CHAPTER FIVE
DISCUSSION AND CONCLUSION

The findings of this study which were reported in the previous chapter will be discussed in terms of the research questions. The issues related to legal deposit of electronic publications are also discussed and several recommendations are put forward to ensure legal deposit of electronic publications.

Electronic Publications Received and Registered: 1988 - 2000

Based on the results of the data analysis of electronic publications received and registered from 1988 - 2000 by the National Depository Centre, it is assumed that a large amount of electronic publications have not reached Perpustakaan Negara Malaysia. The number of titles of electronic publications that are deposited for the last 13 years can be considered very low, only 165 titles, when compared to the Government's emphasis on information technology and initiatives in encouraging the development of Malaysian local multimedia content. It can be expected that with the current government policy, the volume of electronic publications have and will grow tremendously. The increasing volume and their varied formats and characteristics will definitely pose problems to their legal deposit.

With more electronic publications produced the task of tracking them down will become more difficult and challenging. The problem of tracking down electronic publications can be caused by the following factors:
(a) The legal deposit legislation is itself not effective enough in ensuring comprehensive coverage in as far as it applies to electronic publications. There is no specific mention of the inclusion of electronic publications in the *Deposit of Library Material Act, 1986* (Appendix 1) and also no definition of the term electronic publication, a factor that is of great importance, considering the difficulty in distinguishing electronic publications.

(b) The inadequate number of staff in handling legal deposit of all the various types of non-print material which include electronic publications. They are also responsible for handling the legal deposit of conference proceedings and seminar papers. Only three library staff (1 library officer, 1 library assistant and 1 library attendant) are responsible for handling all these library materials, which includes enforcement and processing.

(c) Little public awareness of the importance and need for legal deposit of electronic publications. Not only print publications are eligible for legal deposit but also other forms of non-print publication which include electronic publications, all of which make up the nation’s intellectual and cultural heritage.

From the findings of this study, it cannot be established what percentage of electronic publications escape legal deposit since one of the problem is finding out what has been published and not deposited. Interviews with the publishers have shown that they have published more than what they have deposited. Except for Net Space Learning, which has deposited all the 8 titles that it has produced to Perpustakaan Negara Malaysia,
the Education Technology Division, and CIE Network Sdn. Bhd. have not deposited all
that they have published. Interviews with both the organisations reveal that they have not
deposited all the CD-ROM titles that they have produced. The Education Technology
Division has deposited only 13 titles to Perpustakaan Negara Malaysia when it has
actually produced 100 CD-ROM titles from 1997 to 2000. Similarly, CIE Network Sdn.
Bhd. has only deposited 56 titles of CD-ROMs out of the 150 titles it has produced so far.
The Education Technology Division cited lack of communication between the Division
and Perpustakaan Negara Malaysia as a problem in legal deposit of electronic
publications.

Another possible reason why these publishers did not deposit all their electronic
publications to Perpustakaan Negara Malaysia is that, unlike printed library material
which should be deposited within one month of their publication at the publisher's own
expense; non-printed library material are only delivered on request and may sometimes
involve payment to the publishers. Section 4, Part 2 of the Deposit of Library Material
Act, 1986 (Appendix 1) states that for non-printed library material:

"...if written request is made for such library material within one year of their
publication, provided that that the Director-General shall pay for the cost of the
library material so delivered, if payment is demanded by the publisher."

This is in contrast with printed library material where the publisher:

"...shall within one month, of the publication, deliver to the Director-General, at
his own expense, such number of copies as prescribed in Schedule 1..." and
"where printed library material is published at regular or irregular intervals as in
the case of periodicals and serials, it shall be delivered within one week of such publication."

Subject Coverage of Electronic Publications Received and Registered: 1988 - 2000

The subject coverage of the 165 titles of electronic publications deposited are varied. Of the 148 titles of CD-ROMs, the highest number of titles deposited are in the subject of education (24 titles or 16.2%). This can be accounted to the fact that publishers like CIE Network and the Education Technology Division, which have deposited their electronic publications with Perpustakaan Negara Malaysia are involved with computers in education or electronic education programmes where several developments have necessitated the change towards a technologically supported education system. These include among others, the need to meet the challenges of the Information Age, especially the need for an IT literate population and the adoption of Smart Schools as one of the seven flagship applications of the Multimedia Super Corridor. Both CIE Network and the Education Technology Division are directly involved in projects related to these developments.

Types of Electronic Publications Received and Registered: 1988 - 2000

The findings of this study also indicate that the types of electronic publications received and registered through legal deposit are only limited to off-line electronic publications such as diskettes and CD-ROMs. There is no record of any online/networked electronic publications received and registered by the National Depository Centre. This can be attributed to the fact that the current Deposit of Library Material Act,
1986 can be interpreted as not covering on-line/networked electronic publications. An interview with the Director of the National Depository Centre, confirms that Perpustakaan Negara Malaysia has yet to see to the legal deposit of on-line/networked electronic publications.

In principle, electronic publications of all types should be subjected to legal deposit, whether they are off-line electronic publications or on-line/networked electronic publications. It is unjustifiable that because of unsolved technical and legal problems, an important component of the country's published heritage could not be preserved. Perpustakaan Negara Malaysia has always co-operated with information producers to ensure an efficient legal deposit system of print and non-print material, and this should not change within a new publishing environment.

As far as electronic publications are concerned, the *Deposit of Library Material Act, 1986* does not provide any specific definition. The Act only states "...and other electronic media" but does not specifically elaborate what "other electronic media" is, a factor which is of great importance considering the difficulty in determining what constitutes electronic publications. As the National Depository Centre, Perpustakaan Negara Malaysia need to expand and change its legal deposit legislation to accommodate with the present shift towards electronic publishing in a networked environment. It has been 15 years since the *Deposit of Library Material Act, 1986* was revised. New policy and guidelines are required to deal with identifying, locating, acquiring, reporting, storing and preserving on-line/networked electronic publications. Such publications can only be
obtained over networks via protocols such as file transfer, electronic mail, or hypertext transfer. If these publications are not captured and preserved, there will be major gaps in the Malaysian intellectual heritage and research tools.

Legal Issues - Fear of Publishers and Licensing

Interviews with the publishers confirmed that they fear access to their deposited electronic publications will lead to unfair exploitation of their intellectual property and copyright. CIE Network Sdn. Bhd. noted piracy as the main challenge and threat to electronic publications and this issue is overcome by having protection codes and reducing the price of CD-ROMs.

With regards to the need for a legal agreement between the deposit holder, the publisher and the user, Net Space Learning agreed that there should be legal agreement between all the three parties. CIE Network Sdn. Bhd. and the Education Technology Division felt that the Copyright Act, 1987 is sufficient in protecting their copyright work. This opinion is also shared by the Director of the National Depository Centre.

As far as copyright protection is concerned, the nature of copyright in a literary work is as stipulated in Section 13 of the Copyright Act, 1987:

(1) copyright in a literary, musical or artistic work, a film, or a sound recording shall be the exclusive control in Malaysia -

(a) the reproduction in any material form;

(b) the performance, showing or playing to the public;
(c) the broadcasting;

(d) the communication by cable; and

(e) the distribution of the copies of the work to the public by sale, rental, leases or lending,

of the whole work or a substantial part thereof, either in its original or derivative form.

It should be noted that the term "material form" and "reproduction" in the Copyright Act, 1987 has been defined to cover all kinds of reproduction of a work. "Material form" is defined as "in relation to a work or a derivative work, includes any form (whether visible or not) of storage from which the work or derivative work, or a substantial part of the work or derivative work can be reproduced". While "reproduction" is defined as "the making of one or more copies of a work in any form or version, and in relation to an artistic work includes the making of a copy in three dimensions of a two-dimensional work".

Thus, electronic publications are also protected by the Copyright Act, 1987. If it is in the form of multimedia, or a database, it may be considered as a derivative work. Section 8 of the act states:

The following derivative works are protected as original works:

(a) translations, adaptations, arrangements and other transformations of works eligible for copyright; and

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(b) collections of works eligible for copyright which, by reason of the selection and arrangement of their contents, constitute intellectual creations.

However, it should also be noted that a certain amount of fair dealing of a copyrighted work is allowed under the law. "Fair dealing" is defined under Section 13(2) of the Copyright Act, 1987 as "fair dealing for purposes of non-profit research, private study, criticism, review or the reporting of current events, subject to the condition that if such use is public, it is accompanied by an acknowledgement of the title of the work and its authorship".

As far as libraries are concerned, a wider exception is granted in facilitating access to learning, culture and ideas as stipulated in Section 13(i) of the Copyright Act, 1987 as follows:

(i) any use made of a work by or under the direction or control of the government, by the National Archives or any State Archives, by the National Library or any State Library, or by such public libraries and educational, scientific or professional institutions" and "where such use in public interest and is compatible with fair practice" and:

(i) no profit is derived therefrom; and

(ii) no admission fee is charged for the performance, showing or playing, if any, to the public of the work thus used.
RECOMMENDATIONS

As a result of observations made in this study, the following recommendations are offered to Perpustakaan Negara Malaysia:

Amendment of the Deposit of Library Material Act, 1986

As noted earlier, the Deposit of Library Material Act, 1986 does not specify the legal deposit of electronic publications. This therefore calls for the amendment of the Act in order to clearly specify and define electronic publications to ensure coverage of, both off-line and on-line/networked electronic publications. Since more and more material is being made available only in electronic format, it is important that Perpustakaan Negara Malaysia acts as soon as possible to avoid losing track of valuable material forever.

Some countries have taken action to include electronic publications in their legal deposit legislation. Canada, France, Germany, Iran, Italy, Japan, Sweden and the United States have specifically identified off-line electronic publications as being subject to legal deposit by referring in their legislation to the necessity of depositing a physical item or publication in a fixed format (Lariviere, 2000). Other countries, like Denmark, Finland, Norway and South Africa are including on-line material, through a definition that accommodates current and future new publishing formats, eliminating from the definition any reference to a physical format.
The 1994 CDNL Working Group noted that the Norwegian legislation has been framed in such a way that new electronic formats can be accommodated. The legislation provides definitions for the following terms:

(a) "medium" which is "a means for storing information" and

(b) "document" is "one or more identical copies of a medium by which information is stored for subsequent reading, listening, showing or transmission".

A medium can be any form of print or non-print carrier and when information is added to the medium, it becomes a document. A document is made available to the public when "copies of the document are offered for sale, hire, or loan, or when the document is distributed in other ways beyond the private domain". "Information contained in the document is made available outside the private domain by means of presentation, showing, broadcasting, on-line transmission and the like".

Denmark's legal deposit legislation states that two copies of any work published in Denmark must be deposited, a work meaning delimited quantity of information that must be considered a final and independent unit. A work is also considered to be published when notice is given to the public that the work is available from a database from which a user can retrieve a copy. While in Germany, "deposit of printed works" is interpreted liberally to include electronic and other non-print materials distributed in a physical form, excluding on-line documents.
In Canada, legal deposit which is part of the *National Library Act of Canada* defines the terms "book" and "published in Canada" as follows:

(a) "book" is defined as "library matter of every kind, nature and description and includes any document, paper, record, tape or other thing published by a publisher, on or in which information is written, recorded, stored or reproduced".

(b) "published in Canada" is defined to mean "released in Canada for public distribution or sale…"

Thus, legal deposit in Canada applies to all types of publications in all types of formats. The original legislation, which applied primarily to books, was extended to include serial publications in 1965, sound recordings in 1969, multi-media kits in 1978, microforms in 1988, CD-ROMs and video recordings in 1993, and electronic publications on all types of physical formats in 1995.

In France, electronic documents are not mentioned as such in the legislation, but instead mentions the terms "computer software, databases, expert systems and other documents derived from artificial intelligence". Electronic documents are deposited "as long as they are offered to the public by means of a computer-readable medium", which implies that on-line electronic data is out of scope of the legislation. The legislation does not mention any type of physical carrier, thus implying that computer software, databases, expert systems and other documents derived from artificial intelligence are subject to deposit whatever the carrier on which they are produced and distributed.
Electronic documents distributed either on a paying basis, or on lease or even free of charges are all subjected to legal deposit.

In the United States of America, all works under copyright protection published in the USA are subject to mandatory legal deposit. Categories of material subject to copyright include "literary works, musical works, dramatic works, pantomimes and choreographic works, pictorial, graphic and sculptural works, motion pictures and other audio-visual works, sound recordings and architectural works". Non-print materials, including machine-readable works and CD-ROMs but not including on-line databases are subjected to mandatory deposit as contained in the 1993 Code of Federal Regulations.

The Legal Deposit Act, 1997 of South Africa defines "document" and "published" to be deposited as follows:

(a) "document" as "any object which is intended to store or convey information in textual, graphic, visual, auditory or other intelligible format through any medium", and

(b) "published" as meaning "produced to be generally available in multiple copies or locations to any member of the public whether through purchase, hire, loan, subscription, license or free distribution".

Since information technology evolves at such a rapid pace, it is important that the definition of material to be deposited is worded in such a way that amendments will not be necessary each time a new media or technique of providing information is made
available. There is no standardised set of terms used in legal deposit legislation although the Norwegian legislation has been used by several countries as a model on which to develop new legislation. Countries like, Australia, Denmark and United Kingdom have referred to the Norwegian legislation as a useful model.

The 1994 CDNL Working Group on the Legal Deposit of Electronic Publications, recommends that nations seeking new legislation should attempt to obtain a liberal interpretation of such words as "publication" and "book" and "print" to avoid the need for frequent revisions to legislation. Lariviere (2000) suggests that the best definition of material to be deposited is the South African one as the definition is worded in such a way that amendments will not be necessary each time a new mechanism or technique for providing information is made available.

Thus, it is recommended that Perpustakaan Negara Malaysia consider the definition of the material to be deposited to be as inclusive as possible to ensure that electronic publications are covered regardless of the type of carrier. Based on the South African definition of material to be deposited, the terms "library material" and "published" in the Deposit of Library Material Act, 1986 may be amended as follows:

(a) "library material" - means "any object which is intended to store or convey information in textual, graphic, visual, auditory or other intelligible format through any medium"
(b) "published" - produced to be generally available in multiple copies or locations to any member of the public whether through purchase, hire, loan, subscription, license or free distribution".

Increase Number of Staff and Expertise

The present number of staff is definitely ineffective in ensuring the success of legal deposit of electronic publications. In France for example, as of May 1996 there are 3 staff members (one computer technician and 2 assistant librarian) who are in charge of handling just electronic publications. As noted by the Director of the National Depository Centre, Perpustakaan Negara Malaysia, the present number of staff should not only be increased but also must have the expertise in handling electronic publications. Thus, considering the difficulties in having to track down and handle electronic publications, it is recommended that Perpustakaan Negara Malaysia increase the number of staff especially for enforcement purposes and/or establish a special unit for legal deposit of electronic publications.

Increase Public Awareness of Legal Deposit of Electronic Publications

Improved legal deposit legislation is necessary to increase awareness of the public and especially the publishers of the importance and need for legal deposit of electronic publications. Although, Perpustakaan Negara Malaysia has organised a series of seminars with the most recent one in July 2001, to make the public and especially the publishers aware of the importance of legal deposit of electronic publications, it has yet to increase its efforts to obtain a favorable support from the local mass media in publicising its
services and activities. It is also recommended that Perpustakaan Negara Malaysia establish strategic alliances with relevant agencies such as the Multimedia Development Corporation (MDC), MIMOS, etc. to assist in tracing and identifying electronic publications for legal deposit.

Overcoming Publishers' Fear and the Licensing Issue

There should be mutual understanding between the publishers and Perpustakaan Negara Malaysia, as the deposit holder in order to resolve the issue. The publishers should understand that Perpustakaan Negara Malaysia has a public interest duty to preserve and safeguard the nation's intellectual and cultural heritage for future generations and to ensure that any citizen of the country has access to the entire collection regardless of format in which it is available. At the same time, Perpustakaan Negara Malaysia should recognise the financial and human resources invested by the publishers to develop electronic publications. There is no doubt that in order to ensure the success of legal deposit of electronic publications, Perpustakaan Negara Malaysia need the support of publishers.

Perpustakaan Negara Malaysia needs to demonstrate to the publishers that they will gain from legal deposit through wide publicity of their works and also long-term care and maintenance of their works. The publishers must also be assured that access to their works will only be permitted under clear circumstances. In France for example, documents including electronic documents, acquired through legal deposit are not made
available to the general public, but only to readers carrying out research at the Bibliothèque nationale de France so as to protect the publisher's rights.

Similarly, in the Library of Congress of the United States of America, user's access to electronic publications such as CD-ROMs are bound by an agreement whereby library users may search the work and print copies of their search results, and the Library will not use CD-ROM agreement to provide fee services. The CD-ROMs are kept in secure areas and handled under supervision of authorised library staff.

*Legal Deposit of On-line/Networked Electronic Publications*

Extending legal deposit to on-line/network publishing will give Perpustakaan Negara Malaysia the legal authority to acquire electronic publications for the national collection. This is in line with the recommendations of the 1994 CDNL Working Group that legal deposit of electronic publications should not only include off-line electronic publications but also on-line electronic publications especially when there is a rapid move towards on-line publishing.

The present shift toward electronic publishing in an on-line/networked environment cannot but affect the way Perpustakaan Negara Malaysia fulfils its role in developing the cultural and intellectual heritage of the nation for present and future generation of users. As Perpustakaan Negara Malaysia has already been receiving off-line electronic publications in the form of diskettes and CD-ROMs, it should now expand to include on-line/networked electronic publications. If steps are not taken immediately to
ensure legal deposit of these electronic publications, potential loss of valuable material will occur. The following are recommendations as to the selection, versions/editions, formats, access and preservation of legal deposit of on-line/networked electronic publications that should be adopted by Perpustakaan Negara Malaysia:

1. Selection

(a) Perpustakaan Negara Malaysia should operate on the basis that anything that is made available to the public on a communications network, such as the Internet, can be considered as "published" for the purposes of collection.

(b) Perpustakaan Negara Malaysia should collect on-line/networked electronic publications according to assigned levels of access and preservation, which are determined by the publication's significance in fulfilling the library's responsibility and in supporting library services.

(c) In collecting a distinction is drawn between publications that are released initially, or solely in on-line/networked electronic format and publications released in both networked and other media formats.

(d) Perpustakaan Negara Malaysia should collect comprehensively and preserve original Malaysiana on-line/networked electronic publications of Malaysian origin.

2. Versions/editions

(a) Perpustakaan Negara Malaysia need not necessarily collect every version/edition of all on-line/networked electronic publications. The frequency of capture will vary from comprehensive to representative and will
depend on factors such as publication pattern, scope of changes, and the overall significance of the publication.

3. Formats

(a) Perpustakaan Negara Malaysia should, whenever possible, collect, display, provide access, and store on-line/networked electronic publications in the formats in which the publications were published.

(b) Perpustakaan Negara Malaysia need not collect every format of all on-line/networked publications.

(c) Perpustakaan Negara Malaysia should ensure that formats collected include those accessible to the perceptually disabled.

4. Access

(a) All on-line/networked electronic publications collected by Perpustakaan Negara Malaysia should in principle be accessible to both on-site and off-site users.

(b) Perpustakaan Negara Malaysia should recognize that there may be restrictions on access to some materials from time to time. Where necessary, and where possible, restrictions on access will be for a negotiated limited time period.

(c) Perpustakaan Negara Malaysia should provide access to its electronic information resources in such a way that intellectual property rights are respected as required by the Malaysian Copyright Act, 1987.

(d) On-line/networked electronic publications should be organized, indexed, and made accessible.
(e) Bibliographic access to online/networked electronic publications should be provided. Cataloguing levels applied to electronic publications are based on the same criteria as those for other formats.

5. Preservation

(a) Perpustakaan Negara Malaysia should take preservation measures to ensure the longevity and accessibility of its electronic collection.

(b) Perpustakaan Negara Malaysia should preserve electronic publications in electronic form.

(c) Perpustakaan Negara Malaysia should preserve on-line/networked electronic publications in standard formats and may convert non-standard formats to standard format when necessary and feasible.

(d) Perpustakaan Negara Malaysia should enter into agreements with other institutions to ensure the collection, preservation, and access, of certain categories and types of Malaysiana on-line/networked publications.

CONCLUSION

As the National Depository Centre for Maláysian publications, Perpustakaan Negara Malaysia should ensure the acquisition, recording, preservation and the availability of the nation's published heritage. A national collection of published material in various formats can be developed through an effective legal deposit system. Although the present legal deposit system applies to both print and non-print material, it has yet to cover electronic publications especially on-line/networked electronic publications. If these publications are not captured and preserved, Malaysia will lose that part of its
cultural and intellectual heritage that are accessible on-line only. As Lariviere (2000) noted, "as technology evolves, the threat of potential loss of valuable material is growing, and in certain areas, the situation is almost at the point of no return".

Electronic publishing in Malaysia is definitely growing rapidly and will become as much a part of the nation's published heritage as print publications. The success of legal deposit of electronic publications will depend largely on strong government support and this will not be that difficult as it scores highly on the government's agenda. The support of information providers and publishers is also crucial for the success of legal deposit of electronic publications.

Perpustakaan Negara Malaysia must obtain an electronic copy of an electronic publication selected for its permanent collection. Long-term preservation means ensuring that a publication survives long after copyright has expired. By acquiring an electronic publication from the originator as soon as it is published, Perpustakaan Negara Malaysia is assured of preserving the integrity of a publication as originally released. The Library should be able to ensure that the electronic publication is in a form that is accessible for current and future generations of readers and researchers.