

ICTS IN NATIONAL LIBRARIES OF BANGLADESH,
INDONESIA, PHILIPPINES & UGANDA:
COMPARATIVE STUDY

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Abstract: In this age of ICT it is imperative to introduce ICT-based services in libraries to exploit the wealth of information available on the internet and to satisfy the variant demands of clients from different socio-cultural background. National Library of any country represents that country's culture, knowledge and development as well as reflects the current state of other libraries in that country. This paper presents the current status of ICTs in National Libraries of Bangladesh, Indonesia, Philippines and Uganda. A semi-structured questionnaire was prepared by the researchers to gather data on the four national libraries selected for this study. It is found that among the national libraries surveyed the National Library of Indonesia and the National Library of Philippines are exploiting ICT facilities more intensively than the National Libraries of Bangladesh and Uganda. Problems have been found that impede the gradual development of national libraries and some recommendations have been put forward.

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1. Introduction

National libraries vary widely in their origins and functions. In one or another form they are found in more than a hundred countries. The origins of national libraries are closely linked to those of legal deposit and the acquisitions of bibliophile monarchs and wealthy individuals. The earliest national libraries originated during the Renaissance as royal or private libraries (Lor, 2003:445).

Various authors, organizations and institutions defined national libraries differently. National libraries are usually defined in terms of their functions or responsibilities. The UNESCO definition of a National Library, which in spite of its age is still widely cited, places the primary emphasis on functions related to heritage, with a secondary emphasis on functions related to infrastructure (Lor, 2000:27).

Libraries which, irrespective of their title, are responsible for acquiring and conserving copies of all significant publications published in the country and functioning as a 'deposit' library, whether by law or under other arrangements. They will also normally perform some of the following functions: produce a national bibliography; hold and keep up to date a large and representative collection of foreign literature, including books about the country; act as a national bibliographical information centre; compile union catalogues; publish the retrospective national bibliography. Libraries which may be called 'national' but whose functions do not correspond to the above definitions should not be placed in the 'national libraries' category (Schick, 1971:8-9).

Prytherch (2005) in Harrod's *Librarians' Glossary and Reference Book* defined National Library as "A library maintained out of government funds and serving the nation as a whole. Usually, books in such libraries are for reference only. They usually receive material through legal deposit legislation. The function of such a library is to collect and preserve for posterity the published record of the country's cultural heritage, usually in printed form but increasingly in multimedia formats as well. This is best done by

a law requiring publishers to deposit copies of all publications issued by them, and by purchasing books published in other countries[.....](p. 477)". Some other sources of National Library collections are exchange, donations and gifts.

National libraries have special responsibilities, often defined in law, within a nation's library and information system. These responsibilities vary from country to country but are likely to include: the collection via legal deposit of the national imprint (both print and electronic) and its cataloguing and preservation; the provision of central services (e.g., reference, bibliography, preservation, lending) to users both directly and through other library and information centres; the preservation and promotion of the national cultural heritage; acquisition of at least a representative collection of foreign publications; the promotion of national cultural policy; and leadership in national literacy campaigns. National libraries often serve as a national forum for international programmes and projects. They may have a close relationship with national governments, may be concerned with the development of national information policies, and may act as a conduit for the views of other sectors of the profession. Occasionally they also serve the information needs of the legislature directly (IFLA National Libraries Section, 2008).

We are not going to take any attempt to define the concept 'National Library' by ourselves or find out the acceptable definition of National Library. This paper is intended to show the current ICT scenarios of National Libraries of Bangladesh, Indonesia, Philippines, and Uganda. Therefore, we leave the idea of further discussing the definition, functions and services of national libraries in general.

2. Purpose of the Study

The core purpose of the study is to see the existing status of ICTs in the National Libraries of Bangladesh, Indonesia, Philippines and Uganda.

Other purposes include:

- To compare the existing National Library services among the surveyed libraries;
- To show the staff strengths of the surveyed libraries;
- To find out the problems hindering ICT adoption in the surveyed libraries;
- To offer some recommendations to improve existing ICT status of the surveyed libraries;

3. Research Questions

This research aims at answering the following research questions:

1. What are the current ICT strengths of national libraries of Bangladesh, Indonesia, Philippines and Uganda?
2. What are the services offered by the surveyed national libraries?
3. Do the surveyed national libraries use the Social Networking Tools (SNT) in their library websites?
4. Do the surveyed libraries have the same kind of problems in exploiting ICT facilities and digitization?

4. Methodology of the Study

This study is mainly quantitative in nature. A semi-structured questionnaire (Appendix 1) was prepared to gather information about the selected four National Libraries. Questionnaire was sent to the Heads of the selected National Libraries. In gathering more accurate and up-to-date information regarding digitization and other related information several comprehensive discussions were conducted with the relevant staffs of the surveyed libraries. Information regarding the existing collection, services, manpower, budget, digitization, ICT infrastructure, ICT staff profile, library websites, digital library initiatives and related aspects were included in the questionnaire.

In gathering information about the historical background of the surveyed National Libraries

secondary sources of information e.g. journal articles, conference papers, websites were consulted by the researchers of this paper.

This research is a collaborative effort among the LIS professionals of Bangladesh, Indonesia, Philippines and Uganda. Except one researcher, all researchers of this paper are students of International Master in Digital Library Learning (DILL). Researchers of this paper considered the idea of writing a paper on the ICTs of National libraries of their country as they think national libraries are most important institutions of any country that helps preserving and promoting the culture of a country. Moreover, there is lack of research on ICT status of national libraries.

Researchers of this paper conducted several group meeting while developing the questionnaire for the survey. They met each other if any confusion arose about the questionnaire and if they received any suggestion from the participants.

5. Brief Historical Background of the Surveyed National Libraries

5.1 Bangladesh

After the partition of the subcontinent in 1947 the Government of Pakistan established the National Library of Pakistan in Karachi and a provincial book deposit branch of the Pakistan National Library in Dhaka in 1967. In fact that book deposit branch was the embryo of the National Library of Bangladesh which came into being after the independence of the country in 1971. After the Liberation War of Bangladesh it was keenly felt by all quarters that a National Library is indispensable for the newborn nation. Considering the necessity and importance, the Government of the People's Republic of Bangladesh resolved to set up the National Library of Bangladesh in Dhaka. The Library started functioning with the manpower and resource materials inherited from the Provincial Book Deposit Branch in Dhaka. Later on, in 1973 the two national organizations

namely (i) The National Archives of Bangladesh and (ii) The National Library of Bangladesh were merged under the name of the Directorate of Archives & Libraries under the Sports and Culture Division, Ministry of Education. The Directorate was first housed in two separate rented places first at 106 Central Road and then at 372 Elephant road, Dhaka. A new building for the National Library of Bangladesh was built in 1985 and the Library was shifted to its new place called The Jatiya Granthagar Bhavan (National Library Building). The National Library of Bangladesh is currently run by the Directorate of Archives and Libraries under the Ministry of Cultural Affairs. The National Library is the legal depository of all new books and other printed materials published in the country under the Copy Right Law (Modified in 2000) of Bangladesh. (Directorate of Archives and Libraries, 2005: p. 14-15).

5.2 Indonesia

The National Library of Indonesia (Indonesian: *Perpustakaan Nasional Republik Indonesia, PNRI*) is the legal deposit library of Indonesia. It serves primarily as a humanities library alongside several other holding national responsibilities for science and agriculture. The National Library was established in 1980 through a decree of the Ministry of Education and Culture and the consolidation of four different libraries. It maintains the status of a non-departmental government institution and is responsible to the President of Indonesia. Its earliest collections originated from the library of the National Museum, opened in 1868 and formerly operated by the Royal Batavian Society of Arts and Sciences. A new library building was opened in 1988 with financial support from Madam Tien Suharto. The origins of the National Library date back to the 1778 foundation of the Royal Batavian Society of Arts and Sciences, the first of its kind in Asia. Through its promotion of scholarship in the Dutch East Indies, the society created numerous publications and accumulated

a number of collections, including establishing a library. After increasing its collections during the first half of the 19th century, the society and its library moved in 1868 to a new location at the current National Museum at Merdeka Square (Wikipedia, September 22, 2010).

Under Presidential Decree 11 of (6 March) 1989, the National Library fully subsumed the assets of the Library Development Centre and became a non-departmental government institution. It no longer reports to the ministry and is responsible to the President of Indonesia through the State Secretariat (Saputro, 2005 & Hardjoprakoso, 1995). The library's operations were once again revised through a 1997 decree in order to meet the needs of globalization (Saputro, 2005).

5.3 Philippines

The National Library of the Philippines (NLP) acts as the country's National Library and as a central office of the public libraries. Its main objective is to gather and preserve national literature, intellectual resources and recorded and printed cultural heritage of the country (Cruz, 2002). Its history can be traced back in 17th century when Spanish priests started creating libraries in the Philippines. Museo Biblioteca de Filipinas, the forerunner of The National Library of the Philippines, was created by virtue of a royal order of the Spanish government on August 12, 1887 and inaugurated on October 24, 1891 with Don Pedro A. Paterno as its first Director. It was closed down during American colonial period but the entire collection was known to have transferred to Paterno's own library, of which some books formed NLP's core Filipiniana collection. During the American period Mrs. Charles Greenleaf headed the American Circulating Library Association in establishing the American Circulating Library in March 9, 1900. (The National Library, [n.d.]; Mendoza, 2000; Wikipedia, [n.d.]). On May 13, 2010, Republic Act No. 10087 gave its present name - The National Library of the Philippines.

NLP is presently housed in T.M. Kalaw St., Ermita, Manila, Philippines since June 19, 1961 (Wikipedia, [n.d.]). It comprises of nine divisions, namely: Bibliographic Services Division, Catalogue Division, Collection Development Division, Finance and Administrative Division, Information Technology Division, Public Libraries Division, Research and Publication Division, and the two major reading areas: Reference Division, and Filipiniana Division.

NLP originated as one of the cultural agencies under the Department of Education, Culture and Sports (DECS). But through Executive Order No. 80 dated March 5, 1999, the library is now one of the attached agencies of the National Commission for Culture and the Arts (NCCA) of the Office of the President. Currently, it is supervised by a Director with an Assistant Director and composed of around 200 staff to which 45% are professional librarians (Cruz, 2008).

It dreams to empower the Filipinos through giving access to information in traditional and new forms of resources, and support them with information resources to be adaptable to the global informational and technological changes and challenges for their economic, educational, cultural, social and moral well-being. Thus the library engaged is in different ICT projects and collaborations and even built its own library network infrastructure.

5.4 Uganda

The National Library of Uganda was established in 2003 by the National Library Act. This Act repealed the Public Libraries Act, 1964 which had established the Public Libraries Board. The Board had been charged with the responsibility of establishing, equipping, managing and maintaining libraries in Uganda. Following the enactment of the Local Governments Act, 1997, this responsibility was decentralized to the local governments. The Public Libraries Board and

later the National Library of Uganda retained the responsibility of laying down national policies in regard to these libraries, giving advice, issuing standards, norms, guidelines and work manuals, providing technical and professional advisory services and coordinating and carrying out advocacy for these libraries at local and international levels.

With the enactment of the National Library Act, 2003, the National Library of Uganda (NLU) became the National Bibliographic Control Agency responsible for ensuring legal deposit of materials by publishers, publishing the National Bibliography of Uganda, allocating the International Standard Book Numbers (ISBN) and International Standard Serial Numbers (ISSN) and establishing and managing a National Collection of Uganda.

The National Library of Uganda currently operates under the Ministry of Gender, Labour and Social Development (National Library of Uganda, n.d.) The National Library of Uganda is located on Buganda road plot 50, Kampala-Uganda.

6. Findings of the Study

Name of the Library	Year of Establishment	Year of Inception of ICT	Total Collection of the Library
National Library of Bangladesh (NLB)	1972	1998	Approx. 500,000
National Library of Republic Indonesia (NLRI)	1989	1992	Approx. 3,341,244
National Library of the Philippines (NLP)	1900	1995	Approx. 1,698,868
National Library of Uganda (NLU)	2003	2004	Approx. 10,000

Table 1. Profile of the Surveyed Libraries

According to Table 1, among the four surveyed libraries, the first national library was established in 1900 (the National Library of the Philippines) and the last was established in 2003 (the national library of Uganda). In terms of collection, the National Library of Indonesia has the largest collection of approximately 3,341,244 items while the National Library of Uganda has the smallest collection of approximately 10,000 items, as indicated in table in the table above.

After the development of the World Wide Web all the surveyed libraries commenced ICT – the National Library of the Republic of Indonesia incepted ICT in 1992, National Library of the Philippines 1995, National Library of Bangladesh 1998 and lastly Uganda incepted ICT in 2004.

Name of the Library	2008	2009	2010
NLB	Approx. 217,800 \$	Approx. 254,101 \$	-
NLRI ¹	Approx. 36,764,199 \$	Approx. 42,065,404 \$	-
NLP	Approx. 1,865,861 \$	Approx. 2,097,447 \$	Approx. 2,413,741 \$
NLU	-	-	-

Table 2. Budget²

Table 2 shows the budget information of National Library of Bangladesh, Indonesia and Philippines. National Library of Uganda did not

¹ For National Library of Indonesia budget information was collected from the following two source:

i) Ministry of Finance Republic of Indonesia. 2009. Data Pokok APBN-P 2007 dan APBN 2008. Retrieved from <http://jurnal-ekonomi.org/wp-content/uploads/2008/07/08-04-14-data-pokok-apbn-p-2008edited.pdf> at May 14, 2010

ii) The Ministry of Finance Republic of Indonesia. 2009. Data Pokok APBN-P 2008 dan APBN 2009. Retrieved from <http://www.anggaran.depkeu.go.id/Content/Data%20Pokok%202009%20Indonesia%20rev1.pdf> at May 14, 2010

² Data from the questionnaire, 2010

give us budget information as they consider it confidential one. We received the budget information in local currency, then we convert the local currency in US dollar.³

Name of the Service	NLB	NLRI	NLP	NLU
	✓	✓	✓	✓
Reference Service	✓	✓	✓	✓
Instant Messaging Reference Service	×	✓	×	×
Bibliography Service	✓	✓	✓	✓
Lending Service	×	✓	✓	×
Reprography Service e.g. photocopy, micro-film etc.	✓	✓	✓	×
Inter Library Loan	×	×	×	×
ISBN Service	✓	✓	✓	×
Internet Service (Please specify whether free or payment based)	✓	✓	✓	×
Manual CAS(Current Awareness Service)	✓	✓	✓	×
Web-based CAS (Current Awareness Service) e.g. new arrival, up-coming events etc. Please specify	✓	✓	✓	×
Web OPAC	×	✓	✓	×
Access to subscription based e-resources at your library premises	×	✓	✓	✓
Access to free in-house produced e-resources online e.g. newsletters, bulletin, reports or digitized collection?	×	✓	✓	✓
Services for Disable Users	×	✓	✓	×
Services for Children	✓	✓	✓	✓

Table 3. Service Profile

All libraries were asked the services they offer to their users and this required them to tick the services given in the questionnaire that were offered by their libraries and according to Table 3 the results show that all the national libraries

³ We used <http://www.xe.com> in converting local currency into US dollar.

surveyed offer reader services, bibliography services, reference services, and services for children. No National Library offer interlibrary loan. Only National Library of Indonesia offers Instant Messaging Reference Service (IMRS). Among the surveyed national libraries, National Library of Indonesia and National Library of Philippines offer Web OPAC service. National Library of Uganda being the new National Library among the surveyed libraries offers relatively limited number of services than the others.

Name of the Library	Frequency	Print	Online/CD-Rom/DVD
NLB	Annual	✓	×
NLRI	Annual	✓	×
NLP	Quarterly	×	CD-Rom/DVD
N:U	Annual	✓	×

Table 4. Publication of National Bibliography

According to Table 4 all the surveyed libraries publish national bibliography, however, the frequency differ where the National Library of Bangladesh, National Library of the Republic of Indonesia and National Library of Uganda publish the national bibliography annually while the National Library of the Philippines publish the national bibliography Quarterly. It was found out that the National Library of the Philippines produce the national bibliography on CD-ROM/DVD while the other libraries produce on print format. No library produces the national bibliography online.

Table 5, is about ICT infrastructure of the surveyed national libraries. The results show that the National Library of the Republic of Indonesia has the highest number of computers among the surveyed libraries i.e. 450 computers. Out of 450 computers 400 computers have internet connection and 150 computers are available for users. In terms of number of computers National Library of the Philippines has 325 computers in total and out of the 325, 65 computers are available for users and 139 for staffs. Other computer equipments of National Library of Republic Indonesia includes data center, CCTV, server, PC, notebook, tape library system, content address storage; scanner, RFID devices, printer, digital camera, digital camcorder, UPS, LCD projector, digital TV, touch screen monitor, microfilm converter VOIP, modem, router, access point, switch, fibre optic cable, LAN, WAN, Intranet system etc. Other computer equipments of National Library of Bangladesh includes modem, scanners and printers while National Library of the Philippines includes 18 Scanners, 4 Multimedia projectors, 6 NAS storage, 25 servers, 90 printers, 40 switchers and 21 WiFi access points. As evident in the above Table very disappointing situation exist in the national libraries of Bangladesh and Uganda. Both have very low number of computers. It is upsetting that the National Library of Uganda is still unable to offer computers with internet connection for users. National Library of Bangladesh has only one computer for users which is undoubtedly inadequate and upsetting for the users of the National Library.

	NLB	NLRI	NLP	NLU
Total number of computers available	07	450	325	3
Total number of computers with internet connection	03	400	204	3
Total number of computers with internet connection available for users	01	150	65 (for database search only)	Not yet

Total number of computers with internet connection available for staff	01	250	139	2
Separate ICT division	Yes	Yes	Yes	Yes
Other computer equipments e.g Scanners, modem, printers etc.	Scanners, Modem, Printers etc.	Data center, CCTV, server, PC, notebook, UPS, LCD projector, digital TV, microfilm converter VOIP, modem, fibre optic cable, LAN, WAN, Intranet system etc.	Scanners – 18 Multimedia projectors – 4 NAS storage – 6 Servers – 25 Printers – 90 Switchers – 40 WiFi access points – 21	-1 Scanner
Library is connected to the Internet through-	Broadband Connection	ISDN DSL Cable modem VSAT Wireless	DSL, Wifi	VSAT Wireless
Library maintains any database	Yes	Yes	Yes	Yes
Name of the software used to maintain the database	WINISIS, Customized Web-based library automation system	INLIS (Indonesia National Library Integrated Information System)	Koha	WINISIS
Functions/activities of software system	Acquisition, Cataloguing and Budget (partly)	Acquisition & Budget Catalogue Circulation Serial Control Membership Check point system management object digital etc.	Cataloguing Circulation Serials control Patron Management Inventory	Acquisitions & Budgets Cataloguing Circulation Serials control

Table 5. ICT Infrastructure

Again, in terms of computer equipment the National Library of Republic of Indonesia and National Library of the Philippines are in pretty good position, whereas National Library of Bangladesh and National Library Uganda presents frustrating figures.

Positive thing is that all surveyed libraries maintain databases using some kind of software technologies. National Library of Bangladesh was using WINISIS. Recently they acquired customized web-based library automation system. National Library of Republic Indonesia uses INLIS. National Library of Uganda using WINISIS for creating and maintaining database records and lastly the Philippines use Koha.

	NLB	NLRI	NLP	NLU
Total Number of ICT support staff	3	15	34	
Full time	3	15	11	-
Part-time	×	×	23	-
Total Number of ICT support staff with LIS background	1	5	4	-
Total Number of ICT support staff with only computer science background	×	5	30	-

Highest academic qualification of the ICT support staff	Masters	S2 (Master)	Masters	-
Continuous ICT training to its staff	Yes	Yes	Yes	-

Table 6. ICT Staff Profile

According to Table 6, there are three ICT support staff in the National Library of Bangladesh, one with LIS background, and all are employed on full time. The National Library of Republic of Indonesia has fifteen staff, five with LIS background, five with computer background and all employed on full time, the National Library of the Philippines has thirty four staff-four with LIS background, thirty with computer science background and only eleven are full time. The researchers were not able to provide the status of ICT staff from Uganda feedback regarding this question because they gave no answer. Apart from the National Library of Uganda that did not provide any information, it was noted that all the other libraries offer continuous ICT training. All three national libraries indicated that the highest academic qualification of ICT support staff is masters.

	NLB	NLRI	NLP	NLU
Frequency of websites update-	Quarterly	Very frequently	Very frequently	Frequently
Website maintained in-housed or out sourced?	Out-sourced	In-housed	In-housed	In-housed
Library websites accessible using mobile device?	No	Yes	Yes	Yes
Plan to design library content for mobile devices?	Yes	Yes	No	No
Language of Contents of the Library Websites	English	Indonesian and English	English	English

Table 7. Library Websites

Table 7 shows that all the libraries have websites but the frequency of updating the website and maintenance differ. While the National Library of the Republic of Indonesia⁴ and the National Library of the Philippines⁵ update their websites very frequently, the National Library of Bangladesh⁶ updates its website quarterly and the National Library of Uganda⁷ updates its website frequently. The National Library of Bangladesh maintains its website through outsourcing while the other three libraries are in-house.

According to the results all the libraries websites are in English and only the National Library of the Republic of Indonesia’s website is also in Indonesian. Multilingualism is important especially for national institution like national libraries that directly help preserving and promoting cultural resources. In this sense only National Library of the Republic of Indonesia is offering two language interfaces, whereas others offer only one language that is English. National libraries not offering interface and information on their local language should immediately offer interface and information in their native language as well.

	NLB	NLRI	NLP	NLU
Facebook	No	Yes	No	No
Twitter	No	Yes	No	No
LinkedIn	No	Yes	No	No
hi5	No	Yes	No	No
Blogging	No	Yes	No	No
Others (Please specify)	-	Second Life, Youtube.	-	-

Table 8. Library’s Presence in the Social Networking World

⁴ <http://www.pnri.go.id>

⁵ <http://web.nlp.gov.ph>

⁶ <http://www.nanl.gov.bd/>

⁷ <http://www.nlu.go.ug>

The surveyed libraries were asked whether they are connected to social networking world and the results show that the National Library of Bangladesh, National Library of the Philippines, National Library of Uganda are not connected to any of the social networks that were mentioned in Table 8. However, the National Library of the Republic of Indonesia reveals that the library is connected to all social network mentioned in the questionnaire. This table indicates that the use of social networking tools has not been yet popularized by the national libraries of Bangladesh, Philippines and Uganda.

Table 9 shows digital library initiatives taken by the surveyed national libraries. Bangladesh started digitizing in 2008, the national libraries of the Republic of Indonesia and Philippines did not provide this information, and the National Library of Uganda started digitizing in 2009. All the national libraries are currently digitizing books, newspaper among others as indicated above. The national libraries were asked the selection criteria of materials to be selected, the National Library of Bangladesh selects books that are worth for research, the National Library of the Republic of Indonesia selects books of high cultural value,

	NLB	NLRI	NLP	NLU
Name of the Digital Library Initiatives	Modernization of National Library of Bangladesh and one development project on the digitization of the important part of National Library collection is submitted to UNESCO Dhaka.	E-Library Development-funded by the State (APBN)	Philippine eLibrary (Government funded)	World Digital Library (Library of Congress and Carnegie)
Year Digitization Commenced	2008-2009	-	-	2009
List the items currently digitizing	Books	Books, Maps, Images, Newspaper, Articles, Manuscript, Audio-Visual	Books, Manuscripts, Newspapers, Journals, Magazines, Photographs, Maps	Books, Newspapers, Journals, Maps etc.
Criteria for selection of materials for digitization	Currently books considered research worthy are selected for digitization	high cultural value, rare documentc, public domain	Public Domain Filipiniana Material	Task force selects those materials deemed important for digitization for future use.
National Law for Digitization	No	Yes	No	No
Problems faced in digitization	-	Creating Metadata; Access to local content; digitizing newspaperc and magazine articles; Policy for digitization; cooperation with other libraries.	Handling of rare materials	-
Digitization project in-housed or outsourced?	In-housed	Mostly In-housed partially outsourced	In-housed	In-housed
Total Number of computers available for digitization -	2	25	26	
Total Number of scanners available for digitization -	1	10	18	1 scanner

Total Number of printers available for digitization -	1	-	5	-
Total number of staffs employed in the digitization-	3	12	26	-

Table 9. Digital Library Initiatives

rare documents, internal publications or government publications that are not copyrighted, the National Library of the Philippines selects materials considered to have Public Domain Filipiniana Material and lastly the National Library of Uganda selects materials deemed important for digitization for future use. Apart from the National Library of the Republic of Indonesia, other libraries indicated that they do not have a national law for digitization.

When asked about the problems faced in digitizing, the National Library of the Philippines indicate that handling of rare materials is their challenge, National Library of Republic of Indonesia indicate the following problems faced while digitizing:

- Creating metadata is less consistent from the appraisal to uploaded in the web portal;
- Access to local content from various regions in Indonesia is still limited;
- Acceleration of digitizing the content of newspaper and magazine articles are still limited;
- No strong policy to digitize materials, and
- In the development of content there is need for more instant cooperation with other libraries.

Other national libraries did not answer this question. All the national libraries surveyed carry out in-house digitization; however the National Library of the Republic of Indonesia does some out-sourcing but much of the work is in-house.

The results show that the National Library of Bangladesh has 2 computers, 1 scanner, 1 printer used for digitization, the National Library of the Republic of Indonesia has 25 computers and 10 scanners for digitization, the National Library of

the Philippines has 26 computers, 18 scanners, 5 printers used in carrying out digitization, the National Library of Uganda indicate that the library has one scanner but did not give feedback on the number of computers used in carrying out digitization. Indonesia and Uganda did not indicate the number of printers used in digitization activities.

Bangladesh National Library has 5 staff employed for digitization, National Library of the Republic of Indonesia has 12 staff, and the National Library of the Philippines has 26 staff employed for digitization. The researchers could not get the number of staff from the National Library of Uganda as this question was not answered by the library.

	NLB	NLRI	NLP	NLU
Lack of budget for ICT s	✓	x	x	x
Lack of ICTs skills of library professionals	✓	x	x	x
Inadequate ICTs hardware and software	✓	x	x	x
Lack of government support	✓	x	x	✓
Lack of staff to maintain ICTs services/digital library system	✓	x	x	x
Difficult to recruit qualified new LIS professionals	✓	✓	✓	x
Resistance of staff to change	x	x	x	x
Lack of proper initiatives	✓	✓	x	✓
Lack of international cooperation in LIS field	✓	✓	✓	x
Absence of strong, dynamic Library Association in the country	✓	✓	x	x

Table 10. Barriers to ICTs in the surveyed libraries

Table 10 shows the different barriers to ICT in the national libraries surveyed. It was noted that the barriers faced by one National Library may not be same for all other libraries. Difficult to recruit qualified new LIS professionals, lack of proper initiatives, lack of international cooperation in LIS field were the common challenges as indicated above. National Library of Bangladesh faces a lot of problems except resistance of staff to change, they tick all the barriers listed above. Others just mentioned few barriers which was surprising to the authors of this paper. As we are from developing countries we are often facing financial barriers and lack of Government support in library sectors specially. As Governments have crisis of fund, they are unable to offer adequate funds to the libraries and other social institutions. The reason behind not mentioning lack of budget for ICTs and lack of government support and other problems by the surveyed libraries except Bangladesh might be due to administrative problems that may arise further. As the questionnaire sent to a particular person and was not anonymous, he/she might intentionally cross mark (x) some of the barriers mentioned in the above list.

7. Conclusion and Recommendation

National libraries are undoubtedly very important organization that play vital role in promoting and preserving national culture and pride. In the age of web revolution more or less all national libraries in the world have presence in the web. Now it has become very easy to promote nation's cultures and prides with the help of information technology. National libraries surveyed in this article ensure their web presence. It has been found

that National Library of Bangladesh and Uganda have relatively lower presence in the web than the National Library of Indonesia and Philippines. Immediate efficient measures should be taken by the National Library authority of Bangladesh and Uganda to initiate large scale effective and successful digitization projects to increase their visibility on the web and to preserve the cultural heritage for the future generation.

All the national libraries in the world should increase their presence in the social networking world and should attract the new type of users who like “sofalizng”. National libraries should exploit the new technologies and should offer more and more service over the internet and using other technologies like mobile.

Development organizations and funding agencies like UNDP, UNESCO, Bill and Melinda Foundation should offer funds to national libraries in the developing countries for digitizing national culture and heritage materials and make them available for all. National Library should not be restrict that function to just collecting the books and other materials for preservation rather it should come forward to help building a culturally knowledgeable nations by offering “Information Literacy”, “Cultural Studies” and related course to the young generations.

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Appendix: Questionnaire sent to participating libraries

ICTs in National Library of Bangladesh, Indonesia, Philippines & Uganda: Comparative Study

[It is purely academic and the information provided by you will be exclusively used for research purpose]

1. Name of the Library:

2. Year of Establishment:

3. Year of Inception of ICT:

4. Total Collection of the Library

Total Number of Books and Bound Volumes	
Total Number of Maps	
Total Number Microfilm	
Total Number Microfiche	
Total Number of Periodicals	
Total Number of Journals	
Total Number of Photos	
Total Number of Manuscripts	
Total Number of Thesis & Dissertation	
Total Number Digitized Collection	

5. Manpower Strength

Designation	Number	Educational Qualifications (Please specify the name of the degree in Library and Information Science e.g. MA in LIS etc.)
Total		

6. Budget

	2008	2009	2010
Total Budget			
Budget on ICT			

7. Service Profile

Does your library offer the following services to its Users? (Please tick all that apply)

Reader Service	
Reference Service	
Instant Messaging Reference Service	
Bibliography Service	
Lending Service	
Reprography Service e.g. photocopy, micro-film etc.	
Inter Library Loan	
ISBN Service	
Internet Service (Please specify whether free or payment based)	
Manual CAS(Current Awareness Service)	
Web-based CAS (Current Awareness Service) e.g. new arrival, up-coming events etc. Please specify	
Web OPAC	
Access to subscription based e-resources at your library premises	
Access to free in-house produced e-resources online e.g. newsletters, bulletin, reports or digitized collection?	
Services for Disable Users	
Services for Children	
Others please specify:	

8. National Bibliography

Frequency of the publication of the national bibliography

- i) Once a year
- ii) twice a year,
- iii) monthly
- iv) Irregular
- v) Others: please specify

Format of the national bibliography-(tick all if applicable)

- i) Printed
- ii) Online
- iii) CD-Rom/DVD

9. ICT Infrastructure

Total Number of Computers Available	
Total Number of Computers with internet connection	
Total Number of Computers with internet connection available for Users	

Total Number of Computers with internet connection available for Staffs	
Does your library have separate ICT division?	Yes No
Please write with their number other computer equipments your library have e.g Scanners, modem, printers etc.	
How is your library connected to the Internet?	i) Dial-up ii) ISDN iii) DSL iv) Cable modem v) VSAT vi) Wireless vii) Others (please specify) viii)
Does your library maintain any database?	Yes No
If yes please write the name of the software you use to maintain the database:	
Functions/activities automated in your library? (Please tick)	i) Acquisitions & budgets ii) Cataloguing iii) Circulation iv) Serials control v) Other (please specify):

Is your website maintained in-house or out sourced? Please specify-	
Content of the websites- (Please tick)	i) Home Search ii) About Us iii) Contact iv) RSS v) CAS vi) Events Calendar vii) Digital Library viii) Library Opening Hours ix) Location Map ix) Link to Instant Messaging Others (please specify)
Does your library websites accessible using mobile device e.g. iPhone, or any mobile phone having internet facility?	Yes No
Do you have any plan to design library content for mobile devices?	Yes No
Does your library website is a multilingual one?	Yes No If yes how many language does it cover? Please specify

10. ICT Staff Profile

Total Number of ICT support staff	
Full time	
Part-time	
Total Number of ICT support staff with LIS background	
Total Number of ICT support staff with only computer science background	
Highest academic qualification of the ICT support staff	
Does your library offer continuous ICT training to its staff?	

11. Library websites

Does your library have a website?	Yes No If yes please mention the url-
How frequently do you update your websites?	

12. Social Networking Tools

Does your library using the following Social Networking tools

Facebook	
Twitter	
Linkedin	
hi5	
Blogger	
Others (Please specify)	

13. Digital Library Initiatives

Is that project based? Yes No

If yes please specify the name of the project and funders

Please list the items you are currently digitizing- e.g. books, newspapers, journals, maps etc.

What are the criteria to select items for digitization?

Is there any national law for digitizing your collection?
Yes No

If yes please specify with the year of enactment -

If No is your government planning to enact one?
 Yes No

Please mention the problems you face while digitizing your collection?

Please in brief describe the project/digital library initiatives at your library-

Is the digitization project in housed or outsources? Please specify

Total Number of computers available for digitizing-

Total Number of scanners available for digitizing-

Total Number of printers available for digitizing-

Total number of staffs employed in the digitization-

14. Barriers to ICTs in your library

Please put tick in the appropriate box	Yes	No
Lack of budget for ICT		
Lack of ICT skills of library professionals		
Inadequate ICT hardware and software		

Lack of government support		
Lack of staff to maintain ICT services/digital library system		
Difficult to recruit qualified new LIS professionals		
Resistance of change from the internal staffs		
Lack of proper initiatives		
Lack of international cooperation in LIS field		
Absence of strong, dynamic Library Association in the country		
Others (please specify)		

Future Plan

Name:

Designation:

Date:

Thank you so much for your kind support.