CONDITIONS AND CAUSES OF DETERIORATION DISASTER PREPAREDNESS OF LAW LIBRARY COLLECTION IN KARNATAKA: A STUDY

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Abstract: It is true that causes of deterioration is as old as librarianship. It is also no longer news that as soon as an item is manufactured it also starts to depreciate so also printing materials. People using library materials in a normal way will causes some inevitable damage. It also discusses the concepts of deterioration to the library, librarianship and librarians. The amount of damage that occurs can be reduced by proper handling. Willful acts that damage library materials, decaying books and papers, Were the mostly found associated fungi. Both bacteria and fungi shows positive activity of cellulase degradation. are inexcusable and must not be done. This paper examines the issues of conditions and causes of deterioration disaster preparedness. The study is descriptive in nature and used information that are secondary in nature. Upon the whole the paper says "prevention is better than cure" deterioration can be reduced to the barest minimum if it is nipped in the bud before it becomes uncontrollable.

Key words: Antibacterial; Lactophenol Cotton Blue; deterioration; Resources utilization

1.0 Introduction

A library is a repository of wisdom of great thinkers of the past and the present. It is a social institution charged with the responsibility of disseminating knowledge to the people without any discrimination. The common microorganisms which are responsible for deterioration of library material or paper are Fungi and Bacteria but the most common is fungi. Disasters and emergencies are fundamental reflections of normal life. The fungal spores are present in the earth, water and air and remain in a dormat state for long periods. They are consequences of the way society structure themselves, economically and socially; the way societies and states interact; and the way that relationships

between the decision makers are sustained. The disaster emanates from the fact that certain communities or groups are forced to settle in areas susceptible to the impact of ranging river or a volcanic eruption. The magnitude of each disaster, be in terms of deaths, property damage or costs for a given developing country increases with the increment of marginalization of the population. As the population increases, the best land in both rural and urban areas is taken up, and those seeking land for farming or housing are forced to accept inadequate land. These offer less productivity and a smaller measure of physical or economic safety. Disasters have massive human and economic costs. They may cause many deaths, severe injuries, and food shortages. Damage can occur because of mechanical stress or enzymatic action, because moulds can produce a wide range of enzymes (proteinases, gelatinases, cellulases) which are able to destroy the component materials of library and archival collections.

1.1 Scope of the Study
The present study attempts to know the present conditions of library preservation and conservation of Law college libraries affiliated to Karnataka State Law University, Hubli have been considered for the study. The scope of the study is confined to Law college libraries only.

1.3 Objectives
The main objectives of the present study are:
1. To know the law college library's extent of deterioration caused for library collection,
2. To To study the size collection that condition of the binding,
3. To find out what percentage of collection is disaster detection devices,
4. To examine the availability of security systems.

1.4 Methodology
The study was taken up through collection of data using a questionnaires set for the purpose. The investigator a prepared rather detailed questionnaires to cover all the aspects of Damage and Degradation of Library Collection. A hundred qquestionnaires were personally distributed and 96 questionnaires where from the librarians, accounting for 96% response rate. The collected data has been analyzed and interpreted by using the Statistical Package for Social Sciences 21(SPSS 21).

1.5 Background Studies
Literature search plays a very important role in research activities, as it forms the very first step of research pursuit. A thorough review of related literature is very essential in conducting new research.

Thomas, Ebijuwa & Sarah (2013) present an overview of preservation and conservation of library resources. They have It also studied the causes of deterioration of library information resources, among which are: natural aging process, level of use of library materials, inherent chemical content used in the process of study making, high temperature and fluctuating relative humidity, improper handling of library materials among many others were equally discussed. **Lakshmi & Rajavel (2016)** study that any librarian responsible for the preservation of these documentary heritages should know the various causes of deterioration of the library materials and the possible methods for their preservation (anuscripts, books, periodicals, paintings, drawings, charts, maps). **Iyishu, et al. (2013)** have examined the preservation and conservation as measures for achieving sustainability of library materials long as possible in their original format. In order to achieve this, causes of deterioration of library materials such as poor study manufacture, improper storage, rough handling, pests and knowledge of disaster occurrence, electronic means of preservation, challenges and strategies for digital materials preservation have been examined.

Roy & Naresh Kumar (2017) attempt to explain preservation and conservation as measures for achieving sustainability of library materials as long as possible in their original format. **Idowu Kolawole (2015)** have explored the alternatives to the disaster management practices in five public libraries in South West Nigeria. The study revealed that all libraries boards had put in place adequate measures to curtail disaster occurrences, therein majority of the staff were fully aware of the disaster preparedness measures and have knowledge on how to use available disaster equipment. **Niziers (2006)** exmined the few years of activity, the training courses have been opened to other French libraries which have a global partnership contract, and to the members of the French Committee of the Blue Shield for the management of disaster plans. Also the French national library organizes training courses in project management in preservation and conservation issues, and digitization, to the benefit of foreign professionals.

1.6 Result and discussion

1.6.1 Extent of Deterioration Caused for Library Collection

It may be seen from (Table-1.6.1) There are significant differences (χ^2=44.72; p=.000) for the extent of deterioration caused 'Temperature' with a mean value of 3.11 and SD being 1.06. Significant differences (χ^2=29.93; p=.000) are observed for the 'Water' with a mean value of 3.36 and SD being 1.08. Significant differences (χ^2=14.52; p=.000) observed for 'Light' with a mean value of 3.41 and SD being 1.22. There are significant differences (χ^2=35.66; p=.000) for 'Relative Humidity' with a mean value of 3.30 and SD being 1.19. Thus, there are significant differences (χ^2=12.95; p=.011) for 'Dust' with a mean value of 3.16 and SD being 3.16. There are significant differences (χ^2=16.91; p=.002) for 'Termites' with a mean value of 3.56 and SD is 1.29. Thus, there are significant differences (χ^2=15.14; p=.004) for 'Silverfish' with a mean value of 3.18 and SD is 1.21. Significant differences (χ^2=29.62; p=.000) are observed for 'Cockroaches' with a mean value of 3.46 and SD is 1.22. There are significant differences (χ^2=12.64; p=.000) for 'Bookworms' with a mean value of 3.27 and SD is 1.28. Significant differences (χ^2=40.56; p=.000) are observed for 'Book Lice' with a mean value of 3.44 and SD is 1.10. There are significant differences (χ^2=17.85; p=.001) for - 'Death-watch beetles' with a mean value of 3.44 and SD being 1.14. There are significant differences (χ^2=21.18; p=.000) for 'White Ants' with a mean value of 3.13 and SD being 1.12. There are significant differences (χ^2=20.35; p=.000) for 'Sulphur dioxides' with a mean value of 3.16 and SD being 1.15. There are significant differences (χ^2=20.08; p=.000) for the security measures - 'Oxides of nitrogen' with a mean value of 3.67 and SD being 1.16.There are not-significant differences (χ^2=39.52; p=.000) for 'Ozone' with a mean value of 3.46 and SD being 1.00.There are significant differences (χ^2=25.35; p=.000) for 'Improper storage' with a mean value of 3.23 and SD being 1.13. There are significant differences (χ^2=12.43; p=.014) for 'Faulty repair' with a mean value of 3.34 and SD being 1.31. There are significant differences (χ^2=29.20; p=.000) for - 'Rough handling' with a mean value of 3.22 and SD being 1.14. There are significant differences (χ^2=20.35; p=.000) for 'Deliberate abuse' with a mean value of 3.51 and SD being 1.22. There are significant differences (χ^2=22.43; p=.000) for 'Folding the fore-edges of pages as a mark of reading' with a mean value of 3.36 and SD being 1.16. There are significant differences (χ^2=28.68; p=.000) for 'Marking by ball pen' with a mean value of 3.22 and SD being 1.13. There are significant differences (χ^2=48.27; p=.000) for - 'Vandalism' with a mean value of 3.28 and SD being 1.03.

Table-1.6.1: Extent of Deterioration Caused for Library Collection

S/N	General Causes	Mean	SD	χ^2	P value
1	Temperature	3.11	1.06	44.72	0.000
2	Water	3.16	1.08	29.93	0.000
3	Light	3.41	1.22	14.52	0.005
4	Relative Humidity	3.30	1.19	35.66	0.000
5	Dust	3.16	3.16	12.95	0.011
	Biological Factor				
7	Termites	3.56	1.29	16.91	0.002
8	Silverfish	3.18	1.21	15.14	0.004
9	Cockroaches	3.46	1.22	29.62	0.000
10	Bookworms	3.27	1.28	12.64	0.013
11	Book Lice	3.44	1.10	40.56	0.000
12	Death-watch beetles	3.44	1.14	17.85	0.001
13	White Ants	3.13	1.12	21.18	0.000
	Chemical Factors				
14	Sulphur dioxides	3.16	1.15	20.35	0.000
15	Oxides of nitrogen	3.67	1.16	20.08	0.000
16	Ozone	3.46	1.00	39.52	0.000
	Human Factors				
17	Improper storage	3.23	1.13	25.35	0.000
18	Faulty repair	3.34	1.31	12.43	0.014
19	Rough handling	3.22	1.14	29.20	0.000
20	Deliberate abuse	3.51	1.22	20.35	0.000
21	Folding the fore-edges of pages as a mark of reading	3.36	1.16	22.43	0.000
22	Marking by ball pen	3.22	1.13	28.68	0.000
23	Vandalism	3.28	1.03	48.27	0.000

Key: SD = Standard deviation; χ^2 = chi-square; P = Probability; P≤.050 – Significant; P> .050 – Not Significant.

1.6.2 Condition of the Binding of Library Collection

The table-1.6.2 shows that there are significant differences (χ^2=18.54; p=.000) for the state of condition of the binding 'In good condition' with a mean value of 3.07 and SD being 1.32. Significant differences (χ^2=27.64; p=.000) are observed for the - 'Damaged spine' with a mean value of 3.34 and SD being 1.19. Significant differences (χ^2=18.89; p=.000) observed for - 'Loose joints' with a mean value of 3.34 and SD being 1.26. There are significant differences (χ^2=31.60; p=.000) for 'Damaged inner joints' with a mean value of 3.61 and SD being 1.06. Thus, there are significant differences (χ^2=27.54; p=.000) for 'Damaged paper cover' with a mean value of 3.57 and SD being 1.08. There are significant differences (χ^2=30.35; p=.000) for 'Damaged paper cover' with a mean value of 3.57 and SD is 1.08. Thus, there are significant differences (χ^2=30.35; p=.000) for 'Title worn off' with a mean value of 3.58 and SD is 1.13. Significant differences (χ^2=40.56; p=.000) are observed for 'Title label missing' with a mean value of 3.31 and SD is 1.13. There are significant differences (χ^2=26.29; p=.000) for 'Call number missing' with a mean value of 3.51 and SD is 1.11. There are significant differences (χ^2=17.85; p=.001) for - 'Insect

damage' with a mean value of 3.32 and SD being 1.19. Thus, there are significant differences (χ^2=24.72; p=.000) for 'Drought' with a mean value of 3.53 and SD being 1.26. There are significant differences (χ^2=28.16; p=.000) for 'Humidity' with a mean value of 3.73 and SD is 1.19. There are significant differences (χ^2=13.27; p=.010) for 'Variation in temperature' with a mean value of 3.44 and SD is 1.25. There are significant differences (χ^2=32.85; p=.000) for - 'Variation in relative humidity' with a mean value of 3.75 and SD being 1.06. Thus, there are significant differences (χ^2=28.68; p=.000) for 'Winds particles, pollution, etc' with a mean value of 3.43 and SD being 1.07.

Table-1.6.2: Condition of the Binding of Library Collection

S/N	Condition of Binding	Mean	SD	χ^2	P value
1	In good condition	3.07	1.32	18.58	0.000
2	Damaged spine	3.34	1.19	27.64	0.000
3	Loose joints	3.34	1.26	18.89	0.000
4	Damaged inner joints	3.61	1.06	31.60	0.000
5	Damaged paper cover	3.57	1.08	27.54	0.000
6	Title worn off	3.58	1.13	30.35	0.000
7	Title label missing	3.31	1.13	40.56	0.000
8	Call number missing	3.51	1.11	26.29	0.000
9	Insect damage	3.32	1.19	17.85	0.001
10	Drought	3.53	1.26	24.72	0.000
11	Humidity	3.73	1.19	28.16	0.000
12	Variation in temperature	3.44	1.25	13.27	0.010
13	Variation in relative humidity	3.75	1.06	32.85	0.000
14	Winds (particles, pollution, etc	3.43	1.07	28.68	0.000

Key: SD = Standard deviation; χ^2 = chi-square; P = Probability; P≤.050 – Significant; P> .050 – Not Significant.

1.6.3 Opinion about Disaster Detection Devices

The table-1.6.3 **s**hows that the opinion gathered from the respondents about   Disaster detection devices and 56 (58.33 percent) of respondents express as 'Smoke detectors', followed by 28 (29.17 percent) of respondents express as 'Fire detectors', about 12 (12.50 percent) of respondents express as 'Fire extinguishers', in Disaster detection devices.

Table-1.6.3: Opinion about Disaster Detection Devices

S/N	Opinion	No. of Responses	
		Frequency	Percentage
1	Smoke detectors	56	58.33
2	Fire detectors	28	29.17
3	Fire extinguishers	12	12.50
	Total	**96**	**100.00**

1.6.4 Availability of Security Systems in the Library

In table-1.6.4 **t**here are significant differences (χ^2=46.31; p=.000) for the security systems 'Electronic security system' is supported by mean of 3.92 and SD being 1.14. There are significant differences (χ^2=38.50; p=.000) for the security systems' 'Closed circuit television cameras (CCTV)' is supported by mean of 3.21 and SD being 1.49. There are significant differences (χ^2=40.94; p=.000) for the security systems 'Intruder alarm system' is supported by mean of 4.01 and SD being 1.22. There are significant differences (χ^2=14.41; p=.000) for the security systems 'Human security guards' is supported by a mean value of 3.26 and SD being 1.57.

Table 1.6.4: Availability of Security Systems in the Library

S/N	Availability of Security Systems	Mean	SD	χ^2	P value
1	Electronic security system	3.92	1.14	46.31	0.000
2	Closed circuit television cameras (CCTV)	3.21	1.49	38.58	0.000
3	Intruder alarm system	4.01	1.22	40.94	0.000
4	Human security guards	3.26	1.57	14.41	0.006

Key: SD = Standard deviation; χ^2 = chi-square; P = Probability; P≤.050 – Significant; P> .050 – Not Significant.

The table-1.6.5 depicts the opinion about libraries that suffer from blackouts or power cut, where 41 (42.71 percent) of respondents who express as 'Yes', followed by 55 (57.29 percent), of respondents express as 'No, for libraries which suffer from blackouts or power cuts.

Table 1.6.5: Opinion about Libraries Suffer From Blackouts or Power Cut

S/N	Response Type	Frequency	Percentage
1	**Yes**	41	42.71
2	**No**	55	57.29
	Total	**96**	100.00

1.6.6 Opinions about the Libraries have Standby Generator for Power Failure

The table-1.6.6 **s**hows the opinion gathered about the libraries having standby generator for power failure and 55 (57.29 percent) of respondents who express 'Yes', followed by 13 (13.54 percent), of respondents express as 'No, for libraries which have standby generator that supplies power   in times of power failure.

Table-1.6.6: Opinions about the Libraries have Standby Generator for Power Failure

S/N	Response Type	Frequency	Percentage
1	Yes	55	57.29
2	No	13	13.54
	Total	**96**	**100.00**

1.7 Major Findings of the Study

The majority factor is 'Oxides of nitrogen' with a mean value of 3.67 and SD being 1.16. The major factor is 'Humidity' with a mean value of 3.73 and SD being 1.19. Out of 56 (58.33 %)

of respondents are Smoke detectors and the remaining 12 (12.50%) are Fire extinguishers. The major factor is 'Electronic security system' with a mean value of 3.92 and SD being 1.14. The highest of 41(42.71 percent) of respondents opined as 'Yes' towards 'Opinion about Libraries Suffer From Blackouts or Power Cut' and 55(57.29 percent) of respondents opined as 'No'. The maxium number of 55(57.29 percent) of respondents opined as 'Yes' towards 'Opinions about the Libraries have Standby Generator for Power Failure' and 13(13.54 percent) of respondents opined as 'No'.

1.8 Conclusion

The result of the KSLU Law Library condition survey demonstraral areas of causes of deterioration disaster preparedness concern that will need to be addressed in the coming years. This information, combined other assessment activities, will prove very useful to the long term disaster preparedness and collection development activities Karnataka State Law University. deterioration comes with the advent of paper making when the libraries and writing started. It is a common knowledge that as long as we have libraries all these agents of deterioration will still lives along side with the libraries. Though this climate control is undramatic in the short run but is significant in the long run. Members of library that are shelving and shelf-reading books should be well orientated about the danger of tight shelving books.

2.0 References

1. Aguolu, C. C. (1983). The quality and availability of learning materials in Nigeria University. *Nigerian Library and Information Science Review*, 1(1), 1-18.
2. Akussah, H. (2006). The State of Document Deterioration in the National Archives of Ghana. *African Journal of Library, Archives and Information Science*,16 (1), 1-8.
3. Alegbeleye, B. (1996). A Study of Book Deterioration at the University of Ibadan Library and Its Implication for Preservation and Conservation in Africa University Libraries. African *Journal of Library, Archives and Information Science*, 6(1), 37-45.
4. Alegbeleye, G.O. (1996). A study of book deterioration at the University of Ibadan and its implication for preservation and conservation in African University Libraries. *African Journal of Library, Archival and Information Science*, 2(1), 37-45.
5. Kalaskar, P.G. and Zodpe, S. N. (2013). Biodeterioration of Library Resources and Possible Approaches for their Control. *International Journal of Applied Research*, 2(7), 25-33.
6. Lakshmi, S., & Rajavel, V. (2016). Preservation of library materials in selected college libraries in thanjavur district: a study. *International journal of research instinct*, 3 (2), 601-610.
7. Maravilla, Nimfa, R. (1994) - Causes of deterioration of paper. Retrieved on 29th September, 2015 from http://palimsest.stanford.edu. /byauth/maravilla/deterioration-cause htm/
8. Nigerbiblios, Manuela da Silva. (2006). Inactivation of fungi from deteriorated paper materials by radiation. International Biodeterioration and Biodegradation. 5(7), 163-167.
9. Olajide, Abiodun (2013). Deterioration of Library Materials in Nigeria: Causes and Remedies for Librarians . Journal of Research in Education and Society, 4(2), 97-102.
10. Olubanke, M. B. (2010). A review of biological deterioration of library materials and possible control strategies in the tropics. *Library Review*, 59(6), 414-429.
11. Onwubiko M.C., (1991). Deterioration of Library Materials: What Options for Nigeria. *Browse journals & books,* 40(6), 45-49.

12. Unomah, J. I. (1988). Deterioration and Restoration of Library Materials: The Nigerian Situation."

13. Walker, G. (1985). The Yale Survey: large scale study of book deterioration in the Yale University Library. *College and Research Libraries*, 111-132.

14. Zainab Usman Mahmood, Hauwa Muhammed Mari (2016). Deterioration of Library Resources and its Causes: Theoretical Review. International Journal of Basic and Applied Science, 1(4), 773-778.

15. Zainab, Usman Mahmood., & Hauwa Muhammed, Mari. (2013). Deterioration of Library Resources and its Causes: Theoretical Review. *International Journal of Basic and Applied Science*, 1(4), 773-778.

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