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DISASTER CONTROL PLANNING IN TROPICAL COUNTRIES

WITH SPECIAL REFERENCE TO THE

NATIONAL LIBRARY OF MALAYSIA

By

Rosham Abdul Shukor

A Master's Dissertation, submitted in partial
fulfilment of the requirements for the award of
Master of Arts (or Master of Science) degree of the
Loughborough University of Technology

September 1995

**Supervisor: Graham Matthews, BA Nottingham, Dip Lib CNAA, LAA
Department of Information and Library Studies**

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ABSTRACT

The aim of this dissertation is to achieve an overview of the theory and practice of disaster control planning with particular reference to tropical countries and with special reference to the National Library of Malaysia (NLM).

The methodology includes a literature review analysis and a case study of a library where a disaster control plan is prepared.

Disasters that strike libraries are of three kinds: natural, Man-made and those which are caused by negligence. There is a need for a disaster plan and the library management should play a positive role in disaster planning to ensure its successful implementation.

NLM follows a preservation policy which includes planning the library building, fire detection/extinguishing systems, microfilming of serials, disposal of serials and conservation workshop. Protective measures are also undertaken at NLM and they encompass preserving the holdings, security, housekeeping and exhibition lending. Staff at NLM are trained and made aware of disasters that might strike the library. Currently there is a disaster control plan for NLM.

A Disaster control plan comprises four key components: prevention, preparedness, reaction and recovery.

Conclusions and recommendations are presented in general and for the NLM in particular.

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TABLE OF CONTENTS

CHAPTER ONE.....	1
1. INTRODUCTION	1
1.1 AIMS	1
1.2 METHODOLOGY.....	1
1.3 LIMITATIONS	2
1.4 DEFINITIONS.....	2
1.4.1 Disaster	2
1.4.2 Disaster planning.....	3
1.4.3 Tropical countries.....	3
CHAPTER TWO.....	7
2. NATIONAL LIBRARY OF MALAYSIA	7
2.1 GENERAL INFORMATION.....	7
2.2 THE NEED FOR A PRESERVATION PLAN.....	8
2.3 PRESERVATION POLICY	9
2.4 PRESERVATION STRATEGY.....	11
2.4.1 Planning the library building.....	11
2.4.2 Fire detection/extinguishing systems.....	12
2.4.3 Microfilming of serials	14
2.4.4 Disposal of serials.....	15
2.4.5 Conservation workshop	15
2.5 PROTECTIVE MEASURES.....	15
2.5.1 Preserving the holdings.....	15
2.5.2 Security	16
2.5.3 Housekeeping	16
2.5.4 Exhibition loans.....	17

2.6 STAFF AWARENESS AND TRAINING	18
CHAPTER THREE.....	21
3. DISASTER PLANNING: BACKGROUND.....	21
3.1 KINDS OF DISASTERS.....	21
3.1.1 Natural.....	21
3.1.2 Man-made	23
3.1.3 Negligence.....	34
3.2 THE NEED FOR A DISASTER PLAN	36
3.3 OBJECTIVES OF THE DISASTER PLAN	40
3.4 THE ROLE OF LIBRARY MANAGEMENT IN DISASTER PLANNING.....	41
CHAPTER FOUR.....	50
4. DISASTER PLANNING: THE DISASTER CONTROL PLAN.....	50
4.1 PREVENTION	50
4.1.1 Identification of the potential threats.....	50
4.1.2 Reducing the risks of threats	53
4.1.3 Protection of records and back up policy	55
4.1.4 Preventive measures in constructing new library buildings.....	59
4.1.5 Staff training.....	60
4.2 PREPAREDNESS.....	63
4.3 REACTION	69
4.4 RECOVERY.....	71
4.4.1 Drying techniques.....	72
4.4.2 Mould control.....	73
4.4.3 Insurance	73

CHAPTER FIVE.....	80
5. A CASE STUDY OF DISASTER CONTROL PLANNING IN THE.....	
PILKINGTON LIBRARY, LOUGHBOROUGH UNIVERSITY OF	
TECHNOLOGY.....	80
5.1 INTERVIEW (See appendix).....	80
5.1.1 Information sources	81
5.1.2 Training.....	82
5.1.3 Library building maintenance	82
5.1.4 Library security	82
5.2 COMMENTS.....	84
5.3 LESSONS LEARNED	86
 CHAPTER SIX.....	 88
6. DISASTER CONTROL IN LIBRARIES AND SECURITY	
SYSTEMS.....	88
6.1 SECURITY SYSTEMS AGAINST THEFT	90
6.2 SECURITY SYSTEMS AGAINST INTRUSION	92
6.3 SECURITY SYSTEMS AGAINST MUTILATION	93
6.4 SECURITY SYSTEMS AGAINST ARSON	93
 CHAPTER SEVEN	 98
7. SECURITY MEASURES OF THE NATIONAL LIBRARY OF	
MALAYSIA.....	98
7.1 SECURITY POLICY.....	98
7.2 FUNCTIONS OF THE SECURITY COMMITTEE.....	100
7.3 LEVELS OF SECURITY COMMITTEE.....	100
7.4 STEPS TAKEN TO ENSURE THE DEPARTMENT'S	
SECURITY.....	102
7.4.1 Building Security.....	102
7.4.2 Security In The NLM's Building.....	104

7.4.3 Security of Important Documents.....	106
7.4.4 Security of library collection for the public.....	107
7.4.5 Security For Information Of The Databases.....	108
7.4.6 Security of Equipment of the NLM.....	109
7.4.7 Security against fire	109
7.4.8 Paramedic Team	110
7.5 FIRE DRILL	111
7.6 CONCLUSIONS AND RECOMMENDATIONS.....	111
CHAPTER EIGHT.....	115
8. CONCLUSIONS AND RECOMMENDATIONS	115
8.1 CONCLUSIONS.....	115
8.1.1 The need for a disaster control plan	115
8.1.2 Preparing a disaster plan	116
8.1.3 Prevention	116
8.1.4 Preparedness.....	117
8.1.5 Reaction	118
8.1.6 Recovery	118
8.1.7 Tropical countries.....	119
8.2 RECOMMENDATIONS.....	119
8.2.1 Contingency and disaster planning for computers	119
8.2.2 Recommendations for tropical countries	120
8.2.3 Recommendations for NLM.....	121
BIBLIOGRAPHY.....	126
APPENDIX	136
DISASTER PLANNING IN THE PILKINGTON LIBRARY	
LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY	
A CASE STUDY (INTERVIEW).....	136

CHAPTER ONE

1. INTRODUCTION

1.1 AIMS

- To achieve an overview of the theory of disaster control planning.
- To achieve an insight into good practice in disaster control planning.
- To investigate and identify particular factors which libraries in tropical countries need to consider in the design and implementation of a disaster control plan and disaster management.
- To identify sources of information in disaster control planning which should be of help to libraries like the National Library of Malaysia (NLM) and to assist them to take precautions and actions before, during and after a disaster to avoid loss of resources.
- To identify key issues which NLM needs to consider in designing a disaster plan which will integrate with its existing preservation policy.
- To promote awareness to policy makers, administrators and librarians of the importance of having a well-planned overall disaster plan for each library in Malaysia.

1.2 METHODOLOGY

The methods used in this study are :

- Literature review including printed materials such as books, journals, book reviews and indexes.

- Electronic media like WWWeb, Internet, LISA, OPAC and Liblit.
- Translations of documents from the National Library of Malaysia.
- Interviewing a librarian who is currently devising a disaster plan.
- Utilising the experience of the author as a librarian at the NLM since 1981 and his involvement in the planning of the NLM's building which has contributed to the understanding of disaster control planning in libraries.

1.3 LIMITATIONS

The main limitation of this study is the lack of written/published works on disaster management especially for tropical countries like Malaysia. This topic is very new in Malaysia and has yet to be discussed in seminars both at national and international levels. In most instances, the subject discussed is preservation and conservation, while disaster planning is just mentioned as part of overall preservation activity.

1.4 DEFINITIONS

1.4.1 Disaster:

The word disaster is used by librarians to describe "an unexpected event with destructive consequences to their holdings. It may be a small scale incident, or a full-blown emergency, but in either case it requires prompt reaction to limit damage." ¹ Another definition of a disaster in libraries and archives is "an event or occurrence which is wholly unexpected and damages, or seriously threatens to damage the collections of an institution." ²

A recent definition of disaster by John McIntyre is: " An event whose timing is unexpected and whose consequences are seriously destructive." ³ This definition was agreed by the Committee on Disaster Prevention (ICA/P-DP) at the meeting in Stockholm-Helsinki , 3-4 October 1993.

A disaster for a library could be caused by earthquake, fire, flood, hurricane, tornado or crime. The main concern of this dissertation is to identify an effective disaster planning process for application in tropical countries, and in Malaysia in particular.

1.4.2 Disaster planning:

Disaster planning is a set of rehearsed actions which will minimise the effect of a disaster, whatever its magnitude, on the library and will assist in restoring the library and its collections to a usable condition in as short as time as possible. ⁴

1.4.3 Tropical countries:

Tropical countries are defined as countries lying between the tropic of Cancer and north of the Equator and the tropic of Capricorn, south of the Equator. They include countries such as those in Southeast Asia, the Sub-Indian continent like India, Bangladesh and Sri Lanka and the African countries south of the Sahara excluding South Africa. They also include Latin American countries in South America as Brazil and Argentina. The common factor amongst these countries is the climate. The region is one of the warmest in the world, recording the highest temperature, the highest insulation, as well as net radiation throughout the year. Their climate condition changes very little throughout the year, but it experiences great diurnal ranges.⁵ In this region the climate is normally hot and humid and hot

and dry annually. In these areas are prone to natural disasters such as earthquakes in Indonesia, typhoons in Bangladesh and floods in Southeast Asia.

In order to be more specific, Malaysia has been chosen to be the focus of study. Although Malaysia is one of the countries blessed by good weather, with infrequent natural disasters, it is interesting to study its planning in preparation for the unexpected.

Malaysia is part of Southeast Asia and is composed of two noncontiguous regions : West and East Malaysia, which are separated by 400 miles of the South China Sea. Its land mass covers an area of 127,316 sq miles (329,747 sq km) . The capital is Kuala Lumpur which is located at the western part of West Malaysia. West Malaysia is about 500 miles long and 200 miles wide bordered on the north by Thailand, on the south by Singapore, on the west by the Straits of Malacca and on the east by the South China Sea. East Malaysia occupies the north-western part of the island of Borneo, and is about 670 miles long and 240 miles wide. ⁶

Malaysia's climate is tropical, with average temperature (80F or 26.7C). Relative humidity (80% -90%) and rainfall (100 inches or 2,540mm), all being monotonously uniform. There is scarcely enough fluctuations in rainfall and wind direction to produce seasonal changes. ⁷

The climate in Malaysia is also strongly influenced by the Northeast (November-March) and Southwest winds (June-October). The mean annual temperature range between 77F and 86F (25C and 30C) in the lowlands and 72F and 83F (22 + 28C) on the interior mountains. The mean annual rainfall is very high and ranges from 100 inches on the Malay peninsula (West

Malaysia) to 90 inches in Sarawak and to 130 inches in Sabah (East Malaysia). Relative humidity is also high covering to 80 to 85%. The hot and humid climate favours dense tropical vegetation. ⁸

Since the 1980s it has become much warmer in the cities such as Kuala Lumpur, due to the lack of vegetation and the heat radiated from the large number of vehicles. During the warm months, the city is besieged with haze. It is also found that the atmosphere is more polluted and contains high level of carbon monoxide and impurities produced from vehicles and surrounding industries as compared to the smaller towns and surrounding areas. ⁹

The present environment of Malaysia especially in big towns and cities has an effect on the deterioration of library materials. It is of vital importance for the librarians to be aware of prevailing conditions and take measures to prevent this phenomenon.

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CHAPTER TWO

2. NATIONAL LIBRARY OF MALAYSIA

2.1 GENERAL INFORMATION

The National Library of Malaysia (NLM) was established in 1966 as a unit within the National Archives, mainly to enforce the Preservation of Books Act [Act 35] 1966 ¹ which required publishers in Malaysia to deposit two copies of their books in Malaysia. In 1986, the Preservation of Books Act, 1966 was repealed and Deposit of Library Materials Act [Act 331], 1986 was passed. Under this Act, publishers in Malaysia are required to submit 5 copies of printed library materials and two non-printed ones to the National Depository Centre of the NLM ². NLM's collection as at May 1994 stood at 1,078,768 items. The library resources are any form of written, recorded, stored, displayed or reproduced, including manuscripts, typescripts books, newspapers, periodicals, pamphlets, maps, microforms, music sheets, photographs, cinematography films, phonorecords, video and audio recordings and other recordings on paper film or other materials and reproductions thereof. The Malay manuscripts and rare books are the library's jewels. The Malay manuscript collection numbers 220 items and rare books stand at 1000 items. The staff strength of the NLM is 250, and the library is housed at a 2.06 hectare site with a space capacity of 238,00sq ft in a 7 storey building. ³

2.2 THE NEED FOR A PRESERVATION PLAN

The environmental conditions of Malaysia instigate a need for a preservation plan. Malaysia lies entirely in the equatorial zone and the climate is governed by the regime of north-east and south-west monsoon which blow alternately during the course of the year. Being in the Tropics, the average temperature throughout the year is constant (26C or 80F). The diurnal temperature range is about 7C/13F. The humidity is high (about 80%). Due to the high temperature and a high rate of evaporation, the heavy rainfall, there are many rivers and tributaries ⁴. During the monsoon period the level of these rivers rises in December causing tremendous floods. In the city, floods are caused mainly by congested drains due to the high level of squatters who indiscriminately clog the rivers and drains with household rubbish.

The high level of humidity between 80 -85 means that the NLM must ensure proper storage and create a constant temperature so that the library materials are not affected by mildew, moulds and fungus which grow flourishingly in such tropical conditions. In most areas, relative humidity is high all year round, and mould growth in library and archival collections is a recurring problem. ⁵

There is a need for a preservation plan to combat the effects of tropical climates on a wide variety of materials, leading to extreme deterioration of paper, leather and textiles in Asia-Pacific region. After World War II, much energy was poured into the study and development of various preservation measures which, if applied to materials, might reduce the adverse effects of the environment ⁶.

NLM's role as the nation's keeper of intellectual property means it needs to have a preservation plan to ensure that these materials remain intact and preserved for future generations.

2.3 PRESERVATION POLICY

Preservation includes all the managerial and financial considerations including storage and accommodation provisions, staffing levels, policies, techniques and methods involved in preserving library and archive materials and the information contained in them ⁷.

NLM produced its own Policy on Preservation in 1990. The Policy Statement is summed up as follows:

"To ensure all collections in the National library of Malaysia are preserved systematically through proper storage, restoration, fumigation, binding and microfilming activities to ensure that the Department's collections will be made available for current and future generations" ⁸.

Its objectives are:

- (1) To preserve the intellectual content of the information recorded in library materials.
- (2) To preserve the original physical form of library materials in as intact and usable form as possible.

The policy covers such areas as acquisitions, restoration, binding substitution of formats, microfilming, storage (work area, reading area, lighting, biological

pests, inspections), use of library materials in exhibitions, security, and disaster planning/preparedness.

In the Preservation Policy under the section 5.9 on security, it is stated as follows:

"To provide a security system for the collections and conservation laboratory, to install an adequate fire detection and suppression system throughout the building and to make available security procedures to encounter any emergencies".⁹

With regard to 'disaster' under section 5.10 of the policy it includes the following:

- a) Forming a disaster recovery team.
- b) Producing a recovery programme after a disaster.
- c) Providing adequate equipment and supplies in case of disaster.
- d) Producing a work procedure to face fire, flooding and other kinds of disaster.¹⁰

However, not every library can or will want to preserve every item in its collection in its original form, and the establishing of policy priorities is a necessary prerequisite for any library undertaking such work¹¹.

Material to be preserved and conserved is based not only on the importance of the document, but also on the complex state of the material and degree of deterioration, frequency of use, rarity, historical, cultural for artistic value of the material, endangered storage system and need for easy access.

The first priority for NLM is to preserve the Malay manuscripts and to make microfilm copies and to restore the originals using conservation techniques. Preserving the library materials deposited at NLM is the next priority. Rare Malaysiana books are the other priority. These are publications more than 50 years old and published in the country or about Malaysia.

One way of safeguarding the original newspapers from disasters is through sending two original copies out of five copies received through the Deposit Library Materials Act 1986 [Act 331] to the designated regional depositories, namely, the Science University of Malaysia Library in Penang and Sabah State Library. These institutions were chosen due to their geographical location and their adequate storage facilities.¹²

NLM is also studying methods of treating material economically in bulk and studying the most cost effective method whether done in-house or contracted out.

2.4 PRESERVATION STRATEGY

The NLM has set a strategy for the preservation process. This strategy was pursued during the planning of the library building which was completed in 1992. The library building is fully air conditioned and fully equipped with fire detection and extinguishing systems, microfilming facilities, disposal of serials procedures and the establishment of a conservation workshop, acquisitions policy, change of format and storage conditions.

2.4.1 Planning the library building

Here preservation elements were taken into consideration to provide ideal environmental conditions. For an ideal storage area in preserving materials

the design was for all stack rooms to be situated in the basement of the building to avoid sunlight. Due to the high cost of building underground this was not carried out. The design was changed so that a huge span of sloping roof envelops two-thirds of the building. Other considerations were to provide 24 hours air conditioning at constant temperature and humidity in storage areas for special collections such as Manuscript Centre, audio-visual collections, stack rooms, computer centre and rare book collections. Each area has its own separate air handling unit. A back-up air conditioning chiller is also made available in case of emergency.

There is also a standby generator provided in case of a black out for temporary power supply which could supply electricity to about 30 percent of the building.

2.4.2 Fire detection/extinguishing systems

Smoke and heat detectors connected to an automatic fire sprinkler system were installed. In critical areas such as the rare books collection, Malay Manuscripts Centre and the computer centre, a halon system is installed so as to ensure the collections are protected in case of fire.

Halon is a flame inhibiting liquified gas which operates by chemically interacting with the flame radical. It has been successfully used for suppressing fires in many museums and rare book rooms. It is not only innocuous to humans but it is also effective in fire extinguishment. It also exhibits low toxic and corrosive properties. However, it has a number of disadvantages. Firstly it is relatively expensive. Secondly, in order to be effective, an air-tight enclosure is required. This means that the bigger

libraries and archives may not be good candidates for the halon total flooding system. Thirdly, recent discovery that halon and chlorofluorocarbons have been responsible for the depletion of the planet's protective ozone shield is a major drawback. Their sale has therefore been banned as from 1966. ¹³

Anti-termite treatment was carried out during foundations work on the building. The building site was raised by four feet to avoid flooding because the surrounding area used to be flood prone. Mitigation projects were also carried out at surrounding rivers and drainage.

With regard to maintenance of the building, this job is undertaken by a private company for mechanical/electrical daily cleaning and security. This is because of the lack of technical staff to handle such matters and also it was felt that the job would be better performed if it were privatised.

Stock items for preservation are kept in compact shelving and only designated staff are allowed to take these materials out. For Malay Manuscripts they are fumigated before they are stored in a strong room with constant temperature between 15C-21C and controlled RH at 55%. Each manuscript is kept in acid free boxes and stacked in fire proof cabinets. Newspapers are kept in acid free boxes and serials are hard bound before they are kept in the stack room. Non-print materials including cinematography films, microforms, records, video and audio recordings are shelved in the audio-visual collection where humidity is controlled at 55% and temperature is kept constant at 18C.

2.4.3 Microfilming of serials

In 1986, a Subcommittee on Microfilm (SCOM) which consisted of 9 institutions initiated a co-operative microfilming programme whereby local newspapers and serials are microfilmed. The National Library agreed to microfilm nine titles of newspapers (out of 78 titles received) and 15 titles of serials. Even with this co-operation, the tedious task of microfilming means that there is still a large number of titles not microfilmed. A Master negative is produced as a preservation copy for each title using quality techniques with archival film 35mm is used for newspaper and manuscripts, while books and serials use 16 mm format.

In 1992, SCOM organised a seminar cum exhibition on the technology and management of microforms in libraries and archives. This seminar brought together librarians, archivists and personnel from commercial agencies dealing with microforms, particularly microfilm, and optical disc technology. Besides these activities, SCOM is also undertaking two other major projects. One is the preparation of a standard for microfilming and the other is the creation of a National Register of Microforms Masters. ¹⁴

NLM is still considering the use of new technology in imaging system such as optical disc which has been already applied in some developed countries in its efforts to get the most cost-effective, efficient and lasting format.

2.4.4 Disposal of serials

The newspapers received under the Act have been increasing tremendously with 78 daily titles received (5 copies). This has created space constraints and therefore NLM disposes of two copies of the newspapers each time microfilm copies are available. Torn/mutilated materials which are not worth rebinding or restored are to be recycled. This is one way of checking materials growth , and at the same time minimising fire risk.

2.4.5 Conservation workshop

A conservation workshop and bindery was set up in 1979 to carry out preservation activities which included restoration work and binding. The conservation workshop is composed of three senior restorers, ten restorers and two library assistants. The workshop is part of the Conservation and Reprography Division which is headed by a senior librarian. The work carried out also included deacidification and fumigation of manuscripts, rare books, government gazettes and other printed materials. ¹⁵

2.5 PROTECTIVE MEASURES

2.5.1 Preserving the holdings

All manuscripts and rare books are fumigated before they are kept on the shelves. Acid free hardboard boxes are used to keep untreated original newspapers. In purchasing monographs, hardback is preferred and rebinding

is done for materials in bad condition. Lamination is also undertaken for brittle papers.

Manuscripts and rare books are kept in a special collection room where it is 24 hours air conditioned and temperature is kept constant through out . The original copies are also kept in a fire proof safe and only a limited number of copies of manuscripts are kept in specially made exhibition cases at any one time.

2.5.2 Security

This is a crucial part of preservation and disaster management because all efforts would be wasted if materials are lost or stolen. NLM employs security guards as well as the positioning of close circuit television at strategic areas, library materials are tagged and electronic theft detection systems are in operation at all times. Important collections are restricted access and preserved materials are out of bounds for users. All library staff use name tags and even library members are encouraged to display their membership cards whenever they are in the library.

The NLM has recently produced a security policy in 1994. This will be discussed in greater detail in chapter 6.

2.5.3 Housekeeping

Cleaning and vacuuming are done twice daily. Dusting of books with treated cloths and checking of book conditions are done by conservators and binders at least one hour every morning at the open shelves. This inspection is done to monitor any incursion of biological pests, excess humidity or of chemical

damage. Also checks are made to see if any repair is needed for books. As Ross Harvey has stated, effective housekeeping regularly carried out is second only to maintaining stable temperature and humidity levels as the most effective preservation method¹⁶. A regular maintenance programme for microfilm readers, video recorders and cassette player is also implemented and handouts which guide users on proper handling of equipment are also distributed.

The building maintenance staff also do regular inspection of the building for potential fire and flood threat. They are required to report on such threats and if they find any leakage in the building, immediate repair will be done. Department's Fire Team is also responsible to check regularly any potential fire threat throughout the building. In the checklist, this team is also required to inspect periodically each Division's store room to ensure that they are properly maintained and that they follow the fire safety guidelines.

2.5.4 Exhibition loans

There are written rules and regulations in lending out materials for exhibitions. Exhibition equipment like boards, tapes and other materials should be of high quality and acid-free. Also steps are taken to ensure that exhibitions held are not damaging to the library materials.

A conservator is responsible for ensuring that library materials that are lent out for exhibitions are handled in a proper manner to avoid damage.

2.6 STAFF AWARENESS AND TRAINING

Education and training play an important role in addressing the issue. To address the problem of preservation, all staff need to be aware of issues involved and methods available to alleviate this problem. NLM ensures that all new staff are given briefings and demonstrations on preservation and good housekeeping of library materials as part of their orientation programme. All staff at all levels are reminded that preservation can only be tackled with the full co-operation of the whole department and it should not be left entirely to the Conservation and Reprography Division. Conservators and bookbinders are sent for training internally as well as abroad to ensure that they keep abreast of new techniques. Users are also encouraged to take care of library materials through leaflets.

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CHAPTER THREE

3. DISASTER PLANNING: BACKGROUND

3.1 KINDS OF DISASTERS

Unquestionably, one of the most satisfying developments in conservation management was the realisation that although disasters occur with distressing frequency the effects of these misfortunes can often be minimised and recovery expedited by sensible advance planning. The frequency and variety of disasters is awesome. No one, even those in new buildings of modern construction, is completely safe from these unwanted natural or man-made misfortunes. ¹

Most library disasters happen when libraries are unattended or have minimal staffing or security personnel. ²

Disasters that strike libraries are of three kinds:

3.1.1 Natural:

This kind of disaster includes floods, earthquakes and cyclones.

Floods are "high-water level in which water over flows its natural or artificial banks onto normally dry land such as a river inundating it flood plain." ³

The city of Florence in Italy, suffered from disastrous floods in 1966 when the level of the river Arno rose 16 feet sweeping water through the city devastating commercial institutions, libraries, museums and galleries. ⁴

In November 1978, the Stanford University Libraries, Stanford California, experienced a significant flood damaging 46,000 volumes. ⁵

Earthquakes are "an abrupt disturbance within the Earth that is tectonic or volcanic in origin and that results in the generation of elastic waves . The passage of such seismic waves through the earth often causes violent shaking at it structure." ⁶

Earthquakes are a rapid movement of the earth's crust which may vary in intensity from the faintest tremors only detectable by means of the most delicate and sophisticated instruments to shocks of catastrophic proportions which may not only result in loss of life and destruction of valuable property, but may produce remarkable effects . ⁷

In 1989, The San Francisco earthquakes deposited many books on the floor of libraries including 300,000 at the Los Angeles Public Library and about 75% of Stanford University Library's stock. ⁸

Cyclones are "any system of winds that rotates about a centre of low atmospheric pressure in a counter clockwise direction north of the Equator and in a clockwise direction to the South. ⁹

Cyclones include typhoons and hurricanes.

In 1972, the hurricane Agnes hit New York and Pennsylvania. The losses of the Osterhout Public Library were \$250,000 in equipment and 70% of the

collection valued at about \$858,000 , while the Milton Public Library lost half of its collection . ¹⁰

3.1.2 Man-made:

These are caused by Man for destruction and vandalism. They encompass theft, vandalism, mutilation, war and arson.

Theft

Theft is a misconduct by which a person is improperly deprived of his property. ¹¹

One recurring claim made in library literature is that theft of manuscripts or books is almost as old as libraries themselves. Perhaps it is the magnitude of the problem that has changed in recent years ¹². According to Munn:

When the Persians went to Egypt and withdrew papyri from the library of Ramses II, without stopping for any formalities at the charging desk, they began a practice which has remained to torment libraries ever since. Book theft is thus as old as libraries themselves. It might almost belisted as one of the original and basic sins of mankind. ¹³

While at no time in the history of libraries has the theft of rare books and historical documents been unknown, there has been a notable increase in this kind of crime in recent times, due to the sharp increase in the value of rare books which has taken place. There is also now the danger of extremely

valuable books being stolen for ransom purposes, so that it is no longer safe to assume that a book will not be stolen because a thief could not find a buyer. Since these trends seem likely to continue, it is in the interest of the librarians that all possible steps should be taken to improve security. ¹⁴

An American Library Crime Research Project (ALCR) distinguished four kinds of thefts in libraries: ¹⁵

First, *theft of books*. Research shows the number of books stolen from libraries to be enormous. One American study found that there were 250,000 books stolen from 100 libraries per annum, which works out on average at about 250 books per library per year. The variation in the thefts of books were according to subject areas. Certain books are singled out : social books and medical periodicals being the main target areas with those on English literature being slightly less preferred.

Second is the *theft of reference material*, and this includes the theft of rare books. This type of crime is more systematic in the sense it is probably more carefully planned involving selected books targeted by professional collectors. Unfortunately this type of crime is likely to increase as the value of those books continues to rise.

Theft of equipment is the third kind of theft. It is less significance overall though not likely to remain so as libraries move to more sophisticated monitoring and checkout devices as well as more sophisticated equipment for readers.

The fourth category of theft could be called *other thefts* and it includes theft from patrons and various forms of criminal damage direct to library premises.

Among the four above categories, book theft is the most crucial and dangerous. However; the following examples given by Keel¹⁶ will give a better idea of the true picture.

A student of Emmanuel College, Cambridge, wrote a letter to the local paper complaining of the installation of a security system on the grounds that thefts were made by very few library users, resulting in a number of letters in reply. One reported that the Technical College had lost 47% of the new books purchased and the Cambridge Reference Library had caught more than 50 persons in the first few months since the installation of a security system. A further letter mentioned that the overall losses from the Suffolk libraries was 39,000 books, hardly the work of one or two readers.

The Central Library at Bolton installed an electric security system which prompted the usual letter to the local newspaper complaining of the waste of rate-payers' money purchasing fancy equipment for the library . A letter in reply stated that in 1980 the library issued 1,123,000 books from which the estimated net cost of the books stolen was £8,000.

There was a case in Hove where a couple evicted from their flat left behind 10,000 local library books. As the couple were elderly and no witness saw them take the books, through lack of evidence, they were not convicted. From the date stamps in the books prior to the theft, it was possible to assess that the couple had collected the books at the rate of four-to-five books each day.

Book loss statistics from the Metropolitan Borough of Knowsley showed that the average loss over the four unprotected libraries was 9%. Thus an average

library containing 30,000 books will lose 2,700 assuming an average price of £12.00 is £32,400 or for the four libraries £129,600.

Besides these examples, Burrows and Cooper ¹⁷, carried out a national survey on theft and loss from UK libraries in 1992 for the Home Office with the assistance of the National Preservation Office (NPO) of the British Library. The national survey elicited 727 responses from over 1000 public, academic and specialist libraries to gather data on their stock checking practices and the losses these reveal; their experience of theft and mutilation and the preventive techniques they employ and their general perceptions of these problems. The main findings derived from the inquiry and implication of theft and mutilation are as follows:

- Counting practices in the UK libraries surveyed are poor: more than a quarter (28%) never carry out comprehensive inventories or counts, even over long periods of time. Less than half of those who carry out assessments could provide information about their results.
- The average loss rate recorded at the last check by those libraries able to provide information was 4.4% of their total stock.
- Losses differ between library sectors. The average loss rate for public libraries alone was 5.3%, while the losses recorded by academic and specialist libraries were lower, at 1.9% and 2.1% . Within sectors, losses differ substantially between institutions.
- Counts are performed even less frequently on audio-visual material: nearly half of those libraries which hold this material never carry out full checks. The mean loss rate of those that do was 5 items per month.
- Books not returned from loan account for almost a third (29%) of all losses in the libraries surveyed, although there were indications that some libraries simply do not regard such items as 'lost'. Non-returns account for a higher proportion of public library losses (33%), than they do for academic (18%) and specialist (17%) collections.

- Overall, the book losses revealed by counts in the libraries surveyed reflect a national loss (though not necessarily a replacement cost) in excess of £150 million each year. This figure is 50% higher than previous estimates.

The principle findings on the preventive actions being taken by libraries were:

- Many of those who do carry out inventories and counts derive little direction from them on the preventive actions required. The inadequacies of methods short of 'title by title' inventories impose severe limitations on the preventive process, because they cannot furnish details of precisely what has been lost.
- Book recovery visits to borrowers' homes -either by independent agents, or by library staff themselves- have now grown to be more commonplace. About a quarter of practitioners believe they have a very significant payoff. Those making home visits are extremely selective, but many have developed local 'formulas' that persuade borrowers to return items.
- The 'tagging' of library material has become increasingly commonplace. The survey found that just over a third of all libraries have security systems, and two-thirds of users believed they were successful.
- Detailed enquiries amongst 'tagging' users found little evidence that they were being rigorously evaluated. Most envisaged that the payback from installing systems would take several years.
- There is little evidence that the control of theft and mutilation is universally viewed by library professionals as a valued objective. Only about one in five libraries has developed a security policy.

Vandalism and mutilation

Dating from the ravages of the Roman empire and the sack of Rome in 455 A.D., committed by the vandals as they were driven westward by the Huns¹⁸, the term 'vandal' has held connotations of the destruction of many monuments of art and literature. The term has become more generally applicable : the wilful or malicious destruction or defacement of things of beauty or of public or private property . Literature certainly remains vulnerable to such activity both in terms of public or private public buildings, which often house it, and also the texts of individual volumes. Mutilation is defined as the deprivation of a limb or essential part, especially by excision. ¹⁹

There appears to be no limit to the form that vandalism can take. The imagination of the individual vandal is unfortunately quite vivid. ²⁰

The most common kind of vandalism and mutilation which libraries suffer from involves broken windows, graffiti, and minor acts of damage to buildings, cars, fences and so on. But the problem does not stop there. In addition, libraries, are likely to suffer other kinds of destruction due to the nature of their operations and facilities. The intentional mutilation of books and other resource materials is one such problem. ²¹

Reasons for vandalism

There are psychological and sociological factors that cause vandalism. The nature of modern society is a factor in this problem. The cost of becoming an affluent society might well be measured in terms of its influence upon the family. Geographical dispersal, working mothers and the rise of teenagers as a significant commercial market, have all affected the ties of the family group.

There has been a decline in supervision of the young, responsibility for which rests firmly and squarely with parents. More parents than before seem content not to know where their teenage children roam at night and children now have more money to go further afield. For those who feel barred from the gates to prosperity by virtue of being black not white or unemployed rather than working, vandalism may provide an outlet for anger and depression . Thus delinquency is sometimes an expression of frustration directed at symbols of the competitive structure or of discriminating systems which are keeping the offenders from the success they deserve. ²²

One view is that vandalism is merely a feature of the natural rebellion of adolescence. Others suggest that subcultures develop in which vandalism is acceptable behaviour. It is also recognised that those who are psychologically disturbed, or who have emotional disorders are often responsible for vandalism. The cause of vandalism are complex, vary considerably and are not entirely understood. Nonetheless behaviour in many acts of vandalism can be identified as a specific type of response, and are studied within categories. ²³

Examples of vandalism in libraries ²⁴

One of the first acts of library vandalism known in history is the destruction of the library of Alexandria in the second BC. ²⁵

In the medieval period, a widespread destruction of books accompanied the storming of Baghdad by the Mongols in 1258 when the Tigris River was glutted with books from the libraries of Baghdad. ²⁶

The West Farms branch of the New York Public Library was wrecked by vandals during the Christmas holiday of 1976. Books were scattered and sprayed with fire extinguisher, catalogue cards were thrown about, walls were covered with spray-painted graffiti and obscenities, a piano was battered beyond repair, and furniture and machines were covered in ink. Damage was estimated at \$10,000. Three teenagers, aged between 15 and 16 were found to be responsible.

In the early months of 1977, attacks took place on premises, staff and the public at Liverpool libraries in Toxteth.

Unemployed youths began to cause trouble at the Aston library in the autumn of 1977. Despite sympathetic response to their difficulties from library staff, damage to stock, broken windows and graffiti continued. Prior to this the hair of one librarian was pulled and a cigarette stubbed out on her arm.

In the early hours of New Year's Day of 1994, a bomb exploded in the Linen Hall Library in Belfast, Northern Ireland, destroying several hundred volumes of history, biography and literature. Fortunately none of the library's unique Irish material including the remarkable Northern Irish Political Literature Collection, was lost, though it was not far from the area of damage.²⁷

Types of vandalism

Susan Lacey has categorised vandalism into the following groups: Acquisitive vandalism, tactical vandalism, ideological vandalism, Vindictive vandalism and play and group vandalism.²⁸

With these kinds of vandalism which are a real menace to the libraries and their collection, librarians should be aware of this threat and take measures to protect the holdings of their libraries. Therefore, it is important for any library to include measures to encounter vandalism in the disaster plan.

Mutilation

As the case of vandalism, mutilation is another form of threat to the library collections and it should also be considered when preparing a disaster plan for the library.

Mutilation is caused by several factors. Some library users are so confident of their intellectual abilities that they feel entitled to amend or criticise a text which displeases them, or they could be selfish and can convince themselves that their need is greater than that of anyone else to the extent that they feel justified in removing an article from a journal. Mutilation may be inspired by similar motives to vandalism, selfish acquisition for personal use removal of items on ideological grounds and for vindictive reasons.

It is widely recognised that the absence of photocopying facilities could increase the possibility of mutilating library materials. Mutilation increased when electronic security systems were introduced to libraries. Usually people steal items from the library because they wish to read them. As security

devices protect the cover of spine of a book, the contents remain vulnerable to theft and more pages and articles disappear. Also when text books in academic libraries are on a reading list, the possibility of mutilation by students can be high.²⁹

War

Examples of libraries damaged by war

In December 1989, the Romanian State Central Library was destroyed during the overthrow of the Ceaucescu government.³⁰

In 1991 the public library of the city of Vinkovci, Croatia was burned during the Croato-Serbian war. The fire damaged 85,000 volumes that contained original manuscripts of some Slavonic writers. Due to this war also, the Vukovar Town Municipal library was demolished and the fate of its rich collection of books printed between the 16th and the 19th century is unknown.³¹

In 1992, the Institute of Oriental Studies and the National and University Library of Bosnia and Herzegovina (NUB) in particular, suffered great damages as they were continuously and systematically the target of missiles from the Serbian front line located in the hills around Sarajevo. The Institute of Oriental Studies which contained incunabula as well as the most important copies of Bosnian-Herzegovinian periodicals, almost completely vanished in flames whereas the NUB ended up in devastated by fire.³²

Arson

Arson is the act "of wilfully and maliciously setting fire to another property."³³

An arson attack is on the same scale as that of a bereavement and there will be a drastic drop in staff morale. As with most library arson, the culprit tends to collect piles of books to set fire to the building.³⁴

From the perspective of managing an institution, arson is the most devastating crime that can occur and it is the greatest threat to libraries.³⁵ Therefore, security measures are particularly important. Reasons for arson could be psychological and sociological factors similar to those of vandalism and mutilation.

Examples of arson in some libraries

The Hollywood Regional Library lost its long-standing battle with vandals when arsonists entered the building, painted the wall with graffiti, and then set ablaze that demolished the library and over three-quarters of its 90,000 volume collection.³⁶

In 1986, a fire started by an arsonist destroyed about 400,000 books and caused ample damage in Los Angeles Public Library.³⁷ Other sources mention that the loss was over one million books destroyed or damaged, a further million suffered smoke damage.³

3.1.3 Negligence:

This kind of disaster is caused by the negligence and mismanagement of Man without having a predetermined intention to damage. Among this group of disasters there is electric fault, water leakage and poor building structure and maintenance.

A fire broke out on 11 May 1990 at 1:30 and damaged the Tumpat Branch Library in Kelantan, Malaysia. About 8,800 books worth MR132,000 (£35,000) were damaged. Overall loss is estimated at £50,000. The cause of fire could not be determined.³⁹

Electrical faults can occur when proper installation of wiring is not done or due to the old wiring or overloading of electric current by not following standards. Sometimes it occurs because electricians try to save money by installing inferior quality electrical wires and components.

The most recent major disaster in this category took place at Norwich Library in August 1994 caused by fire as a result of electrical fault which destroyed the library. The fire spread with remarkable speed. It devastated the central ground and mezzanine floors⁴⁰. Norwich was one of the most important libraries in the country, as well as being the centre of the Norwich Library system. It housed a superb local studies collection. Norwich Central Library also contained the USAAF 2nd Air Divisions Memorial Library and perhaps most significantly, the Norfolk County Archive⁴¹. During the fire, hoses had been used through the Record Office general office, search room and conservation room windows to fight the fire from below and much of their contents got soaked. Priority was given to rescuing documents, but at an early stage the general office was declared structurally unsound and everything in it

had to be moved to the search room. This housed a wooden card catalogue and other bound and loose-leaf catalogues mainly in bookcases along the internal wall. These escaped damage and all was thought to be well until a few days later when without advance warning the structure of the search room was called into question and access to it barred. Despite copies of many lists being available elsewhere, this was extremely worrying until they were rescued and put into temporary storage together with other office files and furniture⁴². Damage cost was estimated at £4m. Mr. Ben Pearson, a King's Lynn solicitor blamed the library staff who did not appreciate the urgency of the situation and had "lack of knowledge, poor communications and inadequate inspection and maintenance."⁴³

Water leakage can be due to bad plumbing of water pipes or using inferior steel. In certain cases, rusty old pipes in library building which are not properly maintained are the cause of water leaking which induces flooding.

On April 23, 1995, the National Library of Malaysia experienced damage due to water leakage caused by torrential rain and strong wind which penetrated through the roof. About 80 rare books, 3 theses and 20 books were damaged. Although the amount of damage to library materials is not big, but many parts of the building were affected and a number of ceiling boards had to be replaced. Even the electronic security detector gate had to be serviced due to water leakage.⁴⁴

Poor building structure: Some library buildings are not library-purpose built buildings in the sense they are renovated office buildings turned into libraries which could not cope with the expansion and the increase of the holdings of the library. This in turn create cracks and faults in the building structure.

3.2 THE NEED FOR A DISASTER PLAN

As seen from the records of history, every library might have a disaster. Surveys have shown that some sort of disaster in libraries is inevitable ⁴⁵. It is rather ironic that the myth that disasters are caused by natural forces has prevailed for so many years. The truth is that most disasters are caused by human incompetence. ⁴⁶

Undertaking disaster planning is one of the most important decisions a librarian can take to protect the library's collection. Disaster planning is the term used to describe the countermeasures which can be on a large or small scale according to the needs, ability, or financial resources of a library. ⁴⁷ Disaster planning is perhaps a misleading term also for what is now an accepted part of every library's preservation program. It is also known by several other names, among them disaster control planning, disaster containment, contingency planning and risk management. Disaster planning is in essence a set of rehearsed actions which will minimise the effect of a disaster, whatever its magnitude, on the library and will assist in restoring the library and its collections to a usable condition in a short time as possible. ⁴⁸

Disaster planning should encompass both preventive measures and mechanisms for response and recovery after any disastrous event. ⁴⁹ Disaster planning consists also of taking positive measures to counter the threat of disaster by: (a) taking action to remove and minimise the threats, and (b) providing organised resources to react to an event should it occur, with the objective of minimising damage and loss. ⁵⁰

The primary objective of disaster planning is to prevent or reduce the likelihood of incidents occurring and to protect material and facilitate the rescue of damaged items as speedily and efficiently as possible.⁵¹

It would be unrealistic to think that disasters could be completely prevented. However, a great deal could be done to prevent some of them happening, to reduce their effect on the collections when they do happen and to minimise the damage caused to those items which become affected. To do this it is necessary to apply preventive measures, to establish emergency procedures, hold emergency equipment and supplies in readiness, arrange for the necessary backup services to be available and for staff and disaster teams to be fully conversant with and trained in disaster reaction, or in other words, disaster planning⁵².

Much has been written about the principle elements of disaster planning. A study by Buchanan⁵³ produced under the auspices of the Records and Archives Management Programme (RAMP) of the General Information Programme of UNESCO, covers the various phases of the planning process, including the contents of a disaster plan, preventive and protective measures, and response and recovery after the event. The importance of adequate insurance cover and dialogue with insurers is emphasised by Wright⁵⁴, who also stresses the importance of an up-to-date inventory of library furniture and equipment, together with detailed plans of library buildings.⁵⁵

In addition to guidance on the planning process, a number of model plans have been produced which may help librarians in the production of plans for their own libraries. For example, in 1983, a disaster control plan was produced for the National Library of Scotland, and this led after a survey to establish interest in disaster planning to a project to develop a planning manual for Scottish

libraries and record offices ⁵⁶, which was eventually published with support from the Library and Information Service Committee (Scotland). This manual⁵⁷, made recommendations on prevention, insurance, the establishment of disaster teams, damage assessment and salvage operations.

A model plan was also produced by the British Library ⁵⁸ as the second stage of a research project, the first part of which had surveyed the extent of disaster planning in libraries and archives in England, Wales and Northern Ireland. Areas cover were similar to those in the Scottish manual. ⁵⁹

Two papers by John McIntyre ⁶⁰, Head of Preservation, National Library of Scotland, give clear concise outline of the major principles: prevention, preparedness, reaction and recovery and their component parts. ⁶¹

Another more recent paper ⁶² written by Joseph and Couturier ⁶³ which further subdivides these principles, provides a similarly useful overview and discussion, but with a focus on management activities essential to the proper operation of contingency plans.

So, a disaster plan is an essential element in preventive preservation. The best protection against disasters is to make every attempt to minimise the likelihood of their happening. Disaster plans require that library housekeeping is regularly performed, that library buildings are appropriately constructed and fitted out and that they are regularly maintained, and that the library's staff are well trained. A disaster plan is simply one aspect of good library administration practice . ⁶⁴

It is human nature to think that it can not happen here and put off the task of planning in order to meet the more immediate needs of the day-to-day

operation of the library; however, disaster can strike suddenly and with devastating impact. ⁶⁵

Disaster planning starts with a solid written plan which is the primary step in preparing for disasters. "A written plan is the single most important step in preparing for disasters. First, such a written document acknowledges that disasters are possible and there is a commitment on the part of the organisation to accept responsibilities in a sensible and logical way. Second, preparation an a written plan eliminate panic, assure proper decisions, reduce the damage to collections, and limit the cost of recover. Third, a plan consolidates ideas and provides step-by-step instructions which are clear and easy to follow for anyone who is upon them. " ⁶⁶. On the other hand, drawing up a plan will involve activities which may have incidental benefits in other area, risk assessments, for instance can identify weaknesses in aspects of security and building maintenance. ⁶⁷

Not all libraries have a disaster plan, although there is no doubt that all, whatever their size and type, should have one. It was not until the late 1970s that it could be said that disaster planning was widely recognised as an essential part of good library management ⁶⁸, and more libraries throughout the world launched planning and implementing disaster contingency procedures. To give an illustration, a survey was carried out in 1993 on preservation policies and conservation in British libraries a ten years review 1983-1992. This indicated that out of 488 libraries only 143 (29,30%) reported having a disaster control plan (written or otherwise) (24 public libraries, 66 academic and 53 special).⁶⁹ This remarkable rise in the number of libraries with disaster control plan (only two had such a plan in 1982)⁷⁰ may be attributed to a number of factors. Among them, in 1966 the catastrophic event of Florence which has ultimately changed the attitude of many librarians around the world concerned with the

safekeeping of their collections.⁷¹ The publicity which followed a number of recent major library disasters, including fires at the Los Angeles Public Library and the library of the Academy of Sciences of the previous USSR in Leningrad in the mid and late 1980s, second, the informative and authoritative publications from the National Library of Scotland and the British Library which included model disaster control plans, and third, the efforts of the National Preservation Office, have all served to focus attention on an issue which was formerly neglected.⁷²

3.3 OBJECTIVES OF THE DISASTER PLAN

Swatzburg provides a detailed list of objectives as follows:

- . To lessen the potential for loss by anticipating the possibilities and appropriately reducing them whenever possible.
- . To assure that agencies, both public and private, who will be called in during and emergency understand the nature of the library's collections and its priorities.
- . To establish normal conditions after a disaster promptly and efficiently.
- . To lessen the chances of recurrence by taking advantage of experience gained.
- . To assure that adequate orientation and training have been given to the staff and that this training is updated on a regular basis.
- . To assure frequent inspection by appropriate agencies to prevent changed conditions from having a deleterious effect upon the safety of the building⁷³

Another helpful list is provided by Sally A. Buchanan, who notes six general guidelines for developing a response to disasters in libraries:

- . Accept responsibilities for planning.

- . Plan in advance.
- . Use common sense.
- . Educate yourself and others about disaster planning.
- . Adapt advice to local situations when ideal is not possible.
- . React to disaster quickly and in accordance with a plan. ⁷⁴

3.4 THE ROLE OF LIBRARY MANAGEMENT IN DISASTER PLANNING

Planning for one disaster may be the same, or very similar to planning for other disasters. Similar to common recovery steps for different disasters, a common thread of management responsibilities and activities also winds its way through the disaster planning process.

Library management should take the following actions to ensure that contingency planning will work when needed no matter what specific disaster is being planned for. These actions are:

- . Making sure that management controls and supports the contingency planning process.
- . Assigning proper authority and responsibilities to appropriate personnel to ensure that the contingency planning and execution processes work.
- . Determining the specific contingencies that are likely to impact the firm.
- . Developing proper contingency plans for each phase of the disaster.
- . Ensuring that contingency plans are known and can be accomplished when needed.
- . Arranging in advance for necessary agreements with a variety of outside organisations.

. Co-ordinating the contingency planning and execution stages with outside organisations. ⁷⁵

The development of the disaster plan depends on a number of factors such as the size of the library, the number of staff and whether any special funding is available. If possible, the plan should be developed co-operatively by library staff. There are many positive benefits of such co-operative activity, including an increase in the general awareness of all library staff and a greater knowledge of the aims of the institution. ⁷⁶

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CHAPTER FOUR

4. DISASTER PLANNING: THE DISASTER CONTROL PLAN

4.1 PREVENTION

The familiar saying 'prevention is better than cure', is aptly applied to disaster planning. Prevention is composed of five components: *identification of the potential threats, reducing the risk of threats, back up policy, preventive measures in constructing new library buildings and finally staff training.*

4.1.1 Identification of the potential threats

This is the first important step in carrying out good preventive procedures ¹ coupled with analysing risks and acting to eliminate/reduce them. ²

Identification of threats is an essential part of disaster planning which should not be undervalued. ³

It is achieved through surveys of hazards. "The disaster plan should contain details of what the surveys are to note and how they are to be carried out. It is helpful to develop standard forms to be used which make the task easier and assure uniformity and objectivity of information. ⁴

Surveys of hazards are of three kinds: *external, internal and environmental.*

4.1.1.1 *External hazard surveys*

In order to prevent disaster or reduce its effect, it is essential to know the potential external risks to the library. "For instance, is the area subject to tornado, hurricane or earthquake? Is the library located in a flood plain or an area buffered by fierce tropical storms? Are extremes in temperature and humidity something to contend with? ⁵

In larger institutions there may be building and grounds staff who can assist with surveys and whose job is to follow through . ⁶

4.1.1.2 *Internal hazard surveys*

This includes assessing structure, maintenance and security of building(s) and storage systems ⁷, such as: water tanks, water pipes, fire suppression systems (water), air conditioning plant, washrooms, kitchens, laboratories and workshops ⁸. Buchanan ⁹ adds other items to the above like:

- a) Look at the ceiling: are they sound, do they show water stains?
- b) Examine the windows, are they sound?
- c) Check the electrical wiring.
- d) Check the alarm systems.
- e) What is the condition of the building material: is the mortar sound, the wood painted and free of dry rot or termites, stonework free of defects?
- f) How are the foundations: do they appear sound, are there any large cracks or missing portions?

4.1.1.3 *Environmental hazard surveys*

Environmental concerns are considered among the preventive measures which could extend the life of the collections. Attention to environmental threats can also reduce extremes which could result in a disaster to the materials housed in libraries and archives.

While most institutions will have a personal list of known hazards, Buchanan¹⁰ gives the following features which ought to be considered part of any environmental hazard survey:

a) Trash:

Are there regular collections, is waste disposed of properly and promptly, are hazardous materials stored safely?

b) Dusting and cleaning:

Do cleaning staff follow the set local standards, are proper procedures observed, appropriate supplies used?

c) Strong light:

Are collections exposed inappropriately to direct external light, is light controlled to the best of your ability within the library by use of timer switches or ultra-violet shields ? Are proper exhibit standards for materials observed?

d) Temperature, humidity and air pollution:

Is it monitored and controlled, at least to the best of the library's ability. Is the equipment for control clean and functioning?

e) Trees:

What is the position of trees near the building(s): are their root systems or large branches potentially hazardous?

Once the hazards surveys are completed, results should be compiled and a report must be written indicating those areas where hazards have been adequately protected against. Priorities should be suggested and cost estimates must be calculated before the report is submitted to the administration.

4.1.2 Reducing the risks of threats

Measures to reduce threats risks, need to be deployed. These measures are against fire risks and flood risks.

Reducing the fire risk

These include the following:

a) Ban and restriction on smoking

- b) Check fire doors whether they function well and whether they are kept closed if not triggered by alarms or do the staff leave them open for ease of movement. ¹¹
- c) Contacts should be made and liaison established with the local fire services¹².
- d) Install of detection and alarm systems ¹³.
- e) Check aisles, exists and doorways whether they are unobstructed and well-marked. ¹⁴.
- f) Providing a primary fire extinguishing system, including hand-held fire extinguishers. "For a library these are carbon dioxide or halon. All other types are damaging to library materials. An automatic halon flooding system is even better, but the expense of these systems usually means they are confined to areas of special collections". ¹⁵

Reducing the flood risk:

Flood or water ingress is the most common cause of damage to library materials, much of which avoidable through improved building design and maintenance. Potential flooding hazards such as heating systems, water tanks and pipes should be identified and properly maintained.

External flood hazards as gutters and roofs should also be examined regularly and maintained in good order. If re-design and alteration can reduce or remove any of these hazards, then this should be done.

Installing water alarms to detect the early presence of water could be provided, but the location of it remains a problem. ¹⁶

4.1.3 Protection of records and back up policy

Another category of preventive actions is making back up or duplicate copies of significant material and storing it in the library (on-site storage) or at a site other than the library (off-site or remote storage). Two categories of material are relevant here: administrative materials (such as inventories of the collection like catalogues) and significant material in collections.¹⁷

Duplication is the creation of extra copies to provide a back up to the records segregated as vital. There are several methods of duplicating records¹⁸, the most common are :

Photocopying:

In an office environment where the manual storage and retrieval of files is in vogue, photocopying would be a convenient and perhaps feasible way of duplicating vital records. Photocopying as a reproduction method has the advantage of providing the exact full sized copy of the original for immediate use, in addition, the size of the original can be reduced as may be desired.

Carbon copy:

This may be more familiar method of reproducing documents particularly at the point of creating new records. This method would seem appropriate where the quantity of records is small. For large quantities photocopying may be more cost-effective method of duplication.

Microform:

The microform could be used as a back up medium of vital records. It has the advantage of requiring minimum storage space and it is cost-effective where large volumes of similar records are to be reproduced.

Magnetic tapes:

Magnetic tapes store data in sequential fashion in cassette or cartridge form. They are relatively cheap but slow. The storage capacity of tapes vary with the tape length.

Floppy discs or diskettes:

These are flexible plastic discs of 3 1/2, 5 1/4 or 8 inches in diameter. They may be single or double-sided and single-, double- or quad-density. They have the advantage of being slender-shaped and compact so that it is easy to file them or send them through the post.

Hard disks:

These are traditionally used in large word processing units. They have a capacity in excess of 10 Mbytes (4,000 pages of A4 text).

Optical disks:

These are a newer information storage media. They include large storage capacity and high data transfer rates.

Computer systems:

As for back up of computer systems, all back up discs should be kept separately from the hardware. This includes program discs. If possible the discs should be kept in a separate building or at least in a fireproof safe, and one copy of most program discs should be made which will be kept with hardware in case of software crashes. It is preferred to store the originals safely elsewhere. The same is true for back up discs or tapes of the data files. Many organisations run a 'two stage' back up routine. Back ups are made daily and those discs stored with the machine. A weekly back up is also made and stored in a separate building.¹⁹

The files must be organised sensibly on the hard disc so that backing up is quick and simple and can be done by backing up entire directories at a time.²⁰

Some large organisations find it worthwhile to back up their data. Even small organisations may chose to have more than one machine capable of performing a process. Backed up software and data should be secure, but reasonably accessible to restart operations. Operating and recovery procedures need to be fully documented as copies kept securely. Training of staff is also necessary. Maintaining adequate insurance for material, time and even business loss should not be overlooked. The entire plane needs to be tested fully before any really serious situation develops and kept up to date in the light of changing systems, operations and priorities. Some commercial agencies will provide

contingency planning and disaster recovery services but these are costly and have to be weighed against the value of the operation covered. ²¹

Computerised catalogues have dramatically increased the ease with which backup copies of catalogues can be made. Most libraries either have access to a national database listing their holdings or have tape backups of their catalogue stored off-site and regularly updated as a routine matter , or microfiche copies of their catalogue, and CD-ROM copies are starting to appear. Libraries still with a manual catalogue may wish to duplicate it and keep a copy away from the library, although the problems of doing this for a large card catalogue are immense. Important material in the library's collections can also be considered for security copying, and the copy housed elsewhere than in the library. Some libraries carry out this activity as a routine matter, for example, with newspapers or university theses. ²²

With respect to protecting the records, there are two methods: either *on-site storage* or *off-site or remote storage*, ²³

On-site storage:

When the on-site storage option of protection of vital records is used, the records are within the building where the organisation normally operates but away from the rest of the records. Such vital records segregated as vital should preferably be stored in insulated file cabinets or purpose-built safes or vaults.

Off-site or remote storage:

In this case, vital records are preserved at some distance remote from where the organisation normally operates and where the rest of the records are housed.

A number of factors to take into account in the selection of storage site include: (a) security, (b) proximity of fire and police protection, (c) adequate temperature and humidity levels within the storage, (d) ease of communication such as by telephone, road etc. between the office, (e) economy and (f) adequacy of records services.

The important decisions relating to the process of identifying the vital records of the organisation, processors for implementing the vital records management programme as well as the protection methods developed for the vital records should be documented in a manual which should be incorporated into the disaster control plan.²⁴

4.1.4 Preventive measures in constructing new library buildings

Another effective way to prevent disasters is in careful planning for new library buildings. Librarians should demand from the architects and the engineers good preventive measures and design. "Deliberately building a library in a flood plain is not sound management or common sense. Failure to install proper fire protection equipment is taking unwise chances. Buildings should be designed to prevent strong light from damaging collections and fading furnishings. If windows are present, glass should be installed instead of shutters or grille-work to reduce weather, pollution, insect and mould hazards²⁵.

Environmental control systems could be planned for specific needs and climates and placed in areas away from collections to reduce potential damage. Heating and ventilating should have the proper safety mechanisms including

the capacity to shut down immediately in case of fire or smoke. All water and steam pipes should have pressure alarms installed to warn of potential trouble.

Proper and safe shelving can make the best use of space and collection requirements. Stacks should be designed or improved to eliminate open areas or gaps between levels. In times of fire these gaps provide oxygen which turns the stacks into a chimney resulting in greater damage.

Serious consideration should be given to the materials used in the construction of the building as well as the furniture. Non-combustible materials which have undergone fire safety testing, could help in preventing fire from spreading. Carpets should not run under shelving. In case of water disaster , they can more easily dried or taken up. ²⁶

However, cost considerations should be undertaken in building construction. All buildings have cost limitations. In this case, the librarian should, in consultation with the architect come out with a priority list of materials to be used to ensure that a sound well designed library building is constructed. In the case of lack of funds, priority should be given for a well equipped building in respect of preservation and the aesthetic aspect should be of secondary importance.

4.1.5 Staff training

Staff training is an important component of a good disaster prevention and contingency planning within a organisation. It involves essentially two groups of personnel: (a) all members of staff and (b) a special group within the organisation designated as the disaster control team.

For the first group, the training should instruct the personnel on how to respond to disaster confidently and with least panic. Drills might be carried out as part of the training programmes. Newly recruited staff as part of their orientation programme could be introduced to the important areas of their working environment such as fire exits and the location of fire lighting equipment and taught how to use the hand held fire extinguishers to suppress small fires. They should also be made aware of evacuation procedures and the methods of altering other staff in case of disaster like the outbreak of fire.

For the second group, the disaster control team, the education and training should be specialised in nature and more concentrated. The topics that will be discussed will include among others (a) fire suppression techniques, (b) response process and (c) salvage procedure and techniques.²⁷ This team is responsible to lead other staff when a disaster occurs. They should be well trained and able to respond immediately to do salvage work and able to control the situation when disaster strikes.

Steps for staff education and training have been developed and employed by a number of institutions. A compilation of the best are listed below ²⁸:

- a) Hold one or more training sessions to introduce staff to the disaster plan and its use.
- b) Name an official Head of disaster prevention and recovery. Once the initial disaster planning is completed, this Head will have the continuing responsibility to follow the plan and its recommendations, initiate any on-going surveys and be responsible for a disaster recovery effort.
- c) Train staff or staff task forces to undertake disaster hazard surveys and to make recommendations.

- d) Establish a disaster recovery teams with a Leader whose members can react knowledgeably to anything from one wet book to a major catastrophe. This is especially important for larger collections. Smaller collections may find that one knowledgeable person is adequate.
- e) Set up a procedure for disaster team members to act as team leaders in case of major disasters.
- f) Organise co-operative or regional training or disaster teams.
- g) Meet with any outside personnel who may be called upon to assist in disaster recovery.
- h) Bring in experts if necessary to provide comprehensive training, and if this is not possible, scrutinise the literature and provide your own training.
- i) Ask for advice from people with experience in disasters and in disaster training.
- j) Be alert to risks and to report them so that they are dealt promptly.

It is essential that the personnel of the organisation should be sensitised to the fact that a disaster can occur. Proper attention to prevention and protection hazards as well as appropriate reaction to emergency situations can make a significant difference in reducing damage.

4.2 PREPAREDNESS

Preparedness by its very definition indicates thoughtful planning and decision in advance about how emergencies will be handled ²⁹. Assigning specific tasks, knowing sources of supplies and how to obtain them on holidays and having correct lists of phone numbers for police, fire services and library personnel are an integral part of disaster strategy ³⁰.

Preplanning also includes establishing priorities for materials to be saved first and those to be abandoned if necessary. In establishing priorities, catalogues and shelf lists should be considered. Loss of records will add to the confusion of recovery if large numbers of materials are affected. In addition, preplanning includes decisions about whether particular collections are important because of intellectual content of books is much less expensive than restoring the books.³¹

The alternatives of microfilming, photocopying and replacement are often practical solutions for many collections. But understanding that, with care and expert advice, much material can be saved with relatively little cost is also important.³²

A written plan is the most important procedure in preparation for disasters. "First it acknowledges that disasters are possible, and that there is a commitment on the part of the organisation to accept responsibility in a sensible and logical way. Second, a written plan eliminates panic, assures proper decisions, reduces the damage to collections and limits the cost of recovery. Third, a plan consolidates ideas and provides step-by-step

instructions which are clear and easy to follow for anyone who is called upon to use them. ³³

The value in having a disaster plan is in possessing the ability to react to an incident swiftly and efficiently. ³⁴

A disaster plan is an essential element of preventive preservation. The best protection against disasters is to make every attempt to minimise the likelihood of them happening. Disaster plans require that library housekeeping is regularly carried out, that library building(s) are appropriately constructed and fitted out and that they are regularly maintained and that the library's staff is well-trained. A disaster plan in other words, is simply one aspect of good library administration practice. ³⁵

Drawing up a plan should involve activities which may have incidental benefits in other areas, like assessment, for instance, can identify weaknesses in aspects of security and building maintenance. Similarly, identifying possible scenarios and outcomes will indicate that outside assistance may be required.

Drawing up a plan should also involve the establishment of a resource network of external agencies and experts and the identification of potential co-operative partners locally or regionally with whom equipment, storage and costs may be shared.

Production of a formal written plan must also assist the task of convincing the management of the need of a plan and of the necessary commitment and resources to make it effective to minimise not only the effect on the library, but on the organisation, its operation and services as a whole. ³⁶

Once the plan is written, management must be willing to commit financial resources required to make it effective.³⁷ The planning process should have a budget, defined objectives, timetables and periodic reviews of progress. Doing less than this would give personnel the impression that the plan is a 'back burner' item and might result in inadequate levels of effort and a lack of significant progress.³⁸

A disaster plan should contain the following basic components which ought to be understood and considered for inclusion. These components are developed by Buchanan³⁹ and they include the followings:

a) Introduction :

A statement describing briefly the purpose and the scope of the plan. It should include general instructions for the use of the plan, and the person responsible for it.

b) Emergency information sheet:

It should be one page and easy to use, posted at every telephone, listing the immediate and correct steps to take in case of emergencies.

c) Telephone numbers list:

It must be an up-to-date list of the appropriate numbers to contact key people and services when needed.

d) Collection priorities:

The plan should identify and rank the priority of the collection during the preventive and recovery period. Such collection includes manuscripts, rare books, restricted materials etc.

e) Preventive and protective measures:

A summary of these measures will be beneficial in the written plan. These written measures would be the commitment of the management to realise the plan.

f) Disaster response and recovery instructions:

These instructions would be in detail, and most carefully prepared. In case of emergencies these instructions will be materialised on the ground.

g) Resources:

The written plan should contain a list of sources which the institution can call upon, such as conservation experts, librarians, engineers, building maintenance experts, security specialist and conservators with experience in disaster education and recovery as well as centres or libraries with conservation departments who can give advice.

A list of library and conservation materials suppliers should also be appended.

h) Rehabilitation:

The written plan should include schemes for cleaning, housing, rebinding, re cataloguing and proper storage. The period and staff needed for this depends on the size and nature of the library.

The exact form a disaster plan takes will vary according to the institution's specific needs. The following elements are typically present⁴⁰ :

- A clear summary of emergency procedures (for both human life and the collections) to be followed for each likely type of disaster: fire, water damage, bomb threats etc.
- A list of personnel to be contacted if any emergency occurs.
- A list of regional and national consultants and services.
- Lists of equipment and suppliers on hand, and of sources for equipment not on site.
- Procedures for getting emergency funds from the parent organisation.
- Floor plans of the library with locations of priority materials and equipment for salvage clearly marked.
- Summary of insurance coverage and insurers.

- List of arrangements made for regular building inspections, covering building maintenance, plumbing, electrical facilities, roofs, drainage, water pipes, etc.
- List of arrangements made for regular inspection of security equipment such as alarm systems, an fire detection and fire extinguishing equipment

Another important component to disaster control plan according to Algebeleye⁴¹ is:

Testing of equipment:

The objective of testing is to ensure that security and fire detection and extinguishing equipment once installed is in good working conditions. It is of vital importance that three main criteria are fulfilled:

First, all equipment is constantly tested.

Second, The installation is done in accordance with recognised standards and manufacture's instructions.

For example all extinguishers must be examined at a regular intervals so that the air pressure can be maintained at a level adequate to expel the extinguishing agent. Detectors also need to be tested at regular intervals and require some degree of maintenance.

Apart from the periodic testing of equipment as recommended above, there is a need to conduct a dry run of the disaster control plan after it is completed. This test is necessary in order to ensure that all the aspects of the plan work as designed and that omissions if there are any, can be incorporated into the disaster plan.

4.3 REACTION

Prevention and preparedness are followed by reaction which embodies the procedures to provide counter measures taken when disaster strikes.

The objective is to respond to an incident with efficiency and speed so that damage and loss are minimised by protecting undamaged material and stabilising the condition of material that has suffered damage.⁴² It also includes the procedure of proper evacuation of staff and library users to ensure their safety.

To achieve this, first the alarm must be raised, then, "materials and equipment, the detail of which will relate directly to the type of holdings and the kind of threat that the library faces, will be used in an emergency. ⁴³

Disaster reaction teams must be organised and fully aware of the threats faced. The size of the disaster team will relate to the size of the library. Team members should be well trained and have done several rehearsals to face such emergency. ⁴⁴

Teams should be under the direction of a senior person. A clearly defined line of command must be established and adhered to, in order to avoid chaos and disorder. ⁴⁵

Fire alarm procedures and evacuation procedures should ensure that any immediate danger to people is minimised and that fire-fighting activities begin. This is followed by contacting the leaders of the disaster team.

Once the teams are ready, attempts will be taken to enter the disaster site. When the site is ensured that it is safe, it is essential to turn off the main power supply, turn off the gas and open (or close) windows . ⁴⁶

If it is a fire, rolls of plastic sheet must be thrown over areas where heat is not a problem to protect books from unexpected water damage. ⁴⁷

The next step is a preliminary assessment of the damage needs which will be done by the leader of the disaster team. With the assessment made, the assessor can brief salvage personnel and make a preliminary allocation of tasks⁴⁸.

Once the site can be entered and the extent of the damage has been ascertained the next step is to remove damaged materials. These materials need to be packed for transporting to safer places, usually in plastic crates or cardboard archive boxes. Photographic documentation may also be useful for insurance claim reasons. A treatment area needs to be set up, close to the disaster site if possible, to carry out minor treatment such as air-drying slightly wet material. An area for packing material which is to be frozen may also need to be established . ⁴⁹

Reaction must always be under the control of a designated member of staff, who should have the authority to act in an emergency and who will have been involved in drawing up the contingency plans.⁵⁰

4.4 RECOVERY

Recovery is "establishing and carrying out a program to restore both the disaster site and the damaged materials to stable and usable conditions".⁵¹

At this stage, there is more time available for careful planning. The immediate threat to the material has been removed, and what is now required are decisions as to which material needs to be restored to usable condition first, and what the best methods of restoring it are.

Advice from a conservator will be needed. An assessment of available conservation options and an estimate of costs will need to be made. For institutions which do not have the expertise, they should refer to salvage companies and commercial binders and restorers. A good example are *The Data and Archival Damage Control Centre* and *Riley Dunn and Wilson* in the UK.

It is at this stage that the value of recording each item as it was removed from there site and sent to one of several destinations will be fully realised , as this record will allow decisions to be made, such as whether an item is to be frozen, discarded . replaced or rebound. Insurers will need to be contacted. In a disaster which has affected a large number of items it is likely that a phased conservation program will be needed to cope with the quantity and with the cost of restoring it to a usable condition. ⁵²

The disaster site itself needs attention. It must be made habitable again. Steps such as clearing debris and drying carpets or floors should be taken, but other less obvious steps may also be necessary. Good ventilation is important.

Mould growth may need to be inhibited by washing walls, ceilings, floors and shelving with a fungicide: a conservator should advise on the best treatment. The temperature and relative humidity should be checked regularly to make sure that they have stabilised.

Here are some important techniques of treating damaged materials mentioned by Harvey⁵³:

4.4.1 Drying techniques

Air-drying is the simplest technique to dry wet material . It works best on items which are damp rather than wet, and which are not too thick. The aim is to expose damp surfaces to an air flow which has a lower moisture content, thus drying out the damp item as moisture is transferred to the air flowing over it . A damp book can be stood up on its end and its pages fanned out, or its pages can be interleaved with absorbent paper.

Freeze-drying has been used as a method of drying water damaged paper-based materials. Wet items are first prepared for freezing. Wet books are put in polythene bags and then placed spine down in a plastic crate or a box made of strong cardboard. They are then frozen usually in a commercial blast freezer at a temperature of -21C lower, the faster the freezing process the better because the ice crystals formed will be smaller and less damaging to the items. They can be kept frozen for a long period, until such time as resources are available for drying them. The frozen items are then placed in a vacuum chamber in which a vacuum lowers the boiling point of water and causes the ice to evaporate without going through the liquid state.

4.4.2 Mould control

Most disasters involve water, either because water was the cause or because water was used to extinguish the source. With excess water comes increased humidity and the possibility of mould growth.

Mould control techniques are for this reason often require in the aftermath of a disaster. Some of these techniques use chemicals, others not.

4.4.3 Insurance

Finally, consideration should be given to the finance of a recovery operation if that becomes necessary. Therefore; as the role of the libraries and indeed the role of the librarians changes to meet social and economic demands, so does the need to consider the problems of catastrophes, and difficulties which might befall the premises, the property, the public, the staff and the liabilities. Librarians should be aware of the insurance on the building and its collections, and what restrictions there may be when disasters strike. Often insurance companies want to be notified immediately so that they may assess the situation as it is before cleanup starts. If the library or archive has no insurance coverage some thought needs to be given to the source from which financial help will come for disaster recovery. If there seems to be no resource, then the management should consider whether the risk of no insurance as opposed to the premiums is worth it. Some large libraries are self-insured up to a point in order to be able to afford insurance. Smaller libraries may find their insurance is not expensive, or may be covered by the government.⁵⁴

As libraries differ as to the nature of their activities, so their insurance requirements will differ. The insurance market place is a vast and ever changing environment. For peace of mind it is advisable that expert advice is

sought from a professional insurance intermediary to ensure adequate protect is obtained .

The responsibility of placing of the insurance covers will differ widely from the owners (of private library) / Council officers and administration/ university Boards/librarians. However one of the most important people in the insurance equation is the library manager for he/she is the person who has responsibility for ensuring that all aspect of covers and liability are catered for .

The following are the important aspects which is believed will be common to most libraries and they include: ⁵⁵

- 1) Material damage for building, equipment, library stocks and services.
- 2) Business interruption
- 3) Theft
- 4) Money
- 5)Personal accidents
- 6) Professional indemnity
- 7) Liabilities
- 8) Motor vehicle cover.

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CHAPTER FIVE

5. A CASE STUDY OF DISASTER CONTROL PLANNING IN THE PILKINGTON LIBRARY, LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

5.1 INTERVIEW (See appendix)

In an effort to gain insight into the problems faced by librarians with regards to disaster control planning (DCP), it was hoped to undertake a case of DCP in an appropriate library. As the student's supervisor was aware that LUT Library was in the process of devising a DCP it was felt it was appropriate (and opportune) to interview the librarian who is responsible for this. An interview with Mrs. Marion Shields, the Executive Assistant at Pilkington Library was held on the 25th of July 1995. Mrs. Shields is responsible for the production of a disaster control plan for the Pilkington Library. Her responsibilities include the maintenance and the security of the library building and also Health and Safety. Based on the interview many interesting facts were revealed in terms of disaster control planning (DCP). As the person responsible for DCP, she has not yet had the opportunity to attend any training programmes related to DCP. However, she has attended seminars on ergonomics for office users and those in relation to health and safety issues. Currently she is trying to prepare the groundwork for the written DCP on which she started work three months ago. As far as she is concerned, there is no real deadline given for her to come out with the written DCP for the Pilkington Library. Mrs. Shields is still unsure

when the written plan could be ready because she affirms that it is not possible for one person to come out with this plan and needs assistance from experts in the area of insurance, fire safety, electrical safety, treatment of material after a disaster, for instance. She reveals that she is only preparing the groundwork now and is trying to identify the experts and also people who should be part of the team to devise the plan. She reveals that other than her, a representative from the Collections Services of the library, Computer Services, personnel from the Estates Organisation (in charge of building maintenance) and outside consultants (e.g. those who have expertise on DCP or preservation) should be involved due to their knowledge and experience as well as to obtain an objective view.

5.1.1 Information sources

In terms of information sources, she disclosed that the National Preservation Office Bibliography on Disaster Planning, the videos : ' If Disaster Strikes',¹ and 'Keeping our words'² and the book by John Ashman: *Disaster planning for library and information services*,³ published by Aslib 1995 have helped her for a start.

She also referred to *The Data and Archival Damage Control Centre* which is specialises in world-wide emergency rescue and restoration of water, smoke and fire damaged documents. This centre provides immediate assistance at the scene of any disaster. Prompt action and technical expertise and advisory services in disaster planning minimise further damage. Besides this, she referred to *Riley Dunn & Wilson Ltd* which are expert conservator and bookbinders and also are involved in disaster recovery services.

5.1.2 Training

She also disclosed that there is no in-house training programme for staff on disaster awareness but she agrees that this is vital in DCP and she envisaged that this would be made available in the future.

5.1.3 Library building maintenance

In terms of library building maintenance this is what that has been revealed: the housekeeping of the building is carried out by the Estate Organisation which is also responsible for the maintenance of the whole university campus. In case of repairs in the building, she completes a requisition form for each repair required and mails it to the maintenance office in the Estate Organisation. She feels that this is adequate and works well most of the time.

5.1.4 Library security

As for security, Mrs. Shields revealed that there are 3M exit barriers and a detection system to prevent book theft. She feels that there should be an exit barrier between the library and the Department of Information and Library Studies (DILS) to prevent materials from being brought out of the library without being checked out first.

There are no security staff in the library, however, when the alarm triggers at the exit gate, the staff recall the library patron and check the books that have been brought out. Staff are trained to use discretion when this happens to confirm whether there is a false alarm, or the material is taken out on purpose and there are guidelines for the library staff to take action when this occurs.

However, the special collections (like university archives) are kept in a special room to ensure their security, and others are secured by erecting a cage surrounding them. Also it is connected to an alarm system in case of forced entry.

In terms of security of computer data, the Pilkington Library does not store them, because they only use a server which is connected to the Computer Department which keeps all the records. Therefore the library is quite safe as far as the loss of computer files are concerned. In terms of preventive measures taken, Mrs. Shields mentioned that library users are not allowed to bring in their own computers to be connected to terminals in the library.

Also there is a plan to use plastic identification cards in future for entering the library so that only authorised library users are allowed to enter.

Besides this, all library staff are instructed to be aware of loose wires that might cause a short circuit. Every six months technicians from the Estate Organisation are required to inspect the whole library building in terms of wiring, plumbing and all other equipment to ensure they are in good order.

Mrs. Shields lists the following equipment which has been installed in the library to protect library holdings against potential threats:

- (a) Fire: fire alarm bells on each level, control panel in foyer.
- (b) Electrical fault: emergency lights, which are tested each month, besides a manual overdrive.
- (c) Theft: barrier system at exit, alarmed doors at bottom of each staircase, alarmed cabinet on level 3 for archives display collection.
- (d) Flood: Bottom shelves are not too close to the floor, and Estate Organisation would be called in an emergency to turn off stop taps.

Mr Shields also disclosed that the library does not own or have access to equipment for treating books and other media damaged by a disaster. But she assured that the library is insured, and the library is covered by the main university insurance. However, she was not sure what the insurance cover is.

Mrs. Shields advice is to read all available material, talk to other people who have already devised a plan, and to talk to experts in this field.

In her opinion, the three most important issues needed to be taken into consideration are : prevention, devising a plan that will actually work and updating the plan regularly. And the three most useful/helpful sources are : *NPO Bibliography*,⁴ *Aslib know how guide*⁵ and *If disaster strikes*⁶ (a video).

5.2 COMMENTS

Based on the interview, the Pilkington Library is currently not adequately prepared to face a disaster. In terms of preparedness, there are a number of steps needed to be taken. For example, there is no automatic fire sprinkler installed in the library. Since the library is not manned by security staff and the only time that the security staff check the building is when it is closed and when the library is being locked up. The nearest security staff available are only those who are positioned in the guardhouse which is quite a distance from the library. The fire alarm system is also not connected to the Fire Service in Loughborough.

It seems that the person responsible for DCP is quite satisfied with the current arrangement primary since the library has not suffered any disasters in terms of thefts, arson or vandalism.

However, the library has a *Fire Emergency Manual* which has been distributed to the staff in case of fire. The three exit doors are also connected to the alarm system and if someone tries to open these doors not in case of emergency then the alarm will trigger and the staff at the floor level concerned are responsible for investigating any intrusion.

In terms of reaction, fire drills have been carried out to train the staff on the best way to evacuate the building. The alarm system is also tested weekly on every Monday at various positions. Also, back-up lights in case of emergency are tested every month. This is in compliance with the fire certificate issued by the local Fire Service.

In terms of recovery plans other than the insurance policy covering losses (unknown), the library has yet to come out with such a plan. There are also no materials or equipment available for salvaging items in case of fire or water leakage. According to Mrs. Shields, action would only be taken when there is a disaster. The main thing that is being done now is preventive maintenance which she feels is adequate.

In general, it may be concluded that there are intentions by the Pilkington Library to draw up a disaster control plan. It is presumed that for the time being current measures are sufficient and that it is not critical at the moment and seems there is no urgency in coming out with a written disaster control plan.

However, there should be a more concerted effort by the management of the Pilkington Library in DCP in order to prevent disaster or if not minimise the impact of any disaster which might strike the library.

5.3 LESSONS LEARNED

Based on the interview, it is learned that it is important to involve experts on building maintenance, security, preservation and those knowledgeable about developing a disaster control plan. However, the main groundwork should be done by one person before this committee is formed so that a lot of time is saved. The person responsible for producing the plan should have the full support of management so that he/she can perform the task without any unnecessary obstructions and be able to devise the plan within the stipulated deadline. Management should release support staff who should also be given assist if there is a need.

Existing disaster plans already devised by other institutions could be used as a guideline. However, only relevant items should be used because they vary from on institution to another.

Devising a disaster plan is a necessary task for any library, and it needs the full co-operation of the staff and management in order to be implemented successfully.

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CHAPTER SIX

6. DISASTER CONTROL IN LIBRARIES AND SECURITY SYSTEMS

The last several years have seen a dramatic increase in the problems encountered by libraries in maintaining the security of their collections. If the literature of a field is a valid index of its concerns or preoccupation, there was a 385 percent increase in the number of articles dealing with the topic in the 1960s over the 1950s, and a 156 percent increase in the 1970s.¹ The last several years have seen a dramatic increase in the problems encountered by libraries in maintaining the security of their collections. One might consider that certain institutions such as libraries would be immune from criminal acts and the attendant problems of social disorder. But it must be remembered that libraries developed in response to certain sociocultural circumstances, and it is in their interest to adjust to the turbulent environment in which they exist. Crime has plagued libraries for centuries, but there is particular cause for concern today because of the sharp increase in losses.²

The problem today is not simply preventing the theft of resources, or even attempting to diminish the loss rate. The whole question of library security is a much larger, more complex matter. The emphasis continues to be on the physical safeguarding of materials; however, the concept must be extended to include the security of data and files, as well as the personal safety of employees and library users. Security may be operationally defined as providing the means, active and passive which serve to protect and preserve an environment which allows for the conduct of activities within the organisation without disruption.³

Clearly the starting point of any disaster control system must be that of prevention which should be covered by existing security systems. Each institution should have methods to warn of any incidents occurring covering, fire, flood, theft etc., using a combination of security staff and/or alarm systems. All disaster control procedures must be compiled in a consultation with the security services to ensure that no conflict of interest occurs.⁴

While the problem of theft and of mutilation of books and other materials in libraries seldom attract national headlines, they represent a growing concern to those responsible for the provision of library services.

In this chapter the various types of security systems will be discussed.

Security exists in situations where harm and loss can be controlled within certain acceptable minimum and moreover where those involved in the situations perceive them to be controlled.⁵

Perfect security never did exist, and never will, in this chancy world.⁶ But controls which enhance security do exist, and it is the library administrators responsibility to be aware of and to employ those that are most suited to his/her situation.⁷

In fact, the public image of libraries does not usually comprehend the problem of crime. That image is of a quiet respectable place, somewhere in which to read and study an institution of social control perhaps. Indeed, the library's very existence presupposes reflection and contemplation far removed from the mainstream of social life in which crime flourishes. And yet, libraries are places in which crimes are frequently committed.⁸

It is difficult even to determine when the professional community began to be aware of library crime as a problem. Certainly book theft had occurred in many libraries for many years. But defining these thefts and other criminal activities in the library as "a problem to be dealt with" is a recent phenomenon.⁹

In the UK a national survey on theft and loss from UK libraries has been carried out by John Burrows and Diane Cooper for the Home Office Department in 1992.¹⁰ The findings of the survey were exposed in chapter 4.

6.1 SECURITY SYSTEMS AGAINST THEFT

One of the most significant methods is the development of the electronic theft detection systems. With this system specially treated tags are placed in library materials and as these materials are taken past sensing screens, they trigger an alarm.¹¹

Most electronic security system manufacturers offer their systems in two versions. First, the "full circulating" system which permits the library to desensitise the electronic tags in each item which is borrowed. Thus a person who has borrowed books earlier in the day may carry them in and out of the library during later visits. This version is particularly popular in academic and school libraries; it costs more and requires that library material be desensitised as borrowers return them to the library.

The second system is the "bypass" system which does not offer the capability of the desensitising tags. As materials are charged out, they are passed around

the sensing screens and thereby bypass the security system. Although this system is less costly, it is suitable mainly in libraries where borrowers do not make repeated visits with previously charged-out materials.¹²

A number of studies have indicated that electronic security systems have been successful in reducing theft. It has been reported that many of these systems have virtually paid for themselves within three years.¹³

An important related consideration is the percentage of the library's collections which is actually tagged. When electronic security systems are installed in libraries, certain valuable or high-risk collections are first, followed by new material as they are acquired by the library. For example, reference books, bound journals, reserve materials, and art books would typically be tagged first.

Other categories might also be identified, depending on the library and its clientele. The remainder of the collection might be tagged as books are returned from circulation. Because of the time required to tag a large proportion of the collections, libraries which suspend the practice of checking briefcases and bags at too early a date are clearly placing their collection in jeopardy.¹⁴

There are at least three other potential problems related to these systems : the first is the possible damage to library materials caused by the adhesives used on the tags and the high acidity of the paper used for some sensitised labels.¹⁵ Secondly, there is a question whether these systems may cause health problems. Many of them emit low levels of the electromagnetic radiation.¹⁶ A related questions concerns what affect these devices have on heart pacemaker.

It has been reported that such systems interfere slightly with a particular type of pacemaker, but overall they do not present a significant hazard.¹⁷ Thirdly, there is some evidence to indicate that those systems which operate on an electromagnetic principle are not always compatible with automated circulation systems, signals emitted by the security system may interfere with the operation of the circulation system.¹⁸

The library should make a comprehensive study before it chooses and adopts any kind of security system. This also depends on the type of the library and its resources.

6.2 SECURITY SYSTEMS AGAINST INTRUSION : ¹⁹

The best protection against intrusion is to ensure that machines holding cash are emptied every day, and a notice displayed to inform calculating users of this fact. Desks with cash drawers should be left unlocked and open under a good light to avoid furniture being ripped apart. Yet it is recommended that petty cash should be left within easy access to prevent greater losses because if the library is robbed the problem is that the intruders would ransack the place looking for money and cause damage.

Although the root causes of crime cannot always be affected, the practical consequences of vandalism can be reduced by careful design, for instance the cash box of a machine can be located without its entire destruction. Obviously, valuable items should be stored in secure rooms, at least when the library is closed.

Although the use of burglar alarms may be fraught with difficulties, careful application of such devices may make a valuable contribution to the control of intrusion.

6.3 SECURITY SYSTEMS AGAINST MUTILATION

Practical measures can be taken to diminish the scale of damage to library materials. Restrictions on the use of such materials may be valuable since the mutilators generally prefer the privacy of a study carrel or home or extract chosen items. Compulsion to consult journals in a well-lit, open reading room will deter the use of penknives on library holdings. Well-maintained photocopying machines able to copy illustrations, and possibly operated by attendants to ensure their correct and legal use should assist in preventing mutilation. An educational programme incorporating several different tactics often serves to reduce the level of mutilation.²⁰

6.4 SECURITY SYSTEMS AGAINST ARSON

Fire from arsonists could be suppressed from the start by installing fire detection and suppression equipment which include the following:²¹

- 1) Sprinkler system in areas where combustibles are concentrated, print shop, cleaning supplies, loose paper products.
- 2) Halon fire-suppression system.
- 3) Portable fire extinguishers.

- 4) Rate-of-rise heat detectors in staff room where cooking may be done and in restrooms where smokers may gather.
- 5) Smoke detectors in duct work to shut down duct fans or air conditioner and thus prevent circulation of smoke throughout the building.
- 6) Ionisation detectors throughout the building . The sensitivity of these detectors permits them to detect particles of combustion before smoke or open flame can be seen.
- 7) Other types of security systems: This includes closed stacks, hiring guards and patrol and tagging library property and equipment.

A total library security programme would consist of state-of-the-art security technology, a staff trained in all aspects of emergency procedures, and a patron population well informed of the security risks of using library collections that are opened to the public.

Few libraries can lay claim to having a total security programme. Security programmes vary widely from one institution to another. The purchase of security technology and the hiring of security personnel, will depend on the needs of the budget of a given library. To achieve the most proficient security programme, staff members should be trained in emergency procedures.²²

A library should adopt whatever system or combination of procedures in providing security for that particular library. What is important is a commitment on the part of the library staff and the user community to doing something effective. In practice, it is the cumulative effect of a whole range of preventive or defensive measures which are important. Harrison observes that "the strategy should be to place so many inhibitions in the way of the miscreant that the intended act is likely to immediately observed or discoverable, or difficult to carry out."²³

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CHAPTER SEVEN

7. SECURITY MEASURES OF THE NATIONAL LIBRARY OF MALAYSIA

In this chapter, the security measures undertaken by the NLM as well as the responsibilities and functions of various committees are discussed. It is of vital importance to the protection of library materials and the integrity of the NLM in preserving the nation's heritage is dependent on it.

7.1 SECURITY POLICY

In NLM many of the activities related to disaster control planning are or will be undertaken by the staff and not the security personnel.

The security policy of the National Library of Malaysia (NLM) is to ensure the existence of a systematic and organised plan so that the NLM is fully secured and staff are made aware of the importance of the Department's security as part of their cultural work.

The security policy of the NLM takes into account the following aspects:¹

- a) The NLM building is safe from fire.
- b) The building premises is safe from outside incursion and other unwanted elements.

- c) Documents, reports, files and important letters which are restricted, secret or banned owned by the NLM are kept according to security procedures which is in accordance with the *Directive for security* Section I and II (Document Security). ²
- d) Library collections are systematically arranged and controlled with the use of electronic sensor system (and the electronic control gate exit) to guarantee that all items taken out from the library are being monitored.
- e) Important information in the various databases which are stored in diskettes, magnetic tapes, compact disks, floppy disks and microforms are made available in back up copies which would be kept in secure places in order to ensure the data integrity and safety, to avoid them from being destroyed or lost. They are also kept intact from being copied or distorted.
- f) Staff and library personnel are always protected from disasters or subversive elements whenever they are in the library premises.
- g) All equipment installed in the building used by the NLM is in good condition at all times and building maintenance is carried out regularly and systematically.

For the above purposes, a security procedure has been formulated. To make the staff of NLM aware of the importance of the security of their Department. A number of awareness programmes through discussions, speeches and films on security have been presented. For this purpose a Security Committee has been formed to co-ordinate and to undertake various steps for the security of the Department.

7.2 FUNCTIONS OF THE SECURITY COMMITTEE

The scope of the Security Committee encompasses the following:

7.2.1 Security of the NLM library building and its premises.

7.2.2 Security of the important documents kept in the NLM mainly reports, files, secrets, restricted documents belonging to the Department.

7.2.3 Security of information in NLM's database.

7.2.4 Security of the library collection.

7.2.5 Security of equipment and furniture.

7.2.6 Security from fire.

7.2.7 Providing first aid to assist those in need for staff and library users.

7.3 LEVELS OF SECURITY COMMITTEE

To guarantee the security of the NLM, different levels of committees have been formed such as Security Committee at the Departmental Floor and Divisional Level, Fire Team and Paramedic Team.

At the Departmental Level, the Director General has appointed the Deputy Director General as the Chief of Security of the Department.

The Security Committee consists of all the Heads of Divisions of the NLM. The appointment is in accordance with the *General Circular (secret) No. 1, 1993*³, issued by the Public Service Department. Meetings are held once every three months and the Committee is responsible for the following:

- (a) To draft the NLM's security policy.
- (b) To co-ordinate security procedures of the Department
- (c) To co-ordinate the implementation of the Department's security.
- (d) To plan training programmes on security.
- (e) To receive and assess reports sent by the subcommittee on security and by the firm responsible of the Department's security.
- (f) To ensure that immediate actions are taken during emergencies which might occur in the department.

At the Floor level (committee), the most senior Head of Division is responsible for the security of that level and its premises based on the location of that Head of Division. This means that at every level of the building there is a Head of Division who would be responsible for security.

At the Divisional level, the Head of each Division has appointed a Security officer for the Division who would be on duty on a weekly rotation basis.

The Fire Team is responsible for making checks on the building to ensure its safety from any source of fire and to give assistance in any fire break-out and to get co-operation from the Fire Department for advice .

The Para-Medic team is responsible for assisting and giving first aid to any sick persons whether they are staff members or library users who need help in case of emergencies.

7.4 STEPS TAKEN TO ENSURE THE DEPARTMENT'S SECURITY

7.4.1 Building Security

(i) The NLM building is equipped with all kinds of fire suppression equipment such as sprinklers, heat detectors, smoke detectors, fire extinguishers, halon system, fire roller shutters, smoke spill fans. Also, closed circuit television cameras have been installed in strategic areas. The fire control room is also equipped with equipment to detect and monitor fire outbreaks, intrusions and also any malfunctions of the electrical/lighting systems, fire control systems, lifts, security systems of the whole building. A guard/technician is on duty in this room at all times.

(ii) The NLM has appointed a private company Building Management, Administrative and Engineering Services (BMAES) to cater for the overall security and maintenance of the NLM building (total maintenance package). They are responsible for the security of the building (inside) and the premises 24 hours a day, to maintain the cleanliness of the building, to take care of the garden and landscape and the maintenance of all the building equipment such as fire control apparatus, electrical and mechanical systems such as air conditioning, lifts and power supply. The company has appointed a maintenance team which consists of the following:

1) One security executive (24 hours on call)

- 2) One maintenance engineer.
- 3) Three technicians.
- 4) One building maintenance supervisor.
- 5) One assistant technician.
- 6) One chargeman.
- 7) One clerk.
- 8) Four gardeners.
- 9) Eighteen security guards (around the clock)
- 10) Twenty four cleaners.

Two rooms are provided for them to operate and carry out their responsibility.

(iii) BMAES is responsible for the following:

- (a) To ensure that the NLM building is always secure and that security guards patrol the building and the premises 24 hours a day on shifts.
- (b) To check, monitor and maintain all building equipment and facilities such as fire suppression systems, electrical equipment, lift motor room, air conditioning control room, water and electrical supply and security devices.
- (c) To ensure that all these equipment are repaired and in good condition at all times.
- (d) To ensure the cleanliness of the building and its premises for the comfort of the staff and the library users.
- (e) To ensure that the gardens and landscape of the premises are well maintained.

(iv) The company's representatives are also invited to attend all meetings related to the security of the NLM building as well as the building maintenance

which are chaired by the Deputy Director General and Director of Support Services respectively.

(v) BMAES is responsible for reporting on all aspects of security once every three months. The report would be checked by the Head of the Administration Division.

7.4.2 Security In The NLM's Building

(i) All staff, library users, visitors, book suppliers, contract workers, and maintenance personnel are required to wear security passes (different colour codes) when they enter the NLM building. Security guards are positioned at the three entrance/exit points of the building i.e. at the back of the building for staff access at the main entrance for library users and entrance to the children's library at the west block.

(ii) The security guards are also positioned throughout the building and also near the electronic sensor gate (exit) to ensure that library materials are not taken out without being recorded/permission. The security guards also make their rounds from time to time to ensure the safety of the library equipment and furniture and to curb theft and vandalism.

(iii) The security guards must write daily reports in the security book. If any unforeseen incidents occur then a special report should be produced. The Head of the Division responsible for the particular level is also requested to make spot checks to ensure security at all times.

(iv) All heads of Division/Unit have appointed a security officer who is on duty on a weekly rotational basis to ensure the safety of the Division/Unit. The responsibilities of the security officer are as follows:

- (a) To ensure the daily security of the Division based on the security checklist .
- (b) To ensure all entrance/exit doors of the Division are securely locked, all lights switched off after office hours or during lunch breaks when there is nobody in the Division.
- (c) To ensure that all equipment such as computers, fax machine, photocopiers have been switched off after office hours.
- (d) To ensure that there are no inflammable items such as cigarette ends in the waste paper baskets or in the trash cans of the Division.
- (e) To ensure that no staff or users smoke in the building . The NLM regulations have stipulated that the building is a smoke free building.
- (f) To ensure that the Division's store rooms are inspected regularly and that to make certain that there are no dangerous goods kept which might endanger the premises or other materials stored.
- (g) To report to the Head of Division/Head of Security of the Department about any damages or any unwanted incidents related to the security of the Division/building.
- (h) To ensure that only those with official business are inside the Division's premises.

(v) When the library is open after office hours on Saturdays afternoon and Sundays, the co-ordinator will be in charge of library security. Security reports should be produced by the end of the duty. The Head of Division who also works on a rotational basis during this period is made responsible to ensure that the Department is secured when the library is open after office hours.

7.4.3 Security of Important Documents

(i) The NLM stores a number of important documents including secret confidential and restricted letters which have been sent or received by the Department and eventually becomes the property of the NLM.

(ii) A secret document is a document which has been gazetted by the government as secret document or the Department's letter or report which has been categorised as secret letter/report. Confidential documents are documents, reports, letters of the departments or those received from other institutions which have been classified as confidential.

Restricted documents are publications/documents/reports which are restricted to the library users and which contain controversial topics in terms of religious, cultural material based on the Malaysian philosophy beautifully illustrated publications which might be mutilated by the library users if not controlled.

(iii) For files, letters or reports which are categorised as secret and are related to personnel/staff only the Director General of the NLM has access to these materials with the assistance of the Head of Administration and the special assistant of the Director General. These documents are kept in the Director General's office and no one is allowed to refer to them without the Director General's permission.

(iv) Banned publications gazetted by the government are kept in locked steel cupboards in the Rare Book Collections Room. No one is allowed to use such publications without written permission from the Ministry of Home Affairs.

(v) For all confidential and 'secret' files which are used regularly are to be kept in the strong vault which are placed in the special file room which two doors are held by the Head of Administration. The approval to use these files is the prerogative of the Director General and the Deputy Director General.

(vi) For confidential documents/letters originating from other departments/institutions, the approval to use such documents could only be sought from the originating department/institution before any materials are allowed to be used.

(vii) For restricted publications, the approval for reference is the prerogative of the Head of Division relating to library services. The library user needs to fill in an application form. This is to control the usage of such materials.

7.4.4 Security of library collection for the public

(i) An electric security gate is positioned at the entrance/exit to ensure the security of library materials taken out from the library. Alarm triggers out if the a library user takes out materials without being recorded.

(ii) The NLM attempts to tag all the library collection with magnetic strips to ensure the safety of the collections.

(iii) As for the case of original manuscripts , they are kept in the *compactus* in a strong room which is 24 hour air-conditioned. All manuscripts for exhibition are kept in special display cases and are locked at all times.

(iv) All multi-media collections such as microforms, video tapes, films and audio cassettes are kept in a special room which is 24 hours air-conditioned.

These collections are closed access and the library users are not allowed to handle the materials themselves. Library staff handle the materials and users only operate the equipment. Copies of original audio-visual materials are made and the originals are kept for preservation and the users are only to use the copies.

(v) To ensure security, the users need to submit their library user card to the staff before they are allowed to use the facilities.

7.4.5 Security For Information Of The Databases

(i) To ensure security of the databases stored in the diskettes/computer tapes, the NLM carries out back up procedure which is done twice a week (every Monday and Thursday). This is done by the library staff and records are updated daily. These back-up magnetic tapes are stored in the faculty provided by a private company situated in Kelana Jaya (out of the city).

(ii) Other data stored in diskettes built up by each Divisions are kept in locked steel cabinet of the respective Divisions.

(iii) Staff are not allowed to make copies of any computer software which are acquired, designed by the department or from computer files which contain important data. The Copyright Act is followed strictly by all staff. To combat computer viruses, no one is allowed to bring in/user their own diskettes.

(iv) All computer training programmes organised by the NLM consist of elements to ensure security of computer data. Procedures and regulations regarding the proper usage and maintenance of computers and data integrity are distributed to all divisions.

7.4.6 Security of Equipment of the NLM

- (i) Security guards work 24 hours round the clock and are supposed to walk around the building to make surveillance at areas where there is expensive equipment such as computers, audio-visual equipment to ensure their safety.
- (ii) In order to ensure the safety of all electrical and mechanical equipment, a technician is on duty at all times (24 hours a day) in the building. If there are any faults, repairs would be made immediately.

7.4.7 Security against fire

- (i) A Fire Team has been established and is headed by the Project Coordinator of the NLM building. The Team consists of 25 personnel from the Department, BMAES and security guards.
- (ii) The duties of the Fire Team are as follows:
 - (a) To ensure that all fire suppression equipment installed in the NLM is maintained properly at all times and could be used when the need arises.
 - (b) To ensure that all the team members appointed have the capability and understanding of using the various kinds of fire equipment in the building.
 - (c) To ensure that there are no blockages at all staircases and fire doors so that in case of fire the staff or library users could have easy access to escape.

- (d) To ensure that security guards make their rounds throughout the building at night by making spot checks. The fire team is required to be on alert at all times.
- (e) To have discussions and meetings from time to time in order to identify problems and weaknesses so that measures could be taken to prevent any fire outbreaks.
- (f) Lectures about the ways to prevent and combat fires are held frequently with the assistance of the Kuala Lumpur Fire Department. Some of the topics covered are fire drills, demonstrations of how to put off fire, and the use of various kinds of fire suppression equipment available in the building.

7.4.8 Paramedic Team

- (i) The Paramedic Team was established to give first aid to staff and library users who need medical attention before they are brought to the hospital.
- (ii) The Team is headed by a Head of Division and consists of a representative from each division and from the NLM Sports Club.
- (iii) The Paramedic Team is responsible for ensuring that all first aid kits have the necessary medicine and instruments which could be used for first aid.
- (iv) The Department has provided one emergency room which is equipped with 2 beds for the use of library staff and users in case of emergency. The Paramedic Team is responsible to ensure that this room is well maintained.

- (v) To ensure that the Paramedic Team can undertake their responsibilities for training on first aid are given to all team members.

7.5 FIRE DRILL

To analyse the effectiveness and preparedness of the NLM in case of fire, a fire drill was conducted on the 27th of January 1993 with the assistance of the Fire Department, Police, The Red Crescent and the building maintenance personnel. All the staff were involved in this fire drill.

The purpose of having the fire drill was as follows:

- (a) To train the library staff on the proper evacuation procedures in case of fire.
- (b) To train the Fire Team on the proper handling of evacuation of occupants from the building to a safe area during a fire outbreak.
- (c) To train the Fire Team on the proper use of fire equipment and to test its effectiveness.
- (d) To test the effectiveness of the staff in putting off small fire and the proper way of evacuating fire victims.
- (e) To bring awareness to the staff on the possibility of a fire outbreak so that they would not panic if such incidents happen.

7.6 CONCLUSIONS AND RECOMMENDATIONS

From the above findings it can be seen that the NLM has taken a positive approach to ensure that its building is secure and that there is in existence an organised security plan. Some of the elements covered would be an integral

part of a disaster control plan which itself has not yet been formalised yet. However, the following recommendations could be considered:

A security audit should be undertaken by the NLM. This could be by a security consultant (private) or from the government sector. He/she should be given the responsibility in identifying security risks, assessing the adequacy of the Department's security policy and making recommendations for improvements.

As suggested by Andrew McDonald a security audit could examine the following questions: ⁴

- (i) Does the library have a security policy?
- (ii) What are the current security risks? Identify and assess the risks in relation to the building, its collections and the staff and readers.
Encourage library staff at all levels to do likewise, preferable on a standard reporting form.
- (iii) Build up a profile of recent incidents and analyse trends. Discuss the crime profile of the area with the security men within your organisation and the local police.
- (iv) Assess the adequacy of current security measures.
- (v) Examine current arrangements for responding to incidents and reporting procedures. Determine whether experience gained from incidents is satisfactorily fed back into policy discussion.
- (vi) Identify who has overall responsibility for planning and co-ordinating security amongst the staff satisfactory?
- (vii) Assess the extent of security awareness amongst staff and the effectiveness of staff training. Are staff manuals available, providing clear statements regarding security policy and procedures?

- (viii) Examine current library rules and regulations in relation to those of the organisation. Are they effective in dealing with unacceptable behaviour in the library?
- (ix) How good are relationships with other professionals involved in security. e.g. the local police and security men? How adequate are the insurance arrangements?
- (x) What resources are currently deployed on security and what is the cost of dealing with the existing level of crime and misdemeanours?

In NLM, most of the above have been implemented while others are under study.

A great variety of emergency situation and incidents occur every year. The NLM should prepare a list of commonly occurring emergencies and incidents. Once the list is assembled, the appropriate response for each situation is determined. These responses include what to say to disturbed patrons, whom to call for help, when to call for help, and any other information that might be vital to a staff member responding to an emergency. This list should be circulated to all staff.

The list of staff involved in the various sub-committees should be revised and updated every quarter, since from experience it seems that there is a high turnover of staff and also due to the staff transfer exercise undertaken each year.

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CHAPTER EIGHT

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 CONCLUSIONS

Disasters of great scale have revealed dramatically to the world the vulnerability of books, documents and data, and focused attention on the effort that was needed to save them. Much of the literature written for librarians in the light of the Florence catastrophe, has concentrated primarily on water damage, either from a flood, burst pipe or water in the extinguishing of a fire. As a consequence of these developments, the importance of disaster planning and the need for access to information on the salvage of materials was increasingly recognised.

8.1.1 The need for a disaster control plan

Disaster planning for a library is the library's responsibility, but it cannot be done in a vacuum. Facilities and security personnel should be involved, both to provide training, instructions on whom to call when and for what, and for mutual understanding of needs and problems. It is entirely possible that librarians do not realise that plans do exist. Maintenance managers are in a position to remind librarians of the danger and possible resulting damage of disasters and to be helpful in initiating this type of planning.

Gradually, as conservators, librarians and archivists share experiences, innovations and experiments, the body of literature available in the field to aid in disaster prevention, preparedness and actions is growing. New techniques and ideas are implemented, and recovery from disaster becomes not only a possibility, but a probability. More time and care to plan carefully are needed so that the great proportion of their collections could be saved in case of disaster.

8.1.2 Preparing a disaster plan

Preparing a disaster plan is not necessarily an easy assignment, depending upon the size and complexity of the library. A key factor in the success of the enterprise is the endorsement of management for the priority of the task. This should be acquired before the planning is initiated to ensure a successful completion of the project. Once the plan is written, management must be willing to commit the financial resources required to make it effective.

It is clear that institutions differ in their needs for prevention and protection, and in their abilities to call upon resources and services in response to a disaster. The thing to be emphasised is that there is no one correct disaster plan or way of being prepared. Sensible, thoughtful planning and realistic preparedness will provide the best protection for collection.

8.1.3 Prevention

Good building maintenance and surveys can be important ways to prevent disasters. Understanding the natural hazards of an area, anticipating problems, and maintaining buildings and ground to withstand disaster may make a difference between total loss and damage. Being realistically prepared will

save collections if the worst happens. Disaster prevention makes sound fiscal sense and helps alert staff to the need for vigilance and care. In the event of disaster, the steps taken to prevent trouble will at least help lessen the effects.

8.1.4 Preparedness

Preparedness in the context of disaster control planning for the library means being in a state of alertness and vigilance so that when a disaster does occur, the organisation is not caught napping, but it is indeed in a position to react responsibly, maturely and rationally. As part of its preparedness strategy, the library should constitute a team, a corps of staff who can be called upon in case of disaster. Special attributes of members of the team should include level headedness, adaptability and ability to work as a member of the team. It is also important to maintain supplies and equipment for a disaster. Lists and addresses of local suppliers and other professional services should also be maintained.

It is also essential that the financial allocation by the organisation is necessary. It is also essential that the financial allocation made available should not be too tightly controlled, otherwise the disaster control team may not be able to act quickly and decisively during an emergency. The library should identify which materials are irreplaceable, or would be difficult to replace so that priority areas could be set to ensure, effective response during a disaster.

8.1.5 Reaction

To react effectively, disaster reaction teams must be formed immediately after the disaster strikes. They will have been trained and known their roles in advance. These teams should be headed by a senior person. The team members should respond with minimum panic, and their job includes evacuation people safely and systematically from the building and assessing the damage.

8.1.6 Recovery

The organisation and staff required for a major disaster cleanup is critical. A carefully planned program for the cleaning, repair, rebinding and reshelving of materials is essential if a timely termination and outcome is to be expected. Seeking advice from conservators who have had experience with library disasters will aid with recovery. Librarians who have dealt with disaster are considered a useful source of reference for information and advice. Disaster action, then, includes assessment, protection, decision and choice of alternatives, supervised execution, on-going evaluation and change, and finally an analysis of the whole project with modifications needed for the disaster plan.

Consideration should be given to the financial implications of a recovery operation that becomes necessary. Librarians should be aware of the insurance on the building and its collections and what restrictions there may be when disaster strikes. If there is a lack of financial resources to pay for insurance premium, then responsible management should consider whether the risk of no insurance as opposed to the premiums is worth it

8.1.7 Tropical countries

Libraries in tropical countries, such as those in Africa and the Sub-Indian continent continually face numerous potential disasters such as wars, floods, earthquakes, volcanic eruptions and typhoons. Disaster control planning for these countries is vital and are therefore a pragmatic approach to ensure that the recorded portion of cultural heritage is not lost.

8.2 RECOMMENDATIONS

Library budgets must provide funds to achieve an acceptable disaster control plan. Contingency plans for fire and water disasters must be drawn, and insurance must be included in these plans. On the practical side, doors and windows should be made as vandal resistant as possible. Direct connection with security authorities must be established.

The whole disaster plan will require inspection and revision periodically as phone numbers, services and technologies change. It is useful to include a mechanism for updating as part of the general instructions for implementing the plan.

8.2.1 Contingency and disaster planning for computers

The manager is well advised to have a plan which anticipates a partial or total failure of IT security. Such failure may occur not only through wrongdoing, but through natural events also. Reacting and adjusting to such problems may involve using alternative systems and equipment on site, or even the transfer of operations to other locations, depending on the scale of operations an degree of

failure. The plan should allocate responsibilities and prescribe actions to be followed. In short, who does what and how. Its objectives should, in the first place be to minimise the damage and/or loss of the operation together with limiting impairment to the service and to enable operations to be restored as fully as possible and as quickly as possible. The plan should be tested and refined so that it works perfectly and properly. The plan should be dynamic and evolve with change and events also. Finally, a strategy and mechanism for controlling the organisation's vulnerability to computer misuse and crime, based on the assessments of threats and potential losses need to be worked out.

8.2.2 Recommendations for tropical countries

Most tropical countries are also developing countries and they lack expertise and funding for disaster control planning. It is therefore recommended that these countries should seek aid from UNESCO and IFLA through the IFLA core programme Preservation and Conservation (IFLA PAC)¹. Through this aid expert organisations or individuals could be employed to take steps and measures in producing this plan. Assistance could also be in the form of providing materials and equipment useful for disaster control.

They ought to consult relevant organisations and read the literature to identify initial cost effective under inexpensive initial measures which they can employ relatively quickly, whilst considering and seeking funding for other steps, which may require greater financial input. This could be in the form of routine housekeeping and building maintenance, checking for leakage and any other potential threats to the building. The disaster response team could also be established and trained, who are likely to be made available at the time of an emergency.

8.2.3 Recommendations for NLM

NLM is preparing a disaster control plan and the abundance of literature in this field which is published in the Western world could be used as a guide. The Department of Library and Information Studies in Loughborough university is also undertaking a project on disaster management in UK libraries² and the report from the project team should be reviewed so that lessons are learned and good practice might be adopted for a sound disaster control plan.

8.2.3.1 Promotional activities

The NLM should make the library staff more aware of losses and should be trained to be vigilant on duty. The users themselves, should be made aware of the effects on non-return and mutilation. This could be done by producing pamphlets and posters which could be distributed to library users and posted throughout the library.

8.2.3.2 Training needs

The book restorers from the NLM, Conservation Division, could be part of the disaster recovery team. They should be sent for training courses with special emphasis on restoration works on material damaged by water and fire. These courses are made available by companies like the *Data and Archival Damage Control Centre*³, and *Riley Dunn and Wilson*⁴ from the UK and other organisations. The experts from these companies could also be brought to

Malaysia to give training courses so that more restorers (including from other institutions) could benefit from these courses at any one time.

NLM should have an annual disaster preparedness seminar. The audience/participants could be from those staff involved in the disaster control plan. Presentations should be given by members of the planning group. An annual report on the building in terms of disaster control plan should be highlighted. An assessment of any incidents that has happened should be highlighted and a post-mortem should be held. In this way lessons learnt which could be useful for future programmes. An expert consultant of disaster management from Malaysia or abroad could be invited to be the main speaker to give a talk on the current trends on disaster control plan.

8.2.3.3 Inventory checks

Stock counting and checking in the NLM is somewhat lacking, and figures available for theft are likely to be estimates, evidence on theft is at present insubstantial. The NLM must improve its stock inventories and importantly, the regularity with which these are carried out. It is necessary to determine whether losses are increasing, decreasing or remaining static. Library staff should be made aware of losses and should be trained to be vigilant when on duty. The inventory checks will also be of use for insurance purposes in the aftermath of disasters.

8.2.3.4 Plan review

Senior staff and emergency preparedness personnel should develop and regularly review plans to prevent, prepare for deal with and recover from disasters. The NLM should ensure that staff are thoroughly familiar with these

plans and should make appropriate sections of these plans known to emergency preparedness personnel such as institutional maintenance department, conservators, fire and police departments.

8.2.3.5 Plan of action

As everybody is aware, library buildings and materials can be damaged by fire, smoke, water, humidity and vandalism. Steps must be taken to investigate any such threats. The NLM should study these problems as they relate to the library and develop a 'Plan of Action' for each of the problems. A prerequisite for the development of the plan should be a firm commitment on the part of the library management to the need for and the benefits to be realised from the plan. The resulting plan should include: a statement of library policy on the matter, procedures to be followed the designation or assignment of library personnel to implement each portion of the plan. The plan should be incorporated in NLM's overall presentation policy and other appropriate policy documentation.

8.2.3.6 Manuscripts and rare books

As for the manuscript held in NLM, it is recommended that these must be insured because of their importance and value. Close circuit television should also be installed in the manuscript and rare book collections room to minimise the risk of theft. The security guards should also make frequent checks in these rooms so as to make surveillance to prevent vandalism.

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1. Addresses of the regional Centres are:

a) For Central and East Asia:

National Diet Library
10-1 Nagatacho 1-chome,
Chiyoda-ku,
Tokyo 100 - Japan
Fax: 1-202-707-3434

b) For Southeast Asia and the Pacific:

National Library of Australia
National Preservation Office
Canberra, ACT 2600 - Australia
Fax: 61-6-273-4493

2. Matthews, Graham and Paul Eden. Heading off disaster. *Library Association Record*. 1995, 97(5), 271.

3. Its address:

Data and Archival Damage Control Centre
4 Bridge Wharf
156 Caledonian Road
London N1 9UU - UK
Fax: 071-278 0221

4. Its address:

Riley Dunn & Wilson Ltd.

Glasgow Road,

Falkirk,

Scotland FK1 4HP - UK

Fax: 0324 611508

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APPENDIX

DISASTER PLANNING IN THE PILKINGTON LIBRARY LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY A CASE STUDY

1. Type of library _____
2. Address _____
3. Year founded _____
4. Who is responsible for disaster planning in the Pilkington Library?

(a) Why was he/she chosen to be responsible for disaster management in this library?

(b) What is the title of your post? _____

(c) What other responsibilities do you have? _____

(d) Have you attended any relevant training programmes(s)? Please describe _____

5. Building maintenance

Housekeeping:

(a) How is the library maintained? (e.g. who carries out maintenance?

Regular contract?)

(b) How many staff are involved _____

(c) Is there a system for reporting repairs needed? etc. Is it effective

Security:

(a) What security system and equipment have been installed?

(b) What is the number of security staff? _____

(c) Do they work 24 hours a day? _____

6. What equipment has been installed in the building to protect the library holdings against:

(a) Fire _____

(b) Electrical fault _____

(c) Theft _____

(d) Flood _____

(e) Other natural disaster(s) e.g. earthquake etc.

(f) Other _____

7. Do you have a disaster control plan?

Yes _____ No _____ In Preparation _____

(a) If 'yes', is it written, or otherwise:

(b) Was the disaster plan designed by one person or a 'team'?

(c) Who else was involved in designing the plan and why?

(d) How frequently is the plan updated/reviewed or modified?

If 'No' why does the library not have a plan?

If 'In preparation':

i) When did work start on the plan? _____

ii) Is the disaster plan being designed by one person or a team?

iii) Who else outside the library is involved in designing the plan and why? _____

iv) Did you get help from any:

Information sources:

Yes _____ No _____

If 'Yes' please elaborate _____

Information organisations:

Yes _____ No _____

If 'Yes' Please elaborate _____

8. Are there any staff responsible for the implementation of a disaster plan?
(a) Yes ____ No ____
(b) If 'Yes' please specify their post/status

9. What expertise do you feel you lack to enable you to devise a disaster control plan?

10. Is there an in-house training programme for disaster awareness?
(a) Yes ____ No ____
(b) If 'Yes' please indicate level(s) of staff involved.
(c) Duration of training _____
(d) What is covered in the training programme _____

(e) Number of staff trained _____
(f) How frequent is the training programme? _____
(g) Do you carry out any practice drills for disaster control? _____
11. Does the library own or have access to equipment for treating books and other media damaged by a disaster?
(a) Yes ____ No ____
(b) If 'Yes' please elaborate:

12. Is the library insured?
(a) Yes ____ No ____
(b) If 'Yes', what does the insurance cover?

13. Has your library encountered any disaster?

(a) Yes ____ No ____

(b) If 'Yes', please specify:

i) What were the causes of the disaster(s)?

ii) What were the affected items?

iii) What was the estimate number of the items lost ____

iv) Describe the steps which were taken after the disaster took place

14. Was there a recovery plan?

(a) Yes ____ No ____

(b) If 'Yes', please describe procedures involved for:

i) Printed material ____

ii) Audio-visual material ____

iii) Electronic media ____

iv) Manuscripts ____

15. What did your learn from this experience? ____

16. What preventive measures were taken after this incident?

17. (a) As someone about to advise a disaster control plan, what advice would you give me who is about to set off on the same task?

(b) What are the three most important issue in your opinion I need to consider? _____

(c) What are the three most useful/helpful sources of information you have come upon?

