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EFFECT OF ENVIRONMENT HAZARD ON LIBRARY MATERIALS IN ARID ZONEREGION OF NIGERIA: WITH REFERENCE TO CENTRE FOR ARID ZONE STUDIES LIBRARY, UNIVERSITY OF MAIDUGURI BORNO STATE, NIGERIA

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Abstract
The study is an attempt to see the effect of environmental condition on library materials in Centre for Arid Zone Studies Library in University of Maiduguri, Borno State, Nigeria. The study identify the preservation methods use in the library, the environmental condition of the zone and the mandate background of the Centre. The study based its discussion at Kemorn (1996) categorization of conservation, which stated that preservation is stabilizing the environment which library material are kept. This include controlling excessive temperature relative humidity and instituting good housekeeping practice which is the aspect of the study. The primary information was collected through documentary sources, observation and interview. Based on the discussion, face to face observation, its reveal that the library has no preservation policy programmes, the method used for preservation of information in the library is inadequate and personnel need to be retained, storage facilities should be provided for maps and non-print materials, good library temperature control measure should be provided and every 5% of research funding of the Centre be set aside for library preservation development, has important of preservation is basically tied to information retrieval for both present and past knowledge.
Keywords: Environmental hazard, Library materials, Arid Region, Arid zone studies Library and preservation.

Information

The Sahelian region of Africa, which stretches from Somalia to Senegambia in the West is home of about 45 million people with different types of library

established around to preserved recorded knowledge. The decline in rain fall since 1970 has subjected the region to extreme pressure of desertification, inflicting damage and hardship to the people and communities of the region as well as affecting libraries, agricultural lands, livestock and rural industries. Maiduguri, the Capital of Borno State which house the study area falls under the dry belt of Nigeria lying within the Sudano-Sahelian of West Africa. This zone receives between 200mm and 800mm of rainfall per year and is consider as one of the most sensitive and delicately balance ecological system in the world Gadzama(1987). The climate of Maiduguri present harsh environmental conditions characterized by high day and night solar radiation especially during the dry season.

This season is associated with violent local wind, which often carry with them fine soil particles from the Sahel desert. Raining season is very short, starts from June, sometime July to September with temperature ranging from 21.5°c – 28.6°c. The dry season set in from October to May and the harmattan period is characterized by dusty wind, hot dry air and high temperature of about 40 – 45°c during the day. These climate changes have serious effect on library materials, equipments, staff and the users in general, and centre for Arid zone studies in particular.

Centre for Arid Zone Studies (CAZS)

The Centre for Arid Zone Studies is Multi-Disciplinary Centre, established in 1987 to coordinate on-going research in the region. The ultimate aim is to tackle the challenges posed by drought, aridity and the South ward movement of the Sahara Desert. The Centre objectives therefore is to develop the new approaches in addressing the ecological, agricultural, hydrological and climatological problems of the region.

In establishing the Centre, the University of Maiduguri provided a total land mass of 4762mfor the Centre building, while the National University Commission provide some funds for the project. The building was designed to house all the programmes of the Centre, providing space for offices, library, laboratories and workshop. The foundation stone of CAZS building was laid on the 13th December 1997 and the project was completed in 2008; the Centre is operating now on its permanent site.

Organization of the Centre

In order to achieve its set goals or objectives the Centre is organized into six broad research areas. The Centre has a director and other staffs and each of the area is coordinated by teams of scientists in the field of their specification or specializations. And the major areas of focus is as follows:

1. Arid Zone Ecology and Agroforestry
2. Hydrology, Hydrogeology and Geomorphology
3. Climatology aid Metrology
4. Arid Zone Agriculture and Rural Development
5. Human and Animal Health
6. Social -Economic

The above goals can only be achieved with a well stock library and skill staff, for effective use.

Centre for Arid zone Studies Library

Information plays a vital role in any type of research and this led to the establishment of CAZS library to assist in the provision of informational materials of any format, for research work. The library was set up in the year 1988 to organize and preserve the materials for effective use. The library has a sitting capacity of about fifty (50) readers with over 4500 titles of books and journals which are too small in meeting the research activities of the Centre.

Objectives of the Library

The library is the bed-rock of any organization world over, which has the mandate in term of man-power development, research, teaching and the training advancement in knowledge. The National Policy on Education, clearly identifies the library as one of the most important educational services. Therefore, CAZS library provide the following services in meeting the mandate of the Centre.

1. The provision of materials for research purpose.
2. To select, acquire, organize, disseminate, and preserve all relevant materials both local and abroad to meet the needs of the researchers, postgraduate, students in the field of environmental aspect and others.
3. To participate with the Centre in organizing, hosting and conducting both local and international seminars conferences and workshop on the Arid Zone Ecology.
4. To cooperate with both National and Foreign Organization's Universities, other research Centre of it kinds for exchange of materials and researcher activities collaboration.

Preservation

The preservation of print electronic materials are vital and delicate, the way they are handle may or can affect their life span, of the recorded information in them. Record must be preserved for future used generation. Preservation is the

act of safe keeping or conserving of items. This can be anything e.g. food, books, lands or one's health. Although much has been written about preservation of library materials in the industrialized countries. However, in developing country like Nigeria, few studies have been carried out. The Centre for Arid Zone Studies Library is a special library which offered reference services that had much value to research mandate of the Centre. In Nigeria today, there are many special libraries stock with information materials in diverse formats that need to be preserved.

Preservation of library materials is another important function of the professional librarian. It is the duty of the professional librarian to have interest and pay attention to preservation and conservation of library materials .Researchers have predicted that all information sources of this century, as well as those of earlier years, face eminent deterioration. Therefore, the library should not only concentrate on acquisition of materials but should also know how to preserve the acquired materials in usable condition for generation yet unborn. Lasisi (1999) Supported by saying that preservation is used to denote all those activities and measure intended to conserve library materials for posterity. Muhammed (2006) says that preservation of library materials are all necessary strategies, measure and steps invested into prolonging the lives of library information resources. In view of this preservation of library information resources in any type of library could be put in total or summarized as proper care of books and others information materials. It is a means of safeguarding library materials and preventing decay, thereby prolonging the material life span. There are many reasons for preserving library materials:

1. Enhance library services.
2. Prolong the life span of the materials.
3. Maintenance of continuity and advancement of knowledge.
4. Save fund.
5. Increases the library collection development in stock.

It is of great importance to managers of information to be aware of invasion of library materials by certain agents. The Centre for Arid Zone Studies Library is located in an area where environmental conditions harsh. Frequent changes in the temperature causes thermal expansion and contraction of cellulose fibres in paper. Particles, such as common dust dirt, sand and other are easing blown about by winds and when blown inward to the storage and collection apartment, they settle on book pages and bindings. Agaja (1988) identify heat, dust incessant electrical power failure or fluctuation as some of the main causes of damage to media equipment in the University of Maiduguri. Apeji (1988) in his work on "preservation of special collection maintains that Nigeria being in the tropical

region with high temperatures, the rate of deterioration of library material need proper preservation. Pumble (1988) post condition affecting library materials mostly in tropical areas has radiation intensity, aridity, dust, driving rain and high wind velocity. The condition listed above by the writer's especially that of Plumble 1988 is the actual situation face by Centre for Arid Zone Studies library since it is locating under the dry belt of Nigeria. Rose (1993) also noted that, environmental factors and natural disasters are the major players affecting the life spans of library materials because of poor quality and a publication. Library of Congress (1998) also observed that, the environment around the books is a major concern because unacceptable levels of temperature and humidity will accelerate deterioration. Batubo (2006) observes that, people in general and users in particular constitutes another enemy to library and information materials. More so, natural disasters such as floods, fires and earthquakes can also affect library materials.

Research Methodology

The method used involves the authors long working experience in the library of Arid Zone region, which from the observation method on effect of climate on library materials, secondary sources; seminar papers, journal article, books, non-print materials were consulted and interview was held with other librarian within the zone.

However, the following questions guide the discussion:

1. What are the factors responsible for the deterioration of material resource?
2. What preservation method or technique are in used in the Centre?
3. Are the methods effective?
4. What are the problems?

This paper, therefore attempt to identify the extent of damaging effect of environmental hazard on library materials and to the make some suggestion and recommendation for improving the situation.

Causes of Material Deterioration

These papers focuses on preservation of library collection but there is also need to have the knowledge about the causes of deterioration of library resources.

1. Nature of paper.
2. Light; direct sun ray on the material resources due to poor siting of the library.
3. Effect of ink, leather, cloth and adhesives.
4. Atmospherics pollutants.
5. Sulphur
6. Dioxide

7. Nitrogen dioxide
8. Hydrogen sulphide
9. Dust; dirt, sand can damage library materials, these particles embedded in papers.
10. Biological agents.
11. Insects, mounds, fungi.
12. Rodents, rats, lizards.
13. Human causes, e.g. theft, mutilation, etc.

Preservation Techniques or Devised

Protecting of library resources from decay, a number of ways have been devised. Libraries at each zone of environmental hazard should device it's most functional method of preservation. Library at each zone of environment, here mark their most functional method. The building sitting and construction play a vital role in term of environmental aspect. Secondly it includes:

1. Atmospheric control of the library environment.
2. Proper handling of book resources.
3. Environmental cleanness of the library.
4. Periodical fumigation of the library.

Special library are libraries established in specialist Centre or institution. They take care of information needs of such Centre or Research development. Books and other non-print resource are used in providing the needed information delivery services. As these resources are utilized, preservation becomes imperative to prolong the life span of the materials resources. Knowing that library materials are expensive in the development countries like Nigeria; there is need for every professional librarian to be aware of the basic principles employ in preservation of library collections.

Deterioration of Library Materials in Cazs Library

The developments of a preservation policy for a particular library will necessary depend on its missions and purpose within the organization or community in which it operates. Although librarians are aware of the important of preservation, but little progress have so far been made in establishing formal; preservation program for library materials. The Centre for Arid Zone Library which is situated in the harsh environmental condition, characterized by high day-time temperature with high solar radiation especially during the dry season; need to have a programme or in house strategies for preservation of materials is necessary.

Secondly, it could be seen that the most deterioration factors of the Centre

Library are environmental factor. Environmental condition, with frequent changes condition ranging from dust, heat and others, causes some book to change colour and shapemore so during the raining season many library materials are dampened due to rain water blown by violent wind into the library due to poor window fixing, thereby soaking books and other materials.

Dust has a great devastating effect on library materials specially on the ICT materials. Here in these zone dust can be seen as rain during June-July, when the rain is about to set in, this dust will only settle on materials resource, only waiting when the cleaner, will be able to do the cleaning. In fact, the cleaner is always trying to clean the floor and the table each day. What then happen to the library materials especially those at the back set and our ICT's. Bokhare (1997) also observe that in India, which has a tropical climate like Nigeria noted that dusty environment has direct impact on collection longevity and increase the deterioration of library materials.

Books deterioration or hazards might also be that of human on the area of photocopying e.g. "Statistical Procedures for Agricultural Research 2nd ed. by K. A. Gomez and A. A. Gomez has been reduce to pieces due to it over stretch on the; process of photocopying, the spin and pages has wont out, even wet fingers saliva, lying face down are all part of book deterioration. The issue of insects and fungi are not left out. Termites, also attack structure of the library, the building, furniture's and the books.

The major problem of Centre for Arid Zone Studies Library (CAZS) is aggravated by inadequate preservation method. Any library or information Centre without a proper preservation programme, no matter the types of materials be it ICT example computers, disk, CD-ROMs etc. will be damage by the climate as time move on, because of thermal expansion in temperature.

However, there need to see if CAZS library have any effective method of preservation of materials in the following areas:

1. Dusting and cleaning.
2. Provision of storage devices.
3. Binding services.
4. Report of damaged materials.
5. Fumigation of the library.
6. Fund and staff.
7. Provision of photocopying machine.

Dusting and Cleaning of Library Materials

This is one of the preservation strategies of library materials. The dusting and cleaning should be carried out three to four time a week but due to lack of staff

to perform these duty, the only one cleaner dust part of the shelf and book once in a week. This is not proper or healthy for the materials, comparing the amount of dust settling down on materials each day especially during the pick period of dusty which bring in raining season.

Provision of Storage Device

Storage device, provide protection for most of the materials that cannot stand on the shelves e.g. Maps, Newsletters, Disk, CD-ROM, Monograph Chart, Memos etc. The storage facilities of the library are inadequate compare to the numbers of resource. The only facility available now is the filing boxes which is not enough for the title of print and non-print resources in the library.

Binding Services

All the worn out materials resources due to photocopying and poor handling are still waiting for binding in the room, the reason is lack of fund. The issue has an effect on service delivery of the library.

Fumigation of the Library

Fumigation plays an important role in the preservation of library resources both materials and physical structures. This strategy always removes the insect living in our book e.g. the blouse and shirks insects, from available record the library only embarks on such program only one time since inception. Fund also plays a role on the area of inappropriate fumigation of the library. On the area of reporting of damage resources, provision of photocopying machine, all point down to funding and the library is under staff in both professional librarian and other staffs. Other general methods not listed here were photocopying, microfilming and digitization is measures for preservation, which is a gap to be filled.

Conclusion

Information resources is as old as age of humanity, hence is it highly vital that there should be adequately preserved and conserved for all spheres of human development and for posterity. Since libraries are charged with responsibility of collating, interpreting and exhibiting the collection for used, there should be a strategic plan for long term preservation. More so, they are very expensive hence, the need to ensure they are always in good condition, they are susceptible to deterioration, hence preserving them become ultra-important in order to retain the information content in all media of communication for effective use by present and future generation.

Way forward

1. The University authority and CAZS management should provide an enabling environment to help the librarian work effectively on the area of preservation of materials.
2. The librarian should have full knowledge of some of the guidelines on UNESCO conservation and preservation programmed.
3. The Centre of Arid Zone Studies, should provide 5% per of income from all the research work which is done in the Centre for the library. This will help to run and control the environmental hazard of the library.
4. The librarian should have a pre-plan written policy for preservation of the resources'

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