

**SURVEY OF CAUSES AND CURATIVE MEASURES OF DETERIORATION  
OF PRINT-MATERIALS IN NIGERIAN COLLEGES OF EDUCATION  
LIBRARIES**

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**Abstract**

*Libraries as an information center per-excellence is the nerve centre of every academic institution. This is because of the role of the library in the provision of current and vast information. These information needs of users must be well preserved because print-materials begin to deteriorate the moment they are not cared for. The essence of preserving them is for posterity. It is based on this, that the study investigated the causes and curative measures of deterioration of print-materials in selected Colleges of Education libraries in Nigeria. It examined the nature of damages of these materials, causes of deterioration, curative measures adopted, and possible challenges faced. The study was carried out through descriptive research, using the survey method, with structured questionnaire to get information from respondents. Four (4) Colleges of Education libraries in North-West geo-political zones of Nigeria were surveyed. The questionnaire was collated and analyzed using descriptive statistics namely; the frequency counts and percentage. The findings revealed that curative measures are applied in the libraries but not all are effectively used, and the major cause of deterioration of these materials is wear and tear from excessive photocopying. While one of the most commonly used curative measures is the cleaning and dusting of the materials, nevertheless, inadequate funding was revealed as the major challenges faced by these libraries. Conclusions were drawn and recommendations highlighted.*

**Key Words:** *Causes, Curative Measures, Preservation, Deterioration, Print-library Materials, College of Education Libraries.*

**Introduction**

A library is a social institution, charged with the responsibility of disseminating knowledge to the people without any discrimination. Libraries help to preserve knowledge, ideas, facts, thoughts, accomplishments and evidences of human developments in multifarious areas, ages and directions. These preserved ideas are the wisdom of great thinkers of the past and present. Some of the past records need to be preserved for the present and future generations and any lost of such materials cannot be easily replaced. Therefore, there is need to preserve this intellectual, and cultural heritage as part of the academic commitment and moral responsibility of the librarians and information scientists. According to Sahoo (2011), proper dissemination of library materials is possible, if the documents are well preserved in good and usable conditions. This in turn demands proper preservation and conservation of the library materials.

For sometime now, librarians have been mixing up preservation and conservation and all efforts have been concentrated on curative measure of print document. These measures according to Olatokun (2008) are not properly applied because of lack of skilled manpower. However, Ekwueme, Iya, Gumel and Ohayagha (2005) opined that, most librarians do not undergo training on preservation and as such, one of the major challenges facing most libraries in the world is high rate of deterioration of library materials. This is because most library collections are paper-based and are prone to deterioration. Harris and Schur (2006) buttressed that, paper based library materials, like all organic things, begin deteriorating the moment they are made, which means that these materials are unstable, because their internal chemical structure inevitably leads them to enter into one or more chemical, physical and biological interactions with moisture, oxygen, atmospheric pollutants or micro organism, which causes deterioration. Most libraries are working towards improving their techniques of preservation of library materials. For instance, for the library of congress, Harris and Schur (2006), noted that, although the library has a tradition of concern regarding minimizing the deterioration of print materials, and improving handling and care procedures, it's preservation activities have been organizationally centralized since 1967. This is the same with other libraries all over the world. However, it is important for libraries especially the higher institution libraries to

always re-examine their preservation activities and the need for application of different curative measures to protect materials from deteriorating.

The importance of education to human beings cannot be over-emphasized. Education is a human right that should be provided to all human beings solely by reason of being human. The need for higher education is partly based on the fact that those with higher education qualifications have a better chance of securing a job in a tough market compared to those without higher education qualifications. Higher education in Nigeria, has really suffered from frequent strikes staged by students, faculty and teachers. Much of the difficulty faced lies on the fact that the sector is poorly funded by the government, and this results to lack of adequate resources for education, lack of qualified teachers; a few instructional facilities, poorly equipped libraries and poor quality library services. Some of these challenges are the bedrock upon which this study is based.

The preservation of library materials can simply be seen as good housekeeping or the act of keeping safe or keeping alive. Foot (2001) sees it as an act of keeping safe all managerial and financial considerations including storage and accommodation provision, staffing levels, policies, techniques and methods involving in preserving library materials. It is the concern of all information providers or librarians and every member of the library staff, from the cleaners to the college or university librarians, in higher institutions.

In most libraries in higher institutions, as already mentioned, the basic library materials and constituents of the physical entity of these library materials are mostly organic in nature, which are susceptible to natural decay and deterioration. The nature of library materials are print and non-print materials. The print materials include paper works like books, maps, manuscripts, photos, etc. While Ekwueme et al., (2005) identified the non-print materials as microfilm, microfiche, magnetic tapes, cassettes, computers, video tapes etc. All these library materials are made up of some raw materials which can easily be attacked by some living organisms. For instance, in books, apart from paper, the other materials used to manufacture library materials are clothes, leather, ink, metals, adhesive, irons etc. And all these materials are nutrition to some living organisms. Therefore, these library materials need protection for proper preservation and

conservation for future generations. It is against this background, that this study was carried out, to survey the causes and curative measures of deterioration of print materials in selected Colleges of Education libraries in Nigeria.

The essence of preservation and curative measures applied is to safeguard the library materials from decaying and deteriorating. The major aim and objective of this study is to survey the nature of damages of library materials in the selected College libraries, the causes of the damages, the curative measures or preservative technique adopted against the deterioration of these materials and the possible challenges faced for effective preservations.

### **Statement of the Problem**

The case of deterioration of print-library materials is growing at an alarming rate in most academic libraries. This is because preservation and conservation practices are not well practiced in most academic libraries especially in Colleges of Education libraries. This can also be attributed to some factors of deterioration of library materials and poor curative measures adopted by these libraries. It is on this note, the study investigates the causes and curative measures of deterioration of library materials in Colleges of Education in North-West geo-political zones of Nigeria.

### **Purpose of the Study**

The study seeks to achieve the following:

- i. To determine the nature and extent of damages of print-library materials in the selected Colleges of Education libraries.
- ii. To find out the causes of deterioration of library materials.
- iii. To ascertain the curative measures of deterioration of library materials.
- iv. To determine the constraints against effective preservation of library material.

### **Research Questions**

To investigate the problems stated, the following research questions were formulated.

- i. What are the nature and extent of damages of print-library materials in the selected Colleges of Education libraries?
- ii. What are the causes of deterioration of print-library materials?
- iii. What are the curative measures adopted to prevent deterioration of these library materials?
- iv. What are the possible constraints existing against effective preservation of library materials in selected Colleges of Education libraries

### **Scope and Delimitation of the Study**

The research focused on causes and curative measures of print-library materials. The study is on College libraries in:

Federal College of Education, Kano – Kano State

Federal College of Education, Zaria – Kaduna State

College of Education, Gumel – Jigawa State

College of Education, Kumbotso – Kano State

The study explored the causes of deterioration of library materials, and the curative measures adopted by the libraries under survey. The research was delimited to only the librarians in the selected college libraries because they are in best position to give the necessary information on the issue at stake. The sample was randomly selected among the librarians, however, opinions may be applicable to other academic libraries in Nigeria and the entire Africa.

### **Methodology**

The study is a descriptive survey design. It sought the opinion of the respondents on the causes and curative measures of deterioration of print-library materials in colleges of Education in the North-West geo political zones of Nigeria. The population of the study is the College libraries of Federal College of Education, Kano, Federal College of Education, Zaria, College of Education, Gumel in Jigawa State and College of Education, Kumbotso in Kano State, all in Nigeria, with the population of about 10 (ten) professional librarians each, making a total of 40 librarians. A sample of twenty (20) librarians were selected, through random sampling technique. The librarians were used as the

target participants because they were in the best position to give all the necessary information concerning the issues being studied.

The instrument for data collection is the questionnaire divided into five sections. The first section contains the demographic data of the librarians, qualification of the professional librarians, and category of the institution. The other sections contain, the nature of the library materials, causes and curative measures of deterioration of library materials and the barriers affecting the preservation of these print materials. The initial structured questionnaire had eight (8) sections, but with the face and content validities, done by two librarians in Federal College of Education, Kano, the sections were reduced to five (5) sections. A pilot test was carried out to establish the reliability of the test, the instrument was administered on 4 librarians not used in the study. Within a period of two weeks, it was re-administered to ensure its stability. All the twenty (20) copies of the questionnaire was administered and returned giving a 100 per-cent (100%) response rate. The responses were collated and analyzed using the descriptive statistics namely; the frequency and percentage distributions.

#### **Review of Related Literature**

The preservation of library stock, at its basic level simply means good housekeeping, safekeeping or "Keeping alive". The essence is to maintain and retain the library collections, against decaying and ageing. Preservation is the process of checking the materials and taking possible curative measures to stop the materials from deteriorating. This should be the concern of all library staff, beginning from the cleaners, porters, right through the librarian himself. Traditional library collections contain a wide range of organic materials, which undergo a continual and inevitable natural ageing process. According to International Federation of Library Association (IFLA) and Council of Library and Information Resources, the chemical and physical stability of library materials also depends on the quality and processing of the raw products used in their manufacture, together with the design and construction of the final artifact. They noted that, large number of library material reach the end of its natural life, and the few years left can only be prolonged by careful handling and storage of these materials.

The physical deterioration of library materials, especially recorded word written or printed on paper is of great concern to librarians. Paper-based materials have proven satisfactory for centuries of their use and will continue to be useful long into the foreseeable future in the storage and communication of information, but it is quite unfortunate that most of the papers on which information has been recorded deteriorate rapidly if not cared for. Care of library materials involves protecting the materials from deteriorating, decaying and restoring the damaged ones. However, Ogbonna (2009) stipulated that, caring for library materials is all about making our library materials useful by preserving the materials for as long as they are wanted. He also outlined some of the causes of deterioration of library materials as:

- ✓ Nature of papers, made up of organic materials especially wood, which life span can be reduced overtime.
- ✓ The effect of Ink – Ink is one of the main ingredients of printed and written library materials. They fade from black to brown and combined with its acidity can lead to loss of text.

Other causes are:

- ✓ Light – atmospheric pollutants;
- ✓ Biological agents; and
- ✓ Human causes.

Ogunmilade (1995) opined that library users must be instructed in the proper use and handling of books and other materials. He listed some of the ways library books are damaged, - exposure to water, excessive heat, tearing of pages, breaking of covers, marking of pages with pencils or biro, allowing grease to get on the pages and turning down the cover pages upside down, all tend to mar and damage the book, which will quickly send the books or materials out of circulation and thereby preventing other users from using it. Therefore, to allow the books/materials to live long and remain in the library adequate curative measures must be adopted.

Good curative measures entail good housekeeping, safekeeping, caretaking, dusting, periodically supervision etc. Sahoo (2001) divided these curative measures into direct and indirect actions. The direct actions aim at increasing the life expectancy of both the damaged and undamaged materials. This includes repairing, mending, fumigating, deacidification, lamination etc. The caring is mostly on the

physical condition of the books/materials. While the indirect measures are all indirect actions like dusting, periodical supervision and prevention of any possibility of damage by physical, chemical, biological and other factors. However, all measures aim at increasing the life expectancy of damaged and undamaged elements of cultural property for posterity.

When materials are not well cared for, they deteriorate. Deterioration is a change of the original state of any material by interaction between the objects and the factors of destruction (Ekwueme et al., 2005). It is therefore important to note that, the different types of deterioration of the paper based materials are reflected in wear and tear, shrinkage, cracks, brittleness, wrinkling, disinfestations, discoloration, abrasion, hole, dust and dirt accumulation. Sahoo (2001) generally examined some factors that are susceptible to deteriorate library materials and they are: environmental, biological, chemical, human and natural factors.

The environmental factors are made up of light, heat, humidity and moisture, dirt and dust and water. The intensity and excessiveness of these factors damage the papers and fade the ink. No wonder Thomas (1987) in Akussah (1991) opined that the longevity of library materials would increase seven and half fold of each decrease of 36 degree Fahrenheit, while Kemoni (1986) said that papers stored in an uncondusive environment has a tendency of suffering from physical breakdown and changes in colour. Excessive humidity tend to soften the library materials, and when water touches the materials, they undergo some dimensional change. Sahoo (2001) also said that excessive water brings about biological attack on paper, which is seen in the growth of fungus or mildew.

Shuhaimi (1986) in Akussah (1991) opined that the presence of microorganisms like fungi is signified by white colouring on documents while the insects eat up the papers in the library. For the chemical factors, Ekwueme et al., (2005) opined that, the high acidic content in library materials which results from the raw materials used in making the paper have a disastrous effect on the materials. Besides these factors mentioned, the human factor is a serious agent of destruction of the library materials. This is because of the way these materials are handled by man himself. Adams (1973) in Akussah (1991), said that the greatest enemy of the library materials are the librarians who neglect

these materials. This is true because of the way and manner which the library materials are handled by some librarians and users.

Ogbonna (2009) outlined the following curative measures; a library can adopt to help librarians counter the deterioration of library collection. These include:

- ✓ **Controlling the environment:** Since papers are organic materials, they need stable temperature and humidity levels to be maintained in the libraries, by proper ventilation and use of air-conditioning systems. Aside from these ventilation methods, Dureau and Clement (1986) enumerated simpler measures that may be of use in limiting the extremes of temperature and humidity as follows:
  - i. Ensure good air circulation by appropriate use of fans and windows.
  - ii. Use of insulation methods to reduce heat gain and use of blinds to keep out direct sunlight.
  - iii. Use of dehumidifiers to reduce humidity in badly affected areas of book stack.
  - iv. Poor maintenance of building to keep out dampness during rainy periods.

While the other measure is that the light level in the library needs to be kept as low as possible in all library areas, the number of lights can be possibly reduced. There is need to avoid direct sunlight, by using blinds for the windows. However, Momoh (1987) and Unomah (1988) identified the following measures:

- ✓ **Pest Control:** These can be done through the use of insecticides, removal of plants debris from the surrounding of the building, eliminating damp spots and regular cleaning and inspection of the area.
- ✓ **Good housekeeping:** Regular cleaning, and regular examination of the collection and its storage facilities, while they opined that library collections should be carefully handled by librarians.

### **The Concept of Higher Education**

The definition of higher education differs according to the context, in which it is discussed. It is obvious, that most definitions agree that higher education refers to post-secondary education, after which a degree, diploma, or certificate is awarded at the end of the study. Higher education builds on the level of the competence, knowledge and skill normally acquired in secondary education. According to lecture note on National Open University of Nigeria (NOUN) (accessed 28/3/12), the exact definition of higher education institution varies from one country to another. For instance, teacher education can be referred to as higher education in some countries, while in some, it is considered to be part of post-secondary education.

The Association of African University (AAU) working group on higher education recommends that higher education should include tertiary education/institutions other than universities. While at meeting of African Union (AU) (2007), higher education includes all universities, polytechnics, teachers training institutes, medical institutes, distance learning centers, research centres and institutes with the possibilities of expanding to include other forms of post-secondary education.

The National Policy on Education (FGN, 2004) define higher education as the post secondary section of the national education system, which is given to Universities, Polytechnics and Colleges of Technologies, Colleges of Education, Advanced Teachers College, correspondence Colleges, and such institutions as may be allied to them. The National Policy on Education (FGN, 2004) provided a guide at attempting to fulfill the nation's objectives. The objectives are:

- i. A free and democratic society.
- ii. A just and egalitarian society.
- iii. A united, strong and self-reliant nation.
- iv. A great and dynamic economy.
- v. A land of bright and full opportunities for all citizens.

It was from these objectives that philosophy of Nigerian education was spelt out, and each level draws its purpose from this philosophy. This is why the higher education in Nigeria, drew its purpose for the attainment of specific objectives.

### Results

Demographic data about the college libraries shows that two of the College libraries were established between 1970 and 1980, the Federal College of Education Kano and Zaria, owned by Federal Government, while College of Education Gumel and Kumbotso libraries were established between 1990 and 2000, owned by the State Government. The maximum qualifications of professional librarians are masters and Doctorate degrees while the minimum is the B.LS (Bachelor Degree in Library Studies) and advanced Diploma in Information management.

#### Research question 1: what are the nature and extent of damages of print library materials?

**Table 1: Shows the result of the analysis of the nature of damages of print library materials in the selected College libraries.**

Nature of library materials	Moderate	Moderately high	Moderately very high
Vandalization of library materials	0. (0.00)	2 (10%)	18 (90)
Soiling of library materials with water and oily substance	4 (20)	6 (30)	10 (50)
Torn pages of books	1 (5)	8 (40)	11 (55)
Torn covers and broken spines	1 (5)	10 (50)	9 (45)
Destruction of library materials by destructive agents	1 (5)	4 (20)	15 (75)

*Source: Field work. May 2011*

Result shows that vandalization of print library materials is the highest nature of damage done in the surveyed College libraries, followed by destructive agents, the next is torn pages of books, followed by soiling of the print materials with water and oily substance. The least nature of damage of print – library materials is the torn covers and broken spines.

**Research question 2: What are the causes of deterioration of print library materials?**

**Table 2: Causes of deterioration of print library materials.**

<b>Causes of deterioration</b>	<b>Moderate</b>	<b>Moderately high</b>	<b>Moderately very high</b>
Environmental factors -excessive light, heat, dust,	6 (30)	10 (50)	4 (20)
Biological factors – insect, water, fungi termite, cockroach etc.	3 (15)	8 (40)	9 (45)
Rodents – rats, rabbits, mouse etc.	6 (30)	5 (25)	9 (45)
Chemical agents - high acidity level, glum etc.	7 (35)	5 (25)	8 (40)
Poor ventilation and humidity	5 (25)	7 (35)	8 (40)
Non-challant attitude of librarians (human agents)	1 (15)	5 (25)	12 (60)
Wear and tear due to photocopying	0 (0)	7 (35)	13 (65)
Lack of orientation of users	3 (15)	9 (40)	10 (50)
Natural disasters – fire, flood etc.	8 (40)	8 (40)	7 (20)

*Source: Field work. May 2011.*

The result in Table 2 shows that wear and tear of books due to excessive photocopying has 65 per cent, which shows it is the major cause of deterioration of print materials in the surveyed College libraries. This is followed by the non-challant attitude of the librarians and the next is lack of orientation of user, while the least cause is the biological agents.

**Research question 3: What are the curative measures adopted to prevent deterioration of print library materials.**

**Table 3: Curative measures adopted**

<b>Curative measures</b>	<b>Never</b>	<b>Occasionally</b>	<b>Very often</b>
Use of insecticide and insect repellent	2 (10)	10 (50)	8 (40)
Cross ventilation for free air	3 (15)	4 (20)	12 (65)
Deacidification	8 (40)	9 (45)	3 (15)
Cleaning and dusting of library materials	0 (0)	2 (10)	18 (90)
Building and mending of books	0 (0)	3 (15)	17 (85)
Installation of air conditioner	3 (15)	3 (15)	14 (70)
Photocopying and lamination	2 (10)	5 (25)	13 (65)
Proper shelving	0 (0)	2 (10)	18 (90)
Fumigation	1 (5)	13 (65)	6 (30)
Proper Security	0 (0)	10 (50)	10 (50)

*Source: Field work. May 2011.*

Table 3 shows that, the work used curative measures of print library materials are cleaning and dusting of the library materials and proper shelving. They scored the highest percentage, followed by binding and mending of the books and installation of air conditioners, cross ventilation, photocopying of materials to have duplicates and proper security. However, the least measures are deacidification and use of insecticide and fumigation, although all strategies are adopted as curative measures.

**Research question 4: What are the barriers hindering effective preservation of print library materials.**

**Table 4: Challenges against effective preservation**

Possible challenges	Moderate	Moderately high	Moderately very high
Inadequate funding	0 (0)	0 (0)	20 (100)
Lack of preservation policy guiding security and disasters	6 (30)	5 (25)	9 (45)
Act of training of library staff	2 (10)	10 (50)	8 (40)
Lack of trained preservators and preservation managers	2 (10)	2 (10)	16 (80)
Administrative factors	3 (15)	7 (35)	10 (50)

*Source: field work. May 2011.*

The result shows that, inadequate funding is the major challenges faced by the colleges for effective preservation of books in the libraries under survey. This is followed by lack of trained preservation and preservation manager. The next, is administrative factors, then lack of preservation policy guiding security and disasters and the least is lack of education and training of library staff.

**Discussion of Findings**

The outcome of the study shows that the professional libraries in the college libraries are graduates. The nature of damage of prints library materials includes: vandalization of print library materials, destructive agents, and torn and broken spines. The result further shows that the major cause of deterioration of library materials is wear and tear due to excessive photocopying, because the users handle the library materials roughly. This is in line with the findings of Olatokun (2008) where he stated that wear and tear of library materials are the major causes of deterioration of library materials. However, Ogunmilade (1995) supported this finding with his opinion that, when library materials are

excessively photocopied it leads to breaking of the spine and cover of the books.

The findings also revealed that, librarians show non-challant attitude towards their work, with no concern to the need for preservation, they are reluctant about applying the measures that will prevent deterioration. This finding supports the opinion of Ekwueme, Iya, Gumel and Ohayagha (2005), that most librarians have negative attitude towards preservation of library materials. It is in this vein that the findings of Adams (1973) in Akussah (1991) further supported the findings, where he said that, the greatest enemy of the print library material are the librarians who neglect these materials. No wonder Lawrence (Ed 2010) identified that the primary agent responsible for the deterioration of our library materials is man. This is because he takes the decision on how to handle the library materials, the stuff of materials to use for preservation and how these materials can be utilized. This also leads to lack of orientation of library users, where these users sometimes mishandle the books by wrongly dropping or shelving the books, while it is not their duty to shelve them. This result is supported by Ekwueme (2008), who opined the need of users education in academic libraries. Since they are the major client. This can be done through orientation programme, creating awareness through handbills and library hand books. This also calls for the need of inclusion of library studies as part of general studies in education in all academic institution.

The finding also revealed that print library materials suffer from high acidity and high temperature level; this hastens the chemical deterioration of materials and can make the material unusable. Lawrence (Ed 2010) supported this finding that chemical pollutants are always working against paper print, and thereby contact the acidity generated from sulfurous gases in the air. These factors also play a major role in the multiplication of some biological agents, because high relative humidity provides moisture, and can promote harmful chemical reactions on books, which can lead to growth of Mildew, fungi, insects etc.

The finding also revealed that rodents like rats, rabbits mouse etc. are all agents of destruction of library materials because they eat up library materials. Nevertheless, Walker (2010) opined that pests like insects, rodents and birds damage collections. He opined that

integrated pest management (IPM) programme should be designed to prevent pests getting into the storage areas by monitoring their presence and taking accurate curative measures. The finding also revealed that reaction of these agents of deterioration mentioned becomes pronounced when the library is poorly ventilated. Walker (2010) opined that poor ventilation of the library leads to high humidity, because the higher the temperature, the more water vapour the air can hold, and when the temperature is not controlled, it will lead to the breakdown of the materials. The least from the finding or the causes of deterioration is excessive light, dust etc and natural disasters. Lawrence (Ed 2010) supported this finding by ascertaining that, excessive sun rays damages materials. While Walker (2010) said that exposure of library materials to light causes fading of dyes, inks and pigments and can contribute to ageing and brittleness of paper. He gave an example of newspapers left in daylight or artificial light that will turn yellow within a few days, while similar paper kept out of light will not. International Federation of Library Association (IFLA) and Council on Library and Information Resources advised that all libraries must make plans on how to handle natural disasters like hurricanes, floods, earthquakes, fire etc, so that materials can be adequately preserved.

On the outcome of the curative measures adopted, the finding revealed that, cleaning and dusting the entire library, its environments and materials are important, because of the damage it does to materials. This finding collaborates with the view of Sahoo (retrieved 20/2/21) that cleaning and dusting of the library material is a direct curative measure and it should be a routine in the library. This is followed by proper shelving of the materials. This buttresses the idea of Olatokun (2008) in his findings where he ascertained that library materials has longevity only when they are properly shelved and handled. Besides, Walker (2010) stressed that a good storage environment should be regularly cleaned, and the books properly shelved and dusted. He said that dust can be abrasive and may contain pollutants and will foster mould growth and pest infestation. The finding further revealed that, binding and mending of print library materials and proper security of these materials is a direct curative measure. However, International Federation of Library Association (IFLA) and Council on Library and Information Resources buttressed

that, security of library parameters and buildings are important to avoid height and vandalization of the library. It was noted that the reading areas should be properly secured by placing security devises. Bags and books should be checked on exist. They opined that the security of library materials is done by stamping them, as a sign of identity of a particular institution. Nevertheless, libraries should have security policy. This is confirmed by Foot (2001), when he argued that even when high security areas are often needed, security that is too strict can defeat itself in the case of sudden emergency. He advocated for a security policy that will include the users and the entire library. The high rate of vandalization of library materials in the libraries studied, calls for adequate security of the library materials. Besides, library security should not be occasionally but always to avoid damage of the library materials. Other measures used in the college are photocopying and lamination of library materials. This is less than other measures, which shows the rate of torn pages of books and their covers in the libraries surveyed.

Photocopying and laminating library materials as a duplicate will help in the durability of the original text. However, IFLA and Council on Library and Information Resources opined that photocopying is not a complete preservation tool but rather it can be particularly useful for replacing missing pages or text. The findings also show the need for cross ventilation and installation of air conditioner, which supports the opinion of Walker (2010) on how poor ventilation of the library has deteriorating effect on the print – library materials. Moreso, other measures occasionally carried out are: use of insecticide, deacidification and fumigation.

However, IFLA and Council on Library and Information Resources opined that, since insects and rodents destroy books, libraries should always look for the least toxic alternatives to put them away. Fumigation and use of insect repellent was suggested, but it should be noted that there is no fumigant known to be safer for all library collections, rather fumigation will help as a resistance to future pest attack. This finding shows the reason for high rate of destruction of library materials by deteriorating agents.

The highest challenge against effective preservation is inadequate funding. This supports the findings of Neli (2003) and Foot (2001) that no preservation technique, policy or strategy can be

implemented without sufficient funding. Foot (2001), stressed that, libraries should be able to balance funding of acquisition of materials. Other barriers are lack of trained preservators and preservation managers who will implement the curative measures. This confirms the views of Ekwueme, Iya, Gumel and Ohayagha (2005), Adams (1973) in Akusah (1991) that trained preservators are needed for the implementation of preservation policy and adequate preservation programmes. The library staff in college libraries lack skill training, no wonder Foot (2001) postulated that limited resources mean that we must make use of the resources very well, including human resources. He opined more investment is needed in training and education of library staff.

In conclusion the study has shown that curative measures are adopted in college libraries surveyed but these measures are not fully implemented due to some challenges. This also reveals why the nature of damaged materials found in these selected College of Education libraries like all organic things, library materials, in simplistic terms, begin to deteriorate the moment they are not cared for.

However, all library materials are not stable more precisely; their internal chemical structure inevitably leads them to enter into one or more chemical, physical or biological interactions. It is believed that when curative measures are taken, print – library materials will be prevented from deterioration for generations, and will lead to good management of higher education, thereby help to achieve educational objectives in higher institutions.

### **Recommendations**

Based on the findings, the following recommendations were postulated:

- ✓ The parent institutions should ensure that adequate fund is allocated to libraries as this is the bedrock to ensure good house keeping of library materials. This fund will be used to buy preservative agents, train library staff, preservators and preservation managers to ensure good preservation practice in the institutional libraries.
- ✓ There is need for implementation of preservation policy on security in College of education libraries as this will go a long

way in curative measures. These policies should be reviewed from time to time

- ✓ Further, institutional libraries should enhance users orientation programmes for both staff and students, through creating awareness, handbills, library handbooks and inclusion of library studies General Studies in Education (GSE) course. This will help users develop positive attitude in handling library materials.
- ✓ Moreso, there is need for ECOWAS and NGO'S involvement in the training of preservators and librarians, in institutional libraries through voluntary donation and support. This is because, the major challenge of institutional libraries is inadequate funding which affects the training of librarians, preservators, and preservation managers.

The results from this study will go a long way if implemented to enhance the curative techniques used in institutional libraries and drastically reduce the deterioration of print – library materials in higher institutions in Nigeria and the entire Africa.

### **Conclusion**

The study found out that library materials deteriorate when they are not taken care of, that preventive measures help library materials to last long and the library staff need good training on preservative programmes. It is believed that when adequate measures are taken, these materials will be preserved and there will be adequate management of higher education and the educational objectives will be achieved in the entire Africa.

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