Metro Manila were chosen as respondents. Their mother institutions are are all members of the Philippine Association of Tertiary Level Educational Institutions in Environmental Protection and Management (PATLEPAM). A survey questionnaire which asks for basic information, environmental sustainability policies and programs, sustainability practices employed and perception on environmental awareness was utilized. Questions were also asked during library visits to support the questionnaire. The lighting efficiency indexes of the participants' reading areas were also measured. Out of the 55 academic libraries sought, 41 accepted and answered the questionnaire. Forty three participants allowed the measurement of their lighting efficiency index.

The first instrument which is the survey questionnaire consists of questions which are mostly itemized. The term sustainable library practice is defined in the questionnaire to put the respondent into the study's context. The survey of Alpi (2000) on the environmental issues of the library was adapted while the library energy conservation benchmarks survey of the Primary Research Group (2008) served as a guide in the formulation of energy efficiency related questions. Some questions were also added which deals with the library's daily processes and waste output, librarian's perception on environmental management as well as their institution's environmental policies and programs.

The second instrument is the Library Lighting Efficiency Index Computation Sheet which was derived from the United States Department of Energy's Office of Energy Efficiency and Renewable Energy through the Florida Solar Energy Center. The reading area of the library was chosen for the measurement of the lighting index since day lighting, direct and indirect lighting may be utilized here which may show a variation in the total watts consumed by each library (Malman, 2005). The total wattage consumed by the library lights was divided by the total area of the section to come up with the index. By calculating the index, one may find out if it is still feasible to save more money and energy through the improvement of lighting fixtures in the library. There are opportunities for savings when the resulting index is higher than 1.3 Watts per square foot (United States Department of Energy).

Raw information was gathered by visiting the libraries per city cluster at least twice from October 2009 to April 2010. The respondents who answered the questionnaire are mainly composed of directors, chief, university and head

librarians from 31 libraries in private academic institutions and 10 libraries in public academic institutions.

Environmental Policies and Programs

Environmental management policies and related activities

Of the 41 respondent libraries, environmental management policies were present in the following: 24 (58.54%) for the library and the institution, 10 (24.39%) for the institution, and two (4.88%) for the library only. Four (9.76%) did not have policies either in the library or the parent institution and one (2.43%) was not aware if there is a policy or not. Of the 22 libraries that conduct environment related activities, 16 (72.73%) have environmental management policies in both the institution and the library, three (13.64%) have policies in the parent institution, two (9.09%) have policies within the library only, and one (4.54%) has no policies related to environmental management.

Records retention and disposition schedule

Twenty-two (53.66%) participants confirmed that they have a records retention and disposition schedule (RRDS), six (14.63%) libraries do not have one and 13 (31.71%) are not sure if they have an RRDS. Of those who have the RRDS, 19 answered that the process of handling non-permanent records is stipulated in their RRDS while three did not indicate such in their schedule. Treatment of non-permanent records among academic libraries include the use of non-permanent records for printing drafts, stocking in storage rooms, shredding and selling to the junk shop, and disposing together with the regular trash pick-up.

Gifts and donations policies

Thirty-six (87.8%) respondents confirmed that they have a gifts and donations policy. Five (12.2%) academic libraries do not have one. Of those who have the policy, only one library did not stipulate in its policy how they handle donated books and materials which are not fit for inclusion in the library collection. Handling of unwanted donations and gifts include: re-donation to other libraries, stocking in storage room and inclusion in book sales. Some libraries still process and make available such materials for research use, donate to outreach programs and street children and put these in a designated reading zone.

Acquisition of materials related to environmental science

Thirty-five (85.37%) respondents revealed that they acquire resources related to environmental science while six (14.63%) do not. Having courses and subjects associated to environmental science serves as a major consideration in purchasing environment related materials in addition to acquiring for the environmental awareness of students and staff.

Sustainable Library Practices

This section presents a summary of the academic libraries' general sustainability measures, energy efficiency and use as well as their reading areas' lighting efficiency.

General Sustainability Measures and Observations

Mixed paper and plastic discards are present in the processes of acquisition, cataloging and classification, abstracting and indexing, circulation, binding and repair as well as in promotion and outreach of academic libraries. Straw packaging and cardboard are by-products in the acquisition process while index card discards come mainly from the conduct of the processes of cataloging and classification as well as indexing and abstracting.

Office paper is the most frequently recycled material in academic libraries (22.36%). This is followed by mixed paper, ink cartridges, cardboard, and toner cartridges. Least ranked among the recyclable materials are plastic bottles, glass bottles and aluminum cans.

Academic libraries employ various combinations of practices in handling waste materials and used equipment (multiple responses):

a. Disposal of used computers and office equipment are mainly handled by the libraries' mother institutions (52.54%). Some recycle these for parts (18.64%), four donate them to others (6.78%), a few stock them in storage rooms (8.47%) and include in their daily trash pick-up (5.08%). Library Respondent 1 and 19 sell the computers and equipment to university employees at a very low price, Library Respondent 5 sells them to a recycling company, Library Respondent 8, 15 and 41 turn them over to another office within their institutions.

b. Deselected books and materials are mainly donated to others (33.33%) and handled by the academic libraries' mother institutions (33.33%). A few of them put up book sales to sell weeded books and materials (5.33%) and some are disposed of through their regular trash pick-up (5%). Some libraries stock unwanted resources in

storage rooms, sell them, keep them in the archives area, or include them in their book depot and exchange section.

c. More than half (54.237%) of the academic library respondents sell old newspapers to junk shops. Some libraries stock them in storage rooms (23.729%) and very few include them in their garbage (5.085%). Some academic libraries forward their used newspapers to other departments within their institution. Newspapers are also used for cleaning mirrors and drying up wet floors in one academic library. Among them, only Library Respondent 6 and 11 stated that they keep records of the weight of their discarded papers.

All the academic library respondents reported the reuse of office paper as scratch (100%). Other high ranking practices include: utilizing the clean side of used paper for printing drafts, sending of e-mails updates instead of traditional mailing and drinking from reusable containers. Least employed sustainable practices include: the use of paper recycling bins near printers and photocopiers in public areas, purchase or encourage the purchase of recycled goods, the use of compostable library cards and influencing vendors to use recycled packaging.

Twenty-one (51.22%) library respondents offer electronic journals or electronic reserve materials while the rest do not. Of those who offer such services, nine (25%) stated an increase in their users' printing behavior while seven (19.44%) reported a decrease in photocopying. Some academic libraries do not measure the printing and photocopying behavior of their users (13.89%). Library Respondent 5 said that some of their students access such materials from home while Library Respondent 6 affirmed that printing errors are charged to the students to avoid their wastage of paper.

Energy Efficiency and Use

Twenty-four (58.54%) academic libraries do not have their own electricity meters for they only occupy part of a building, 12 (29.26%) have their own while five (12.2%) said that they do not know if their library have meters. Of those who have meters, seven (58.33%) stated an increase in their bills and four (33.33%) had almost the same billing. One (8.33%) respondent does not have any idea on the status of their billing since the mother institution is in charge of paying the bills.

Twenty-five (60.98%) academic libraries do not conduct electricity consumption audits, 11 (26.83%) libraries do this and five (12.19%) librarians revealed that they do not know if they conduct any inspection. Of the 11 libraries

that check their electricity usage, nine (69.24%) compare their monthly bills, two (15.38%) use wattage measuring devices, and two (15.38%) perform estimation.

Of the 38 academic libraries which have air conditioning, 18 (47.37%) said that their units are energy efficient. Twenty-six libraries make use of a combination of air conditioning units and electric fans. The use of computers with cathode ray tube monitors is not that far off from the use of computers with liquid crystal display monitors in academic libraries. Laptops are least used in the academic libraries.

Highly employed energy saving measures among academic libraries include: daily unplugging of switches from outlets after office hours, shutting down computers during breaks and when the library is not open to the public and turning off the lights during break time. Setting the computers in sleep mode rated the least.

Lighting in the Library

Many of the academic librarians view that the lighting in their libraries are efficient while some see theirs as inefficient. Still, some respondents are not aware if their lighting is efficient or not.

Utilization of the 40 watt fluorescent lamps among libraries was observed to be strong and used either solely or in combination with other types of lighting. Fluorescent lamps with lower wattages were observed in some libraries. Compact fluorescent lamps are also used by a few libraries.

Of the 43 academic libraries which allowed the measurement of their reading areas' lighting efficiency index, 31 (76.7%) meet the 1.3 watt per square foot mark set by the International Conservation Society. Majority of the libraries fall under the 0.301-6 and 0.601-0.9 ranges. Ten libraries exceeded the standard.

Academic Librarians' Perception on Environmental Awareness

The weighted mean, a descriptive statistic, was employed to analyze the perception of the respondents. Although many of the academic libraries experience difficulties in the implementation of sustainable practices, the overall perception of librarians on environmental awareness garnered the descriptive rating of "enthusiastic" (WM=4.37), the highest rank. The library staff and library users got the "accepting" rating which follows the highest rank.

Sustainable library practices are exercised in academic libraries mainly due to economic/practical reasons. Environmental concerns, complying with the environmental policies of the mother institution and their libraries follow accordingly.

It is revealed that unconcerned individuals are a major barrier in the performance of sustainable practices while budgetary constraints and the lack of library staff are secondary. A few had difficulty with support of the higher administration of their institutions. Sixteen participants did not encounter any constraint in exercising such practices. The "ningas kugon" behavior is also mentioned as a difficulty.

Benchmarking of Sustainable Library Practices

Benchmarking is described as the search for best practices that lead to superior performance. Here, the ideal procedure would be to conduct an investigation of the practices before determining the metrics. Recognizing a practice as benchmark is a very significant issue and one of the evidences of best practice is when the practice is observed several times (Camp, 1989). Ms. Fe Angela M. Verzosa affirms this and further explains that "best practices are considered the most efficient and effective way of accomplishing a task, based on repeatable procedures that have proven themselves over time for large numbers of people or in this case, a good number of libraries" (Personal communication, September 19, 2010).

Library practices in this study are benchmarked according to their occurrence in academic libraries:

a. 76-100% of the academic libraries reuse office paper for notes or as scratch paper, utilize the clean side of used paper for printing drafts, shut down most of the computers during break time or when the library is not open to the public, remove switches of appliances from outlets regularly after office hours and turn off the lights during break time.

b. 51-75% of the academic libraries send e-mail updates instead of mailing paper newsletters and announcements for special events.

c. 26-50% of the academic libraries put most of the computers on sleep mode during breaks or when the library is not open to the public, utilize reusable mugs or drinking containers, use paper recycling bins by printers and photocopiers in public areas.

d. 1-25% of the academic libraries purchase or encourage the purchase of recycled goods, make use of compostable library cards and encourage vendors to use recycled packaging.

Unique sustainable practices are also uncovered. These include reducing the use of paper, recycling of water, active participation in the activities of their academic institution, reuse of materials, use of environment friendly materials and products among the general sustainable measures. Energy saving practices observed include the preference for an appliance with a lower wattage and efficient use of library facilities.

Our Part in the Green Movement

It is notable that academic librarians perceive environmental awareness as a significant area that should be dealt with at present. This general view is further verified through the presence of green practices among the participants of the study. They do not just employ one or two sustainable practice in their workplaces. Instead, combinations of such practices are observed. Among the benchmarked practices, the reuse of paper is executed in all academic libraries. There are also uncovered practices which are uniquely done in some libraries such as selling of used equipment to recycling companies or to the university employees, putting unwanted books and journals in the book depot and exchange section of the library, replacing appliance with energy saving ones, and the use of synthetic beech wood and metal rather than hardwood for furniture.

Several types of wastes are also produced in an academic library's daily operation. Majority of the wastes that are generated by the academic libraries are recyclable. Paper composes the bulk of the discards which include the office paper, mixed paper, old newspapers and weeded resources. Academic libraries employ various means of handling their discards which can be linked to the concept of reducing, reusing and recycling resources. Yet, inclusion of recyclable materials in the regular trash pick-up is still present in a few libraries.

On the other hand, academic libraries are exposed to environmental management policies which are present in their mother institutions and/or in their own departments. Stipulations of how to handle non-permanent records and unwanted materials in library policies can be observed. Library regulations related to reducing, reusing and recycling are not formally written.

Many academic libraries also do not experience difficulty in exercising sustainable library practices. Yet of those libraries which experience difficulties, individuals who had no concern for the environment post as a major barrier in employing green practices.

We now have a glimpse of the green practices and trends in some of our local academic libraries. The big question is: what can we do to support the Green movement?

Librarians should take definite and positive action in pursuit of sustainability

All the respondents believe that environmental awareness is a key to arrest the present declining situation of our surroundings. We, librarians, should walk the talk. We should take part in the greening movement because every individual is obliged to take care of the world we live in, starting from our homes and workplaces.

We should continue library practices which revolve around the process of reducing, reusing and recycling of resources. Practices which do not help like the throwing of recyclables must also be discarded. The inclusion of proper disposal of material discards as a subtopic in library science subjects like records management, collection development and library management will help in exposing budding library professionals to the concept of sustainability early in their careers. Local library associations are also catalysts of change. Information drives through seminars and forums as well as the creation of standards which are geared towards sustainability are among the few things that associations may do in furthering the sustainability cause.

Future studies must be made on sustainability and greening

Local literature on the greening of the librarianship landscape is very scarce and so writing studies on other aspects of library sustainability is encouraged. The following topics on sustainability may be explored:

a. In depth benchmarking of sustainable library practices using a quantitative research design. The results of the current research are recommended to be utilized and verified for them to be considered as best practices.

b. Case studies focusing on the library processes in connection with the material discard produced. A thorough investigation of the subject matter dealing with exact measurements may be done.]

c. Inquiry on the designs of new library buildings in the country. Green building studies and benchmarks are already available in other countries. These may aid one's research.

d. Comparison of patrons' printing behavior in libraries with electronic journals and reserve materials with those libraries which do not have such resources. This is to further identify if having electronic journals and reserve materials increases or decreases the printing frequency in libraries.

e. Now that digitization is being favored, a study may be made on what is being done to library materials which are now becoming obsolete.

A Proposed Library Greening Guide

It is deemed significant to make a generic list of measures on how libraries in the country can be greener. A proposed guide is prepared out of the findings of the study and the insights of the researcher. Sustainable library practices from selected related literature were also taken into consideration (Department of Energy, 2006; Mulford & Himmel, 2010; Williams, 2011). The list dwells around the following areas: material conservation, energy conservation, library building concerns, and greener operations and services.

The practices mentioned aim to aid libraries in making their own manual which will fit their department's needs. It is recommended that libraries make their own manual more detailed depending on their office set-up and that performance indicators be written to quantify what the library wants to achieve. Through time, new trends on greening come around and so librarians should keep an eye on such developments.

Material Conservation

Curve waste production from the source

Conduct an analysis of how waste is produced in the library's processes.

Encourage and support green buying on materials

Patronize the purchase of materials which are durable, reusable and recyclable. Instead of buying paper made from virgin material, purchase office paper which is post-consumer recycled and non-chlorine bleached. Ask vendors to use recycled materials in their packaging.

Lessen the use of paper

Proof read documents on the computer before printing. Do not print e-mails unless it will be kept for record retention purposes. Charge library patrons on printing errors to encourage them to be more careful in printing. Restructure

forms by combining related forms and better yet, make the forms available online. Hand-outs for seminars and workshops can be made available through the web. Give a compact disk per institution participant rather than per individual. Be a member of online groups to post announcements on the web rather than send snail mails per institution. Send library acquisition lists, newsletters and other documents used for dissemination of information through e-mail to patrons who need them. Designate an area which is accessible to all the Library personnel to post important announcements and memos instead of distributing multiple paper reproductions. If computers are already available, prefer the acquisition of e-books and e-journals instead of their printed counterparts. Try to practice paperless communication in the Library by sending messages online.

Reuse paper

Make scratch pads from paper which will be discarded. Use non-permanent records for printing drafts. Place used paper near the printer and copier for easier access.

Reduce the use of several library supplies

When printing, prefer draft or fast mode. Lessen the use of plastic. Avoid the use of hard to recycle plastic items.

Practice the reuse of materials

Use refillable pens as well as pencils with replaceable lead. Plastic bags can be given to library users to cover their loaned materials when raining. Reuse library supplies like brown envelopes, folders, clips and such. Put reusable library supplies in a space accessible to all the library staff. Reuse ink and toner cartridges.

Make employees choose greener alternatives for their individual use

Utilize reusable mugs/cups and tableware instead of disposable ones. Use teaspoons instead of plastic stirrers. Encourage employees to bring their own lunch in reusable containers.

Avoid the accumulation of unwanted books

Create a written gifts and donations policy which clearly states the materials that the library needs and strictly follow it. Donate unwanted books to other libraries and institutions which need them. Swap or share book duplicates. Discarded books can also be repurposed into new objects of use.

These are also known as altered books.

Properly dispose of recyclables

Segregate materials for recycling and make arrangements with a recycling company to collect the library's recyclables. Ask product manufacturers if the used items you bought from them can be returned for recycling.

Energy Conservation

Record energy usage

For libraries with electricity meters, document your monthly electricity consumption.

Encourage and support green buying on electricity run equipment

Visit the Department of Energy Portal to know what should be considered in buying electricity run equipment. Purchase computers, equipment and appliance which have energy saving features. Choose equipment with higher Energy Efficiency Ratio (EER). Opt for rechargeable batteries over disposable ones.

Curve electricity consumption

General Measures for Library Equipment: Unplug switches of equipment regularly after office hours to cut down on phantom loads. Schedule the regular maintenance for all the computers and other equipment to keep them working efficiently.

Air Conditioning units: Lessen air conditioning unit run times. Set the thermostat of your air conditioning units. The Government Energy Management Program (GEMP) of the Department of Energy implements among government entities that a room temperature of 25° C should be maintained. Substitute electric fans for air conditioning units on colder months if possible. Rearrange library furnishings to enhance air movement.

Computers: Adjust the computer power scheme and if suitable, set to hibernate. Line up computer related tasks so that it can be turned off right after. Shut down computers during breaks and closed hours. Switch to LCD monitors.

Lighting: Turn off lights during library breaks and in areas where there

are no patrons. Use day lighting by turning off lights near the library windows. Replace 40 watt fluorescent tubes with 36 watt fluorescent lamps. Choose compact fluorescent bulbs over incandescent bulbs. Clean lighting fixtures regularly so they are giving light efficiently. Look into new lighting technology that involves lighting controls.

Library Building Concerns

Practice proper waste management

Make use of cleaning agents with non toxic formulas and veer away from using chlorine based bleach. Utility personnel assigned at the library should be given ample training on environmental practices. Position recycle bins in strategic areas in the library which are accessible to library users and the employees.

Build greener library buildings

For new building constructions, coordinate with the proper officials to: (1) propose sustainable design principles; (2) suggest environment friendly building materials and products; (3) recommend the maximization of day lighting. Choose library furniture which do not attract pests like termites, recyclable, durable and are produced using non-toxic and locally-sourced materials. Check out websites and contact organizations which serve as portals on greening buildings.

Conserve water

Document your monthly water bill and observe for changes. Put signs in your rest room on how to save on water as well as reminders for users to report leaks and flushers which need repair. Consider waterless urinals for the rest room. Recycle rainwater.

Practice natural landscaping.

Grow native plants for landscaping. If no land area is available, potted and hanging plants will also do.

Greener Operations and Services

Keep green practices at work

Create policies and strategic plans which lay out your greening programs. Assign library personnel or form a group which will monitor the library's greening projects and programs. Communicate with the administration

so that the library can partake in the institution's activities which are environment related.

Be updated on sustainability trends on the field of librarianship

Document and disseminate your library's sustainability efforts. Visit online sites on sustainability. Read on what other librarians are implementing in their library.

Support and promote environmental education

Enjoin the library users to participate in the greening campaign. Team up and collaborate with educators, environmental agencies and organizations. Procure materials discussing environmental matters. Create a section in the library which provides various materials on greening and the environment. Utilize Earth Day as a medium for environment related activities. Put up signs which persuade Library users to reduce, reuse and recycle.

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