CHAPTER- II

REVIEW OF LITERATURE: SELECT STUDIES ON PRESERVATION AND CONSERVATION OF LIBRARY MATERIALS
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2.1 Introduction

Review of related literature is a survey of progress in a particular aspect of a subject area over a given period (e.g. one, five, or ten years). It may range from a bibliographical index or mere list of references, to a general critical review of original publications on the subjects covered. It also depicts the nature and quantum of research already done on the subject studied and further reveal the trend and directions in which the subject passes through. In this chapter, researcher has made an attempt to analyze the published literature, in related areas of the present research topic, i.e. Preservation and conservation of rare materials in select libraries in Karnataka: A Study. The literature studied materials has been grouped under 43 broad headings.

2.2 Preservation and Conservation and their Importance

Thomas H Teper (104) (2005) states that with increasingly rapid technological developments and the likelihood of continued economic constraints; libraries face numerous challenges in the covering years that are already affecting their operating models. The author opines that the responsibility of adequately preserving our collections remains a mandate only partially fulfilled. Thomas H. Teper also notes that many developments that increase, access complicate preservation efforts by increasing the competition for diminishing resources, expanding the number of options available, and fundamentally questioning established norms such as the notion of permanence. The author explores the impact of these trends on the library’s role as memory institution and pores questions about the near future of preservation in the research library.

According to Asha Narang (9) (2003) the mission of a library is preservation, dissemination and timely access to quality information in a cost effective manner. The author highlights the significance of preservation and explains the factors responsible for the deterioration of the books and manuscripts and describes the remedial measures taken from antiquity to the digital era. She also discusses the techniques for preserving the intellectual content of the rare books and envisages the future of digital restoration and preservation.
H. L. Synder (102) (1998) outlines the context in terms of the nature of bibliography, the history of online cataloguing and the structure of MARC records, noting the focus on current publications which is also reflected in search engines. The author lists the ways in which older materials may be accessed and discusses, from the point of readers and curators, the immediate and enduring impact of electronic catalogues on the bibliography of early printed books. Synder highlights about the greatly increased usage of libraries as a consequence of access to the English short Title catalogue, the usefulness of data for identifying conditions and the danger of alerting thieves to library buildings. Snyder considers the implications for the preservation of rare materials and the uses and disadvantages of digitization and opines that no telling when the full potential of information technology for preservation and dissemination will be realized.

L. Feather (33) (1996) reviews the preservation of library materials with particular reference to: definition of the problems involved in preservation; media, materials and the environment; preservation of digital information; preservation policies and library use; physical aspects of preservation (library buildings, library materials); management issues involved in preservation; and the experiences of organizations and institutions in preservation (British Library, IFLA, Unesco).

J. Lyall (57) (1994) identifies the essential aspects of preservation planning at a national level noting that all too often, the approach adopted in formulating preservation programmes is different in developing and developed countries. The establishment of the same goals for all preservation programmes and the identification of the factors which must be addressed before these goals can be achieved provide each country with the capability of developing a preservation programme which is appropriate for its level of development. The author concludes with brief descriptions of the preservation programmes in a number of selected countries in the region.

According to G. Lewis (55) (1993) the preservation of library materials has evolved into an important strategy in the management of library resources and there has been a change of focus in that preservation of information is regarded as more important than preservation of the medium on which it is recorded. The author sets
out the reasons why library materials become candidates for treatment and discusses the following issues for consideration in a preservation programme: structuring the programme; priorities for and decisions about treatment; the treatment itself; staffing; the work area and the preservation manual. The author also proposes a model for the preservation manual and discusses the content of each of the section.

R Harvey (46) (1993) presents a detailed review of all aspects relating to the preservation of library materials including: an overview of problems, causes and solutions; why library materials deteriorate; surveying the library environment; controlling the library environment; careful handling of library materials and the education and training of library users and librarians; disaster preparedness; book maintenance, repair procedures and binding; preservation of the intellectual content by reformatting to other media; technological and corporate strategies; and the development of library preservation programmes.

Revelli (83) (1993) gives a digest of articles on preserving rare materials, taken from professional journals. The author cites the guidelines for the security of rare books, manuscripts, and other special collections (Association of college and Research Libraries, USA. 1990), Covering anti-theft measures, ID cards, and reader surveillance. Revelli traces out Blauberen guidelines (Blaubeurnere Empfehlungen) set out rules for rare materials preservation stressing the need for close cooperation with restorers and warning against the panacea of indiscriminate de-acidification, and also briefly outlines the Bibliothque de France’s plans for four preservation treatment laboratories.

John P Baker and Marguerite C (14) (1978) describe aspects of conservation of research library materials: why materials must be preserved, why they deteriorate, what should be preserved, who should do the work, how they should do it, and how workers from different disciplines must collaborate to realize conservation objectives. The papers are grouped under nine headings: Why preservation?; The nature of library materials; Causes of deterioration; The role of the librarian; The roles of the conservator and the scientist; Binding; Manuscripts and documents; Preservation;
micro recording and other copying methods; Disaster and salvage; and National planning.

Pamela Darling (30) (1976) sets out the process of preservation in a group of programmes which comprise: (1) Maintenance, covering environmental control, shelving and transporting, the identification of damaged or deteriorating materials; (2) Physical treatment, encompassing shelf-processing, binding, repairs, and protective covering; (3) Replacement; and (4) Defensive preservation—precautions to be taken with new additions to minimize future preservation problems. The author opines that responsibility for preservation must be assigned to a staff member, and in developing the programme, goals must be established, the present state of the collection assessed and priorities settled.

2.3 Problems in Preservation and Conservation

I Kivia (53) (1997) considers several reasons for lack of preservation programmes and states that South Pacific librarians are unaware and do not understand the need for preservation; and if they are aware of the need to preserve library materials, they can do nothing because preservation involves complicated technical solutions. Yet, unfavorable environmental conditions, the rough and tough handling of library materials by users, and the lack of proper involvement of library managers in the planning and designing of new library buildings are problems that must be addressed. The author also opines that the impact of these issues on libraries and library materials suggests an urgent need for South Pacific librarians to incorporate preservation programs into their library’s overall missions.

I. Kivia (52) (1994) discusses problems of preservation and conservation of library materials in the South Pacific and describes the situation of national library services, public libraries and academic libraries in the region. The author also considers definitions of preservation and conservation. Further more the author opines that preservation problem in libraries in the South Pacific, including environmental factors, insect and animal pests, and human pests factors to be taken into account in planning library buildings to avoid preservation problems.
David C Weber (109) (1987) describes the following points: recognition of the urgency and magnitude of the library materials preservation problem; a plan whereby decisions can be made as to what material needs preservation and in what priority; recognition of the costs involved; acceptance of the concept of reasonable cost sharing and readiness to help resolve the problem providing that the support of Congress is forthcoming with a federal policy of commitment and sufficient funding.

Haydee Munoz Sola and H. Munoz Sola (62) (1987) contribute mainly on preservation and conservation of sci-tech materials. The authors discuss a tropical climate with regard to the preservation of library materials. The effort to preserve a research collection in the Health Sciences Library, University of Puerto Rico, is outlined. A brief historical background of past problems for the preservation of library materials in Puerto Rico is presented.

Otto Wachter (107) (1987) discusses the problems where the restorer in the library cannot help with traditional methods. The first is the treatment of miniatures in the old manuscripts. Reader use, more and more exhibitions and reproductions, age, pigment damages, and the dry air caused by the radiators, often are the reasons for loosening or flaking off the layer of pigment. Chemical alterations (such as damages by verdigris) can destroy pigment, parchment and paper. Furthermore, the author opines that the manuscript restorer needs special training and scientific knowledge. A contrary situation is considered in conservation of library materials of poor quality such as paper with a high content of acidity, ground wood or alum; they become brown and brittle. Books, periodicals and in particular newspapers were produced by these materials in the 19th and 20th century. For the de-acidification of these damaged papers new technical procedures are under development.

Clifford A, Lynch and Edwin B, Brownrigg (58) (1986) focus on the problems of conservation and preservation of library materials. Particularly daunting are the scale of the problems and the enormous ongoing investment that will be required to address them. Currently proposed approaches include extensive microfilming of material, de-acidification, and other repair measures. It is proposed that digital technologies be used to accomplish simultaneously the aims of are reviewed. Such an
approach to conservation would form a natural extension to the current growth of electronic publishing, on-line catalogues and data bases. Furthermore, the authors provide the greatest return for the massive investment that will be needed to save deteriorating collections.

Lauren Jackson Beck and L. Jackson Beck (50) (1985) state that the issue of the preservation of library materials comes at a time when librarians are suffering, the effects of budget restraints on purchasing, processing and maintaining their collections. Librarians and publishers are at odds over the solution to these new preservation problems. The authors suggest that librarians and publishers must work together to establish standards for library books in the areas of binding quality and that of paper quality. Through an understanding of the function of the publisher and the librarian, these preservation problems can be overcome.

Paul N Bank (17) (1976) describes that conservation problems are so many and so complex that only dedicated cooperative efforts can reverse the current rapid deterioration of library stocks. The author also discusses 3 productive areas for cooperative activities: (1) acquisition and retention this would free funds for preservation projects; (2) reproduction of certain materials and (3) physical treatment regional or local preservation centers might offer facilities in advice, consultation, treatment, and training the author concludes that major need is for a national preservation programme.

2.4 Education and Training on Preservation & Conservation

S.S Intner (49) (1994) discusses staff training for preservation of library materials. The author also covers the three areas of training: methods of processing materials that reduce potential hazards; methods of handling materials that reduce the wear and tear on them; and methods of storing materials that reduce unnecessary risks.

Jean Marie Arnoul and Jeanne MarieDureau (8) (1986) describe on the preservation of library materials and the seminar on conservation training which followed, held in Vienna in Spring 1986, sponsored by IFLA and Unesco. The
conference first surveyed the methods currently in use, focusing chiefly on techniques for preserving paper, then considered how to establish cooperative programmes for sharing resources and expertise, as the best solution to the current deteriorating situation. At the training seminar, the structure, content and methodology of courses in various countries were reviewed, in an unsuccessful attempt to establish agreement on basic minimum training requirements. A series of solutions were finally produced, directed to furthering international debate and exchange of experience beyond what the limited scope of the seminar allowed.

Jan, Merrill Oldham and J. Merrill Oldham (61) (1985) comment on the growing awareness in the USA of the need for conservation of library materials and on the increasing employment of professional conservation/preservation staff. According to the authors library schools should offer basic and advanced courses in preservation; that there should be more research into conservation methods; and the profession should make the general public more aware of the need for preservation of library materials.

Briggs. C. Nzotta (65) (1982) argues for a balance between dissemination and preservation of library materials and shows that the problem of and interest in the deterioration of library materials is not a recent phenomenon. The author identifies the following factors which cause document deterioration: pollutants; humidity; radiant energy; and biological factors. Furthermore, the author outlines the main considerations to be made when drawing up a preservation programme and stresses the need for insurance and teaching junior members of staff to care for books through example.

Mary Genett (40) (1981) states that recently library schools in the US have offered little or nothing in their curriculum about preservation of library materials. A project, initiated by the Library/Binders Committee of the ALA Preservation of Library Materials Section, was carried out to determine the extent and nature of the interest in preservation workshops. Attendees of recent workshops were surveyed, and responders indicated an overwhelming desire to attend more workshops and to recommend workshop attendance to their colleagues. Responses are tabulated in
relation to assessment of responses about preservation workshops and interest in preservation workshop topics.

Judith Reed (79) (1980) describes the work of the Book Preservation Center of the New York Botanical Garden Library. The centre provides participating libraries in New York with information concerning the preservation of library materials, and trains their staff members in the use of simple, safe and well established book preservation techniques. It also gives guidance in establishing preservation work areas within libraries, and advises on collection assessment for preservation needs.

2.5 Preservation Methods

Anitha K. Rao (6) (2005) describes the tools and technologies developed for preservation, archiving, replication and dissemination of rare and rich artifacts, capture model, conversion model and the hosting model are also described. The author notes that the Dynamic data entry, Wizard preserves the contents by digitization, entering metadata and storing them in a database. Anitha concludes by listing the advantages of digitization of materials in museums.

Shivanna (90) (2001) looks at the notable damage caused by termites and explains various controlling methods both past and present using cheap, harmless and readily available materials. He identifies use of neem tree extracts and cattle urine as remedies.

R.A Kneale (2000) provides details of the preservation and conservation of neglected library materials at the library of the Joint Astronomy Centre (JAC) in Hilo, Hawaii. Mould found on the books and bound journals were treated with diluted bleach. Books were cleaned along with the shelves, bookcase walls, windowsills, desks, tables and ceiling vents. Upholstered chairs and the carpet were also cleaned, and new air purifiers and a dehumidifier were introduced. The author also explains how patience, training, experimentation and the goodwill of volunteers were factors in the successful salvaging of this collection.

Karl. E. Longstreth (56) (1990) examines trends relating to increase in the use of acid-free paper in printing and more work on the problems of mass de-acidification
technology. The author observes that there is an increase in funding for preservation. Improving cooperative efforts are seen in an increase in preservation activity in library, state, national, and international organizations. Scholarly concerns about the loss of brittle materials are solicited and expressed. Longstreth opines that there is an interest in improving preservation education.

E. M. Schobernd (84) (1999) recognizes the importance of preservation of valuable library materials from the ravages of time, use and chemically unstable products, notes how few libraries have full time preservation personnel. Since even smaller, financially challenged libraries cannot afford to ignore preservation, the author also outlines a proactive programme covering environmental control, repair, binding, reformatting, de-acidification, disaster preparedness, education and administration.

M. Reinertson (80) (1999) describes a personal account of how a family's memorabilia was rescued and restored following a flood in North Dakota in 1997. The items included videotapes, photographs, important documents, scrapbooks and other mementoes. The author also describes the makeshift solutions that were employed and which, in most cases, worked well.

J. Pinckney et al (70) (1995) discuss the issues facing New York State Public Libraries regarding preservation of materials. The authors state that although much research has been conducted regarding preservation in research and academic libraries, very little has been done in public libraries. The study examined the literature for references to preservation methods, control of the library environment, education, organization, and government involvement. In order to evaluate current trends and attitudes of these libraries towards preservation, questionnaires were mailed to Directors of the central libraries of the New York State public library systems. Results indicated that New York State public libraries are very much aware of preservation problems, seem to know the issues involved and agree that preservation of library materials is important, yet they allocate very little of their library budgets to preservation. The problem of acidic paper was perceived as less damaging to collections than other factors, such as book handling, the use of book
drops, and unfavorable environmental conditions. The authors also state that temperature and humidity control is practiced but mostly for human comfort rather than for preservation of library materials and other findings and conclusions are reported along with corresponding recommendations.

M. Foot (35) (1994) says that during the 19th century, increasing demand for paper and advances in science and technology transformed paper making from a craft to an industrial manufacturing process. Different raw materials and new processes have produced paper that is chemically unstable. Furthermore, the author opines that the increase in atmospheric pollution has accelerated the chemical degradation of paper, while the growth in library use has increased mechanical breakdown. The 'brittle book problem' is one which concerns all libraries. It is of such magnitude that conventional hand treatments are no longer sufficient. A number of mass conservation treatments are available, others are still in an experimental stage. They can be divided into processes that preserve the information content through reformatting and those that preserve the format as well as the content. Among the former are microfilming (microfiche production) and digitizing, while the latter include mass de-acidification and paper strengthening. Microfilming is by far the most widely used and best tested method. However, it is both costly and slow. The most recent reformatting method is by digitizing texts, either directly or from microform. 3 mass de-acidification processes are currently in use; a further 3 claim both to de-acidify and to strengthen the paper.

O. I. Perminova (68) (1994) sets out the scientific grounds to elaborate a method for the conservation of ancient leather bindings and notes the impact of diverse factors on the preservation of leather bindings. According to Perminova the conservation method consists of several stages: mechanical cleaning, chemical purification, neutralization of surplus acidity, blocking of noxious influences of cations of iron and copper, moistening and strengthening of leather bindings, and greasing. An advantage of the recommended conservation method, compared to other known ones is that it allows leather bindings to be conserved without any labour consuming operations of dismantling them.
Peter Sparks (97) (1987) describes the role of science and technology in the development of new methods for preservation and restoration is emphasized and verified by examples: engineering and physics for mechanization of classic processes, polymer chemistry to develop new methods of paper strengthening, and reprography for data conversion.

Judy, N. Tsonope (105) (1986) suggests that conservation of the collection should be the first priority of any librarian. The author identifies the chief causes of deterioration of library materials and examines the roles of the manufacturer, building designer, library staff and library users in the preservation of library materials. Tsonope states that acidification is the most significant cause of deterioration and the author discusses four methods of de-acidification, viz: aqueous; non-aqueous; gaseous; and mass de-acidification. The author briefly considers large scale preservation programmes and stresses the importance of the inclusion of conservation training in library school curricula.

Lee B, Brawner (21) (1984) and Norman suggest that planning for library security and safety encompasses protection against fire, smoke, intrusion, vandalism, and protection for users and staff. The author maintains that it also includes disaster planning housing and preservation of library materials in all formats, and handling behavioral problems that occur in the library and all types of criminal acts committed against library users, staff, and the library's contents. Further, the author focuses on safety and security in the library and demonstrates the effect of criminal acts and behavioral problems on the library and its operations. The author also suggests practical steps to help prevent or minimize the incidence of such problems.

Margaret Byrnes (23) (1983) reviews developments in the preservation of library materials during 1982 including: priorities, access and collection development; new technologies (e.g. videodiscs); conservation programmes; commercial binding and paper quality; conservation techniques; disaster prevention and recovery; and non-book materials (e.g. microforms, maps and drawings, photographs).

Werner Rebsamen (78) (1981) describes contemporary methods of binding: hand binding, edition binding, textbook binding and single binding. The author also
emphasizes different types of binding for preservation of library materials: over sewn, side sewn through the fold, adhesive and cleat lacing and the suitability of each for particular types of materials and usage and also mentions some the US Library Binding Institute.

Prem Shankar, Shukkai (93) (1980) discusses some methods of preserving library materials from the damage which can be caused by: light; moisture; dust and dirt; cockroaches; termites; silverfish; book lice; book worms; and fish insects. The author also describes the damage which readers cause by misplacement and mutilation of books, and theft, and suggests some steps which can be taken to help prevent this type of damage.

A.W Harrison (43) (1978) describes that acidic attack is the most significant cause of deterioration in library materials. The author says that acidity tests are made on archival materials before encapsulation for preservation, books to be rebound, and lining paper. Acidity testing methods are described, including the phydrion pencil archivists' pen, and special plastic universal indicator sticks. Hurrism includes notes on the first meeting of the APLA (Atlantic Provinces Library Association) Committee on Conservation of Library Materials, established by the 1978 APLA annual conference. Its mandate is to increase local librarians' awareness of the need for conservation. It will also act as a clearing-house and referral centre.

Frazer Poole (71) (1976) contributes three problem areas: (1) the conservation of certain embrittled materials through the development of a national preservation microfilming project; (2) in cooperation with academic institutions, the establishment of training programmes for both paper and rare book conservators; (3) the preservation of present and future publications with a life expectancy of 50 years or less, either by storing one copy under ideal environmental conditions, or by obtaining a pre-publication microfilm copy.

2.6 Preservation & Conservation of Library Materials

H. Peterson (69) (1994) describes preservation in libraries is not only about acidic paper and environmental controls, but also about the recorded knowledge of the
past. It is the duty of librarians to preserve the intellectual heritage of the nation with the emphasis on access rather than ownership and on cooperation between libraries in a climate of finite resources. The author also draws attention to the role of the Commission on Preservation and Access in Washington, DC, which supports and encourages cooperation among libraries toward preservation ends.

Theodore. F. Welch (110) (1989) explains that the library environment is changing and the trend is towards cooperation through computerized networks. Major topics discussed include: exchange of bibliographic data, preservation of library materials, systematic acquisition of materials and US-Japan cooperation, data base developments and shared resources copyright problems.

2.7 Cooperation in Preservation & Conservation

William J. Welsh (111) (1994) relates the prerequisites for international cooperation, in the preservation of library materials by reviewing progress in the following areas:- how clearly the physical problems endangering collections are perceived; how much is known about how to solve them; possible means of cooperation; and human and physical resources available to tackle the task. The author also focuses on the question of de-acidification, the Library of Congress 3-year Optical Disk Pilot Program, sharing of preservation methods internationally, and a universal preservation programme.

Terry L Allison (5) (1992) compares the preservation of printed paper, from the perspective of the problems of brittle paper, poor environmental conditions, and increased use of collections. Allison defines the goals of cooperation in preservation of library materials and examines the following issues: establishing whether there are any advantages in cooperating across the Atlantic to preserve library materials; finding out what sorts of cooperative programmes are feasible; identifying what such programmes would achieve; and determining what Western Europeans can do to promote such programmes.

Preservation should be based on the value and the user demands of a document. If a document cannot be preserved and used in its original form then it has to be preserved in an alternative form. Each national library should help to coordinate library resources in those countries which are unable to do this for themselves. The preservation of library materials is a difficult field but it is essential for the continuity of international information retrieval and its value cannot be assessed only in monetary terms.

2.8 Preservation & Conservation Activities

S. Francis (36) (1995) reports, based largely on published sources but supplemented by visits to certain countries, of the current state of libraries and information in the Near East and Central Asia. The following countries were included in the survey: Armenia; Azerbaijan; Bulgaria; Cyprus; Georgia; Israel; Kazakhstan; Kyrgyzstan; Lebanon; Syria; Tajikistan; Turkey; Turkmenistan; Uzbekistan; West bank and Gaza and the report begins with a country survey, devoted to the historical, political, economic and educational background of each country, and a description of the major national libraries, academic libraries, special libraries and public libraries in each country, concentrating on development since the mid 80s. Francis also analysis and review of some common features of the libraries and contrasts between the countries or groups of countries. Francis gives particular attention to CD-ROM and document delivery services, bibliographic record formats, conservation of library materials and national library and information policies.

2.9 Preservation & Conservation Activities in Hungary

According to Peter Zircz (113) (1980) the main factor responsible for the deterioration of library materials is the self-degradation of paper. The necessity of preventative action is stressed. The author says that the Hungarian libraries take much greater care in acquiring new materials rather than preserving their stocks for future generations. The lack of qualified repairers, a central binding workshop or a microfilming centre also exacerbates the situation in Hungary. The author urges the profession to formulate a national policy on the preservation of library materials.
2.10 Preservation & Conservation Activities in Canada

D Joyce M, Bank (16) (1983) discusses the book conservation methods currently used in Canada and notes the activities of various groups of librarians and archivists concerned with this problem. The author provides information on: the programme for the microfilming of retrospective Canadian which is being undertaken by the Canadian Institute for Historical Micro reproduction; the book de-acidification system developed by the Public Archives of Canada; and the restoration of historically significant material being carried out by the Canadian Conservation Institute in cooperation with provincial archives. Joyce M Bank also discusses the training programmes available for conservators and regrets that only two library schools offer meaningful courses in conservation and points out that archival institutions are outstripping libraries in the establishment of shops for the curative treatment of holdings. Further the author stresses the need to raise awareness of Canada's conservation problems among the scholarly, artistic and general public.

2.11 Preservation & Conservation Activities in UK

Helen P, Harrison (45) (1983) provides ideas for an improvement in conservation of library materials in the short to medium term. Attention was paid to the British Library (BL) University Library on conservation policies and on training facilities. The conservation problems of non paper materials were discussed. The author notes the activities of the British Records Association Working Party. The author also suggests a national centre for conservation: working out conservation and acquisition policies be worked out in parallel; and a national register of archives.

V. Ferris (34) (1995) discussions on the need for a national strategy for the preservation of library materials in the UK have now been taking place for a number of years. The present physical state of major and other collections, which represent so much of the national heritage, now make this imperative. The author also discusses a number of preservation projects, including NEWSPLAN, the Research Libraries Group Art Serials Preservation Project, and the Mellon Microfilming Project

2.12 Preservation & Conservation of Activities in USA

E. C Shoaf(91) (2000) describes that libraries are finding it harder to budget for preservation of their collections as every area of library expenditure comes under
scrutiny and they are scrambling to find new sources of external funding. The author describes how Brown University, Providence, Rhode Island, USA, sought funding from the National Endowment for the Humanities Challenge Grant programme by means of the following approaches to the preservation of library materials: to survey and treat all new acquisitions for preservation needs, and to survey and treat existing collections as and when this proves possible. The treatments include: de-acidification; repair of collections; re-housing; reformatting; and hiring of additional staff. The author explains how additional funding was sought from Brown University’s Development Office.

J. Pinckney and etal (70) (1995) discuss the issues facing New York State public libraries regarding preservation of materials. Although much research has been conducted regarding preservation in research and academic libraries, very little has been done in public libraries. The study examined the literature for references to preservation methods, control of the library environment, education, organization, and government involvement. In order to evaluate current trends and attitudes of these libraries towards preservation, questionnaires were mailed to directors of the central libraries of the New York State public library systems. Results indicated that New York State public libraries are very much aware of preservation problems, seem to know the issues involved and agree that preservation of library materials is important, yet they allocate very little of their library budgets to preservation. The problem of acidic paper was perceived as less damaging to collections than other factors, such as book handling, the use of book drops, and unfavorable environmental conditions. The authors also state that temperature and humidity control is practiced but mostly for human comfort rather than for preservation of library materials and other findings and conclusions are reported along with corresponding recommendations.

2.13 Preservation & Conservation Activities in Poland

Lucjan Bilinski (18) (2001) outlines the goals and range of inspections carried out by the Supreme Board of Audit. The author discusses the results of undertaken work and current situation in major Polish libraries and threats posed to their collections due to lack of appropriate security and preservation and conservation
programmes and also discusses proposed changes to the law on the national library collections.

2.14 Preservation & Conservation in India

L. Gasaway (38) (1999) discusses two recent amendments to the US 1976 Copyright Act relating to the preservation of library materials, introduced by the Digital Millennium Copyright Act. The effect is to make it clear that a library can, in certain circumstances, use digital means to preserve library materials. However, the provisions are seen as a mixed bag for libraries, as some of the limitations imposed may make the Act's sections unworkable in many circumstances.

R. Chakraborty (82) (1983) asserts that conservation of documents has assumed immense importance. The author opines that the preservation of invaluable materials in libraries in India is difficult because of high humidity and adverse weather conditions. He suggests that humidity and temperature control are vital to prolong the life of printed materials but that this control remains beyond the means of most libraries. The author maintains that an agency for the coordination and preservation of precious documents in libraries in India might be the answer.

2.15 Preservation & Conservation Activities in Hungary

According to Peter Zircz (113) (1980) the main factor responsible for the deterioration of library materials is the self-degradation of paper. The necessity of preventative action is stressed. The author says that the Hungarian libraries take much greater care in acquiring new materials rather than preserving their stocks for future generations. The lack of qualified repairers, a central binding workshop or a microfilming centre also exacerbates the situation in Hungary. The author urges the profession to formulate a national policy on the preservation of library materials.

2.16 Preservation and Conservation Activities in National Library of Rumania

The study of M L. Nesfantu (63) (1999) reviews the almost overwhelming difficulties influencing the preservation of library materials in the National Library of Romania and the solution sought in the form of a new building designed to current
preservation standards and with room to house all the publications. Furthermore, The author takes into account the overall critical condition of the collections, the following steps are suggested: the creation of a permanent Preservation Office under the responsibility of a general preservation supervisor; a consistent conservation programme for the collections, based on the expertise of other countries' libraries; a plan for cleaning disinfecting, packing and transporting the collections to the new building; a prevention disaster programme; possible application of certain mass techniques, such as mass de-acidification and fumigation; use of modern techniques, such as digitization and photocopying; fund raising strategies; training programme in preservation for all library staff, coordinated by the general preservation supervisor; and dissemination among the staff of the essential documentation on preservation based on up to date European level materials.

2.17 Preservation & Conservation in Ghana

Harry Akussah (3) (1991) examines the problems that militate against effective preservation of library materials in Ghana and the environmental agents which accelerate the deterioration of paper documents (temperature, humidity, sunlight, air pollution and dust, biological agents, human factors and natural disasters). Monthly climatic data is tabulated for 1 year for 2 areas of Ghana: Accra and Tamale. Furthermore, the author also recommends that the government should institute a national preservation and conservation programme for libraries, archives and, if possible, museums. The programme should embrace: monitoring and control of environmental conditions in libraries; education of library and archival staff and patrons; consciousness-raising about library and archival presentation in Ghana; and physical treatment or replacement of deteriorating materials.

Edwin Ellis Badu (12) (1990) discusses the problems of preservation of library materials in Ghana with particular reference to the Library of the University of Science and Technology, at Kumasi. The author provides an overview of the library its architecture, control area, and materials. Further, the author also describes the causes of deterioration, which include biological, chemical, mechanical and natural disasters and recommends the use of fumigation to eliminate insect’s air conditioners in all the rooms of the library; de-acidification of library materials; and the
surveillance of stock whilst they are being used. Edwin also asserts that a contingency plan should be produced in the library to meet disasters.

2.18 Preventive Conservation

S.K. Senapati and P. K Nagta (85) (1996) discuss the need for preventive measures for conservation and preservation of library materials and records. These include: Proper housing of documents, protection against temperature, humidity, light, air pollution, dust, insects, fungi, fire, water and mishandling. They also suggest inclusion of conservation and preservation in library education and training.

A.C Brandt (20) (1994) sets out the main trends, strategies and methods for preventative conservation of library collections. The author defines preventive conservation as a global approach and a state of mind rather than a discipline with clearly defined boundaries. Brandt emphasizes the necessity for cooperation between the various departments within a library, on the training of staff and readers and on raising awareness among political authorities on conservation of their heritage and concludes that, in order to reconcile the 2 basically contrasting tasks of preservation of documents and access to information, it is vital to provide libraries with sufficient financial resources for the preservation of their collections.

B.F Speller (98) (1994) describes the traditional resource use model of preservation and its relationship with collection development and argues that a re-conceptualization of preservation is needed to take account of the technological advances that have been made in the ability to create records in quantities and qualities that can overwhelm the information management professions completely. B. F Speller also suggests a shift away from the traditional resource use model of preservation towards a resource exploitation model.

B.J. Baird (13) (1992) describes collections conservation should set five major goals and concomitant objectives to help focus its activities: These include increase access to the library's material, perform high-quality conservation treatments, establish a high level of treatment production, establish the visibility of collections
conservation within the library and establish the visibility of collections conservation at the national level.

Nicolas, Barker (15) (1981) discusses some of the problems concerned with the conservation and preservation of library materials, and describes the British Library's approach to the overall preservation of its stocks. The author also highlights the importance of management in preventing decay, and argues that the basic 'good housekeeping' of tidiness, cleanliness, watchfulness in the maintenance of books and libraries is the foundation of preservation.

2.19 Preservation of Islamic Manuscripts

R. Chepesiuk (27) (2002) describes the activities of two major US libraries in helping in the work of the preservation of Islamic materials in libraries and manuscript repositories in Indonesia and Malaysia. The libraries in question are the Library of Congress (LC) which has a field office in Jakarta, Indonesia, and Cornell University Library which has been carrying out preservation activities in Southeast Asia since 1983. The author also explains the work of the LC field office in Jakarta both in regard to preservation and as a focus for the acquisition of Southeast Asian materials for US libraries, and describes the work of John Dean of Cornell University in teaching preservation methods in Islamic libraries in Indonesia and Malaysia.

According to H. Sharifi (87) (1994) since 1989, the Al Furquan Islamic Heritage Foundation, U.K has been working to assess the contents, condition and accessibility of Islamic manuscripts wherever they are located. H. Sharifi states that this work has culminated in a 3 volume survey covering 105 countries, 22 countries in Africa were initially selected for surveying, on the grounds that many of their collections are in particular danger. The author also says that hand lists have arrived from Kenya, Mali and the Comoro islands and work is in progress in Mali, Mauritania and Nigeria and catalogues have been completed in Lithuania and Latvia and have been commissioned in Tatarstan and Belarusian. Sharifi also determines that cataloguing will begin in India this year and first steps have been taken to catalogue collections in Albania and Sudan. The author reveals that pilot project for preservation is scheduled to start in Nigeria and the Foundation has initiated training.
courses for librarians and archivists, and holds conferences on subjects in the field of Islamic manuscripts. The Foundation library houses over 8500 volume in various fields and a large collection of print catalogues classified by country. All materials are recorded in a bi-alphabetic automated catalogue.

2.20 Preservation and legal Issues/Copyright Act

G.P Cornish (29) (1994) state that a legal deposit is an essential element in preservation programmes but is quite separate from copyright legislation in most countries. The ability to copy something for preservation is determined by such factors as the age of the material, its format and the reasons for making the copies. Cornish also says that the different processes photocopying, microfilming and electronic conversion all pose specific legal questions and also create difficulties. The author also says that the end product of preservation programmes can themselves be copyright works which need to be protected. The author opines that the use of electronic media grows so the legal issues surrounding preservation need to be studied with care.

2.21 Preservation of Cartographic Materials

E.S Chernina (28) (1996) describes briefly the techniques used for the preservation of cartographic materials in the National Library of Russia using lamination with plastic film: mostly polyethylene but also using polyamide film and restoration paper, both with polyethylene underlay.

2.22 Preservation of Art Library Materials

According to A. Smith (72) (1981) art librarians are receptive to preservation concepts, & there is a scarcity of relevant literature pertaining specifically to art library materials. The author explores the dual nature of the problems of art materials, their intrinsic attractiveness to mutilators and their physical liabilities. Preventive maintenance is suggested, and bibliographic references for further information are cited.

2.23 Preservation of Music Recordings

J. Shepard reviews (89) (2000) the recent changes that have taken place in music libraries in the field of activities involving the preservation of library materials,
and also focuses on the rapidly changing nature and form of recording media and the attempts to render paper-based music scores less prone to deterioration. Shepard notes that music librarians have not only had to demand that preservation programmes be adapted to serve the specific needs of music, but they have also called attention to preservation problems nearly unique to music. The author’s attention is also devoted to the problems arising from the inability of standard library shelving to cope with music scores and methods of duplication.

2.24 Preservation of Sports Documents

R. Chepesiuk (26) (1999) describes the work of the National Baseball Hall of Fame Library and Museum in Cooperstown, New York. The library is the busiest, largest, and most comprehensive sports museum library in the USA. Founded in 1939, its mission is to preserve, organize, and make available documentation related to baseball in all its forms, not just the major leagues. The author describes the library's design, its educational activities, reference services, collections, and cataloguing project; the author further says that currently the library is creating catalogue records which it plans to put on the Internet.

2.25 Preservation & Conservation of Photographic Materials

M.F.D.S.R.P Araujo and J.M.F.D Andrade (7) (1994) quotes that the Brazilian National Library's Iconographic Division keeps the most comprehensive and precious collection of 19th century Brazilian photographs held by a public institution. Presently, a preservation and conservation project is in progress, with the financial support of Fundacao Banco do Brazil. The project aims at the integrated development of an extensive work involving research for identification of thousands of photographs that have never been available to researchers; automated cataloguing after specific rules developed by the Library's staff and based on AACR2 and a system developed on Micro CDS/ISIS whose record format has compatibility with MARC for Visual Materials; photographic reproduction of the entire collection; basic conversion treatments; production of specific enclosures for photographic materials and housing of the entire collection. Further more the author says that the Library and IBM Brazil are starting the development of a system for digital storage and virtual restoration of
the images, which should be connected to the database that is presently being generated.

2.26 Optical Storage for Preservation

William R Nugent (64) (1984) describes the Library of Congress pilot project in which digital optical discs are used to provide high density storage of textual page images. The configuration of the system is shown and the advantages of optical storage for preservation of library materials are explained. The author also demonstrates that while preservation is the primary objective of the project, the characteristics of digital optical disc storage provide simultaneous advantages in on-line information retrieval. The project calls for the scanning and storage of 1 million pages of text over a two year period.

2.27 Modernization and Preservation Programmes

Mirna Willer (112) (1991) reports on a Seminar on Planning modernization and preservation programmes from South Asian Libraries, held in Calcutta during 10-15 Dec 90, which was convened to present the status of the development of South Asian libraries and experiences abroad in the field of library automation and preservation of library material, and to produce recommendations on the conservation and modernization programmes. The author also discusses the problems of national policy on library and information services in the countries of South Asia and collaboration with the British Library and the Library of Congress. Mirna Willer also lists topics covered in the preservation and modernization programmes.

2.28 Preservation of Periodicals

Patricia Chapman (1987) counters the view that preservation of library materials demands expensive resources which cannot be diverted from acquisitions and user services. The major problems facing periodicals collections are considered including: measures of relative value; damage caused by photocopying; paper embrittlement (particularly with newspapers); water damage. The British Library's News plan project and the work of the National Preservation Office are mentioned.

A. Kaliammal and Jebakumar Azariah (51) (2005) state that library is a growing organisms and that library grows mainly in terms of documents. To
accommodate the increasing documents within the available space is possible by modern preservation methods. To accommodate the increasing documents within the available space is possible by modern preservation methods. The authors also state that journal literature now brought to the attention of readers is mainly in three platforms, i.e., printed version, online version, and CD version. They say that the preservation not only means the preservation of physique of the different storage media of the documents, it also incorporates the introduction of new electronic technology to preserve the documents in the different storage devices.

Mirko, Velinsky (106) (1987) state that the development of science and technology has resulted in an increased need for information which, in turn, has resulted in increased demand for library services and use of library stock. The increased use of literature printed on acidic paper and 'protected' by low quality binding decreased considerable the life of library stock. The first signs of stock damage which began to appear in the 50's and 60's accelerated in the 70's and reached their peak in the 80's. The trend could not be reversed even if the literature were withdrawn from loan services. Further, the author also discusses the importance of library stock protection which includes development of conservation methods, provision of optimal conditions for the conservation of library stock and an analysis of management systems. M. Velinsky also explains the activities of the IFLA in this area and examines the content of a hand book, and also principals for the preservation and conservation of library materials, by J.M. Dureau and D.W.G. Clements (IFLA).

2.29 Book Preservation vs Weeding out - Japan

In a recent survey on problems of book preservation, discarding and transfer affect all libraries, carried out by Michiko Shoda (1989), 50 out of 112 Japanese librarians cited lack of space as their severest longterm problem. The Japanese specialist pension's information library, Kosei Nenkin Kikin Rengokai Tosho Shiryo Shitsu, was established in 1978. It holds 16,850 books and 284 journals relating to pensions. The author opines that librarians need training in deciding what to keep or discard and consideration must be given to possible changes of direction of the parent organization. According to the author policy for eliminating duplicates. Groups of
institutions can create joint stores with differing specialties and it is important to mutually use networks.

2. 30 Preservation & Conservation of News Paper Clippings

Alice W. Harrison \(^{(44)}\) (1979) discusses three ways of preserving newspaper clippings-by microfilming, by de-acidification and alkaline buffering, and by polyester film encapsulation. If the information on a clipping rather than the clipping itself is required, the clipping can be photocopied on acid-free bond paper (cost and suppliers of which are given).

2.31 Preservation & Collection Development

David S Sullivan \(^{(100)}\) (1991) describes the surveys the literature of collection development in 1990. Topics covered include: collection development; library materials budgets; periodicals and the economics of scholarly publishing; collection evaluation; cooperative arrangements; selection, de-selection, housing, and preservation of library materials; staffing and organization; and the impact of non-book formats on collection developers. Furthermore, the author also opines that collection administration is moving into new partnerships with systems librarians, academic computing specialists, and network planners as the library begins to become an address, not a place.

2.32 Application of IT and Networking in Preservation & Conservation

D. B Sipson (1984) explores the secondary impact of advancing technology, particularly computers and telecommunications, on libraries, library buildings, on the library in society, and on the preservation of library materials. The author also concludes that advancing technology will change both the form and function of libraries. Library buildings experience three effects from technological development: the need to renovate old buildings to accommodate new technology; the problem of constructing buildings for one form of technology while another is developing; and the potential that no library buildings may be needed in the future. The role of libraries and librarians in the electronically-based future is that of information intermediary, which is vital to the process of scholarly communication. This is particularly evident in the difficult problems facing the preservation of library materials.
Ariane Iljon (1988) outlines events which have focused the attention of the European Commission on libraries since 1984 and describes the preparatory and exploratory phase of the chosen strategy which European libraries LIB-2—designed to give an overview of library automation in Europe and LIB-1—library economics and macro statistics, preservation and conservation of library materials with special reference to the use of new information Technologies and networking.

2.33 Preservation & Conservation and Technology

G. Boston (1994) comments that the developments in the world of information technology are bringing together librarians and archivists working with paper based materials with those working with sound and image recordings. Furthermore, the author also explores the potential of 'New Technology' for the storage of traditional printed materials. The author concludes that the sheer quantity of decaying material in storage makes a full examination of the benefits and drawbacks of new technology by all custodians of collections imperative.

2.34 Digitalization: Facilitator for Preservation and Conservation

C. Sasikala and Govinda Raju (2004) provide an intellectual rationale for maintaining the centrality of preservation and conservation concepts in an increasingly digital information environment. The authors say that for digital preservation, there are many more strategies and plan. The authors also consider where the accumulated knowledge and experience of preservation management may be most effective in a digital world, and where it may be more difficult to affect change. They also discuss about the responsibility of storing preserving the cultural heritage of accounting and making them available for use to the community. They conclude the effective solutions for preservation and conservation of library materials.

2.35 Digital Preservation, Digital Reformatting

Vishnu Kant Shukla and Neha Chaturvedi (2004) states that in this digital world computer is playing an important role in collection, analysis, organization and dissemination of information. The authors highlight that progressing technologies of multimedia system (MMS) has changed the way of presentation of the ideas and facts because of their unique interactive feature. Furthermore the authors opine that
multimedia, as a powerful tool for instructions, has significantly influenced the present process of teaching, learning and presentation in any field. The authors discuss that recent advances in Information technology have created sweeping and profound changes in research libraries and they also say that as electronic information and communication technologies are reshaping research libraries, preserving rare and valuable documents in the digital environment has become imperative and this MMS has made it easy to store, organize and disseminate the Information in digital form.

2.36 Preservation of Digital Information

Rajiv Gupta et al. (41) (2003) discusses that intense use of computers over the past few years for accessing the digital information have raised challenges for data preservation for information professionals. The author also opines that with recent innovation in networking technology with its global availability in a downfall pricing trends, it is possible to create, distribute, access, archive and preserve the information at relatively low cost. The authors describe the data preservation model for a research digital library in terms of principles, selection and challenges faced during establishment of digital library. The authors also conclude with some strategies for digital data preservation.

2.37 Rare Manuscripts Transition to Digital Era

Asha Narang (10) (2004) states that books are the life line of any library whether they are current books, invaluable rare books or manuscripts. She says that the libraries are obliged to preserve them for future generations for information, inspiration and reference. The author opines that the technology promises innumerable innovative techniques for preserving the thought content enshrined in there documents Asha Narang describes major electronic preservation techniques like reprography, microfilming, scanning, digitization, Which is an emerging technology and appears to be the most tangible and feasible e-preservation technique, Furthermore the author also highlights technology limitations and proposals have been put forth for improving and steaming the preservation, conservation and restoration in the University libraries.

David Adams, etal. (2) (2004) presents the views of five Australian librarian, which are involved in reformatting projects, on the guidelines on reformatting and
Stephen Chapman and Jan Merrill Oldham (2004) describes on reformatting and preservation programmes based on digitization (Recognizing Digitization as a Preservation Reformatting Method'), prepared for the Preservation of Research Library Materials Committee of the Association of Research Libraries (ARL), as a call to action for libraries to support the ARL's endorsement of digitization as an acceptable preservation reformatting option. They concludes that it is time for all the Organizations which have become involved in preservation activities to invest in digitization and develop the necessary standards and protocols to make this achievable.

The study (2004) reviews the policy and practice of the Metamorfoze Preservation Programme, set up by the Dutch National Archives and the National Library (Koninklijke Bibliotheek), Netherlands, in light of the guidelines on reformatting and preservation programmes based on digitization (Recognizing Digitization as a Preservation Reformatting Method'), prepared for the Preservation of Research Library Materials Committee of the Association of Research Libraries (ARL). The paper also presents a summary of the reaction of those involved in the project on the ARL's report, focusing on issues such as quality standards and quality management of digital images and microfilms and on the possibilities of Computer Output Microfilming (COM).

2.38 Digital Preservation & User Behavior

L.Rajendran , P.Selvi Rajendran and S. Kanthimathi. (73) (2005) discuss that digital instead of minimize handling of damaged materials, but the imaging process is
demanding and must be done with oversight by preservation staff and with a high enough level of quality to ensure the reusability of the archival electronic file for as long as possible. The authors also focus on the scope and needs of digital preservation, various types of available preservation methods. The remainder of this explores some of the approaches and technologies issues facing our profession.

Mange Ram, Satish Malik and Nisha Malik (75) (2005) discuss that special collections present many challenges to preservation and conservation to library professionals. There have been many advances and changes within the field of preservation for the irreplaceable materials as well as the indescribable variations in physical conditions and storage needs. The authors also opine that the digital technology and high speed networks are leading to sweeping changes throughout the society. In the modern electronic age. More and more information is being produced in digital form by two means 1) through converting existing material to digital form 2) increasingly 'born digital' in digital format (On Internet. CD-ROM. WORM. DVD-ROM etc). The digital libraries are endangered by “techno obsolescence” and transitory standards. Now, large libraries and archives centers have establishing proper preservation programs for traditional materials which include regular allocation of resources for reservation. Protective measures to arrest worsening of materials. Curative measures to restore the usability of selected materials, and the incorporation of preservation needs and requirements into overall program planning. The authors represent the challenges of digital preservation to libraries and some solution for the problem of preservation.

Andrew Hart (42) (2004) criticizes some aspects of the guidelines on reformatting and preservation programmes based on digitization (Recognizing Digitization as a Preservation Reformatting Method'), prepared for the Preservation of Research Library Materials Committee of the Association of Research Libraries (ARL). The author also focuses on what is seen as a contradiction in the document, which appears to endorse digitization as an accepted preservation reformatting option but fails to address adequately some major concerns about preservation implications inherent to digital reformatting.
Ellen Cunning Kruppa (2004) presents the views of a preservation educator and former practitioner in supporting the guidelines on reformatting and preservation programmes based on digitization (Recognizing Digitization as a Preservation reformatting method), prepared for the Preservation of Research Library materials committee of the association of Research Libraries (ARL). The author also concludes that the ARL library community should consider limiting the use of microfilm technology for reformatting printed source originals.


Jacob discusses (2004) current developments in digital preservation in terms of the opportunities that exists for libraries to make preservation be equivalent to access. The author also points to the advances that have been made in the total quality of the digital images and the way in which the fears about the emergence of a digital dark ages, where by digital materials and their corresponding software becomes obsolete and unstable, has not come to pass. Jacob Nadal discusses on the context of the guidelines on reformatting and preservation programmes based on digitization (Recognizing digitization as a Preservation Reformatting Method', prepared for the Preservation of Research Library Materials Committee of the Association of Research Libraries (ARL).

Pitt Kuan Wah (108) (2004) presents the views of the Director of the National Archives of Singapore on the guidelines on reformatting and preservation (A Preservation Reformatting Method'), prepared for the Preservation of Research Library Materials Committee of the Association of Research Libraries (ARL). Wah argues that the document should have included the option of using digital techniques to capture non-dynamic and text-based archival records and store them on silver halide microfilm. The National Archives of Singapore has taken this approach since 2000.

A. Smith (96) (1999) states that in the USA, communities depend on libraries and archives to collect, organize, and make accessible the information resources they need to function responsibly as citizens, scientists, teachers and students, policymakers, parents, and members of society. But libraries and archives are now challenged to preserve a rapidly growing amount of information stored on fragile materials and, increasingly, in digital form. The author looks at library preservation in the past and what it must become.

Y. Taniguchi, Etal., (103) (2001) address the trend in digitization from secondary towards primary sources from a Japanese viewpoint, looking at the following: government publications in Japan and the US; the NACSIS- ELS electronic library system’s digitization of academic society materials; the J-STOR online journal archive project which has 14 Japanese participants; digitization of valuable materials at Ishikawa Prefectural Libraries; the Virtual Reality CD-ROM of ukiyoe painting depicting silk working produced by Tokyo Noko Daigaku (Tokyo University of Agriculture and Technology.

M. S. Lynn (59) (1998) outlines the obstacles in applying digital technologies to the preservation and access of the intellectual resources of libraries and the advantages which still exist in using analog methods. The author describes operations at Cornell University, New York, in scanning, conversion and facsimile production and the provision of access to its embryonic digital library. Lynn explains the reasons for not using optical character recognition at this stage and the use of microfilm and bitmap images. Lynn indicates the costs of conversion and stresses the need to keep pace with technology in order to ensure the longevity of preserved documents when the ultimate durability of any medium is not predictable. Further, the author focuses
on the potentiality of offering equal, though not necessarily free, access to research library resources on a universal basis.

S. A. Buchanan and K. Jensen ²² (1995) discuss the preservation of library materials in electronic formats. They stress the need for awareness of the implications that electronic formats have for libraries in terms of use and preservation. Further the author lists the key issues which must be understood and addressed. Buchanan and Jensen explain how media such as CD-ROMs should be handled. And also discusses the need to understand the hardware and software that translate electronic code for access and use, noting the dangers of software obsolescence. The author considers the use of digital technology for preserving brittle books, and also the need to adhere to industry standards in dealing with electronic media.

2.39 Digital Archiving

V. S Sudha Kumari and Veena P. Oak ⁹⁹ (2005) describe a pilot project done to digitize the collection of information some arts available with the State Archives Gazetteer and Archaeology department. The authors say that Historical Record Section (HRS) in the archives department houses documents in various sizes dating from the 18th century in the form of files, folders, maps, manuscripts etc., in Kannada, English, Konkani and other languages. The authors also states that many of the documents are hand written Karnataka gazetteer department publishes district gazetteer in Kannada and English and some gazettes. Dating back to pre Independence days have to be preserved for posterity. The authors says that District Archaeology department has many museums, archaeological sites, monuments, etc., showcasing Karnataka rich heritage of art and culture as priceless treasures in stone, wood metal etc. V.S Sudha and Veena also discuss creation of catalogues with digitization using current technology and impact of the digitization and creation of information systems.

M. Geller ³⁹ (2001) determines that the Preservation of material in library collections is a fundamental charge of libraries, and electronic resources are rapidly becoming significant components of these collections. The author states that along with five other major US research libraries, Harvard University is currently engaged
in an electronic journal archive design project under the auspices of a one year planning grant from the Andrew Mellon Foundation. Geller also discusses many of the issues Harvard and its publishing partners are exploring in an effort to develop and refine the design of this archive.

2.40 Digital Preservation Projects

P. Alkhoven (4) (1999) gives examples of projects all of which are co-ordinate with the current national programme on preservation of library materials 'Metamorfoze' and with the Depository of Dutch Electronic Publications. Projects involve issues such as storage formats and longevity of storage media. On the national level, the KB is involved in projects with the Rijkmuseum and DELTA (scholarly journals) and at the international level participates in Bibliotheca Universalis. The author also states that apart from digitizing special collections, Koninklijke Bibliotheek main objective for the coming years will be to provide users with significantly more content by digitizing large-scale cultural heritage collections from the 19th century.

2.41 Funding of Digitization Project

J. Ray (77) says (2001) that while high quality in Internet resources offered by museums and archives is of prime importance, the costs of creating accessible digital content are considerable. The Institute of Museum and Library Services (IMLS), created in the USA in 1996, has statutory authority for the preservation or digitization of library materials and resources and has been funding digitization projects since 1998 through its National Leadership Grants Program. Ray also identifies the key components of an application to the IMLS in terms of project design, management plan, budget, personnel, outcome evaluation, dissemination institutional investment and sustainability.

2.42 Preservation & Library Building

M. Duchein (32) (1998) contributes to the preservation of library materials: and the author says that many libraries occupy old buildings intended for quite different purposes, and the varied requirements of, e.g., stacks and reading areas. M Duchein also discusses: - the major hazards of fire and flood and how buildings and materials
should be arranged for protection; the problems of atmospheric control in various climates, noting particularly pollution and the difficulties in developing countries; lighting; and criminal activities.

2.43 National Preservation Policy, Canada

Guy Sylvestre (101) (1981) argues that a comprehensive national preservation policy for Canada is on deteriorating materials; the preservation and restoration of library materials that are valuable beyond the information they contain; prevention conservation and the implementation of a preservation seriousness of the problems, and the measures which could be taken to alleviate it.

2.44 Responsibilities of Government and Private Sector in Preservation of Rare Materials

Russel Shank (87) (1979) recognizes the responsibilities of the several levels of government and the private sector to assure adequate financial support for libraries; foster library programmes aimed at raising the national literacy level; encouraged conversion of information technology into useful products and conservation of library resources; and call for the provision of intellectual and physical access to information in all formats for library users.

2.45 Summary

The above discussion reveals that there exits several studies conducted within the country as well as outside on preservation and conservation of library materials. IFLA, UNESCO, British Library and such other agencies have made recognizable efforts to answer the problem of preservation and conservation of rare materials. Governments of many countries such as USA, UK, Japan, Poland, Canada, Hungary have also realized the need for preservation and conservation of rare materials and that the responsibility of the government. As such, many of them have evolved national preservation policies. The technology has played greater role in preservation of these materials. Digital preservation of rare materials has been accepted and adopted by many institutions and so also the governments.